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A QUALITATIVE STUDY: IMPLICATIONS OF PLACEMENT TESTING ON
REMEDICATION OF STUDENT VETERANS ENROLLED IN COMMUNITY COLLEGE

A Dissertation

Submitted to the School of Graduate Studies and Research

in Partial Fulfillment of the

Requirements for the Degree

Doctor of Education

Pricilla Ann Robertson

Indiana University of Pennsylvania

August 2019

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The purpose of this qualitative (phenomenological) study was to research student veterans' common experiences with college placement testing and remediation to deduce their readiness for college-level coursework. A thorough analysis of the narratives of their experiences formed the basis for this study. Interviewees were with both male and female student veterans who had taken a placement test and one or more remedial courses at a community college in western Pennsylvania. The participants formally served in the United States Armed Services and planned to continue their education using G.I. Bill education benefits.

A review of the literature indicated that community colleges were a primary vehicle for the education of underrepresented populations such as veterans. Research questions were primarily derived from studies on challenges and potential barriers facing student veterans as adult learners (Morris, 2013 & Banner, 2006).

The rationale and setting of the study were driven by theoretical frameworks: Anderson-Levitt's (2003) World Culture Theory of Education, Glass's (1989) Social Historical Research Theory and Arnold, Lu and Armstrong's Ecology of College Readiness respectively. Supporting theories for this study that focused on the population of adult learners were as follows: Mezirow's (1996, 2000) Transformative Learning Theory, Schlossberg's (1995) Theory of Adult Transitions, and Padilla's (2009) General Model of Student Success (GMSS). These frameworks contextualized the study of student veterans as adult learners who were adapting and

reintegrating into civilian life, while attending college and experiencing the phenomena of placement testing and remediation.

A typical outcome of placement testing for student veterans was remediation. Because many service members and veterans have not engaged in formal academic pursuits immediately after high school, transitioning to college presented challenges. Diagnosing their readiness for enrolling in community colleges and taking remedial courses was vital to their academic success. Understanding placement testing and subsequent remediation for student veterans connected to improving their overall success rate for reaching their academic and employability goals. Therefore, this type of study greatly informs college readiness research and potential strategies for the development of educational policies, procedures and curricula particularly at community colleges and to a certain degree universities. This study joins the burgeoning body of doctoral reach from (Cross, 2018; Piland, 2018; Tillman, 2018; Everett, 2017; Garcia, 2017; Mitchell, 2017; Walburn, 2017; Shay, 2015; Mullins, 2013; Morris, 2013; and Van Dusen, 2011) on the study of service members and veterans transitioning to college as student veterans.

DEDICATION

My sincerest love and deep appreciation: To my husband and children with all my heart. Thank you for your unwavering love, inspiring words and countless gestures of support. To my mother, Gloria Jean, I miss you deeply and wish we could have celebrated this accomplishment together. You and Grandma Ersie constantly encouraged me to go to college and make something of myself. You are both present in my heart and your work ethic inspires mine.

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CHAPTER 1

INTRODUCTION

“A generation ago, we led all nations in college completion, but today, 10 countries have passed us. It is not that their students are smarter than ours. It is that these countries are being smarter about how to educate their students.... The countries that out-educate us today will out-compete us tomorrow.” President Barack Obama (2012)

Research Study Overview

College readiness has remained an obscure mystery for decades. The number of non-college-ready students has soared to epidemic proportions. Over 50% of students scored below readiness for college-level courses on placement tests, nearly 80% needed remediation, and just fewer than 50% of students enrolled at institutions were ready to handle college-level course work (Chen & Simone, 2016; Highereducation.org, 2015; Kirst & Venezia, 2006, p. 8).

Concerned higher education leaders and researchers were beginning to weigh in on conversations surrounding the state of college readiness in America, as it related to the economic competitiveness of America in an increasingly global society (Barnes & Slate, 2013, pp. 1-13; Friedman & Mandelbaum, 2012, p. 111; Stewart, 2012, p. 136; Wagner, 2006, p. iv).

Stakeholders were having trouble agreeing on a single set of specific standards for measuring readiness (Goldrick-Rab, 2010; Conley, 2007). There were differing ideas concerning the skills students were required to possess in order to successfully pursue a college education and graduate with an employable degree (Ryan, 2011; Kirst & Venezia, 2006). Yet, there was common agreement that the difficult issues surrounding placement assessment and remediation necessitated the immediate attention of everyone, especially influential stakeholders (U.S. Department of Education, 2017; DiBenedetto & Myers, 2015, p. 28; Kuh et. al., 2006, p. 2).

A Research and Policy Report, by American College Testing (ACT), urged its colleagues and educational leaders to remember that, “College readiness has provided students with early momentum toward long term college success. Helping more students become ready for first-year college courses in one or more subject areas had the potential to help our nation increase the number of students with a college degree and build a more highly-skilled and productive workforce” (2015).

Results of assessment studies indicated that the primary problem with current student levels of non-college readiness in the United States was due to educators not arriving at an accurate assessment of the academic proficiencies of U.S. students. American educational institutions were not comparing the students’ assessment outcomes to international assessment standards (Stewart, 2012). Advocates for assessments argued that, as a global economic competitor, the U.S. should not only assess American students with national assessments but international ones, as well (Friedman & Mandelbaum, 2012; Kamens & McNeely, 2010; Stewart, 2012; Wagner, 2006; Wall & Waltz, 2004). Their assumption was that if the U.S. had internationally-comparative assessment outcomes, it would have comparative or equal college degree completion outcomes and knowledge proficiencies, thus, translating into a world-class knowledge-based workforce that can compete in a global economy (Boser & Burd, 2009; Wagner, 2006).

Statement of the Problem

Friedman and Mandelbaum (2012) suggested that low test scores on placement tests typically required students to take remedial courses before attending regular college courses. The two authors cited a U. S. Department of Education statistic that reported “about a third of first year students entering a four-year college had taken at least one remedial course in reading,

writing or math and at public two-year colleges that average number rises to above 40%” (p. 116).

Regardless of the type of assessment, American students were not testing into college-level courses. At four-year institutions, 77% needed remedial work and at two-year colleges, nearly 75% of all students needed remedial work (Chen & Simone, 2016). For more than a decade, “The vast majority of high school students aspired to attend college, but only about half the students who enrolled in college are prepared for college-level course work and the remainder of college students enrolled needed remediation” (Kirst & Venezia, 2006, p. 1).

This problem was not isolated to just high school graduates entering college. Tighe, Barnes, Connor and Steadman (2015) state, “annually 2.6 million” non-traditional students attended some type of remediation program. Researchers conducted studies on such programs as Adult Basic Education, Upward Bound, Veterans Upward Bound and Developmental Education. These college refresher and remediation programs were designed to minimize or eliminate readiness deficiencies for non-traditional students.

Yet, college readiness results varied. Post-program assessments revealed that some students could transition to college and enroll without the need for remediation, but others required at least one remedial course (Banner, 2006; Howell, 2001; Kallison, 2017; Lane et. al., 2012; Morris, 2013; Wilson, 2006). These additional course requirements came with sometimes unfortunate consequences. Hodara, Jaggars, and Karp (2016) stated, “Taking one or more remediation courses extends a students’ time and expense in college, which increases the chances of their dropping out instead of completing their degree” (p. 135). Clayton (2012), Esch (2010), and Tamar and Lewin (2012) in separate studies, referred to the remedial track as the “Bermuda Triangle of remediation” and “the dead end of remediation” respectively. The researchers

concluded that the majority of students “never get out” of college because of being bogged down in remediation.

Some students bypassed needed remediation all together. Clayton (2012), who was a researcher for the Community College Resource Center, suggested that one in four under-prepared college students “managed” to pass a regular math or English college-level course with a grade of “B” without additional support. According to Chen and Simone (2016), researchers at the National Center for Education Statistics stated, “Some weakly prepared students, 25% at two-year institutions and 23% at four-year institutions did not take any remedial courses.” Chen and Simone (2016) also posited that these students’ outcomes were less positive. Chen and Simone (2016) added that the students in their study who were not prepared and did not take remedial courses did not have better outcomes than students who completed their remedial courses.

However, Clayton (2012) and Tamar and Lewin (2012) suggested that although community colleges used the leading placement tests, “the College Boards, Accuplacer, and American College Testing’s Compass,” errors were made in placing students in college-level courses who needed remediation and inaccurately placed students in remedial courses who do not need them.

Saxon, Martirosyan, Wentworth and Boylan (2015) posited that for assessment and placement to be effective, it was crucial for institutions to correctly place students in the most appropriate courses and provide the best support services options.

Goldwasser, Martin and Harris (2017) proposed that the issue between placement testing and the accuracy of placement into remedial courses was an “alignment” problem. Citing several studies, they strongly urged that better work be done to align placement tests with remedial

course curriculum to improve accuracy in placement so that students were successful in moving onto college-level courses.

This issue implied that if inaccuracy and alignment between placement tests and assigning remediation courses was the central issue, as Goldwasser, Martin and Harris suggested, that furthering the research by studying the implications of these issues through students' perceptions would improve the accuracy and alignment outcomes of assessment and remediation. Salvant (2016), Mullins (2013), Morris (2013) and Scott and Lewis (2012) stated that, in their studies, adding students' voices in research was valuable in understanding actual lived experiences. Assessment and remediation practices may be enhanced by including the views of students in this area of college readiness research.

Within the context of analyzing students' perspectives was the need to include the view of nontraditional students on assessment and remediation placement. Nontraditional students constituted a significant portion of students who were lacking college readiness skills. Salvant (2016) cited Shillingford and Karlin (2013) by defining these students as either: nontraditional students who were 25 years old or older, experienced delayed enrollment in college, attended school part or full time, worked part or full-time while enrolled, were financially independent, married or single, and were responsible for dependents other than a spouse. Heineman (2016), found the same characteristics to be true of this population.

Such a broad spectrum of students' perspectives was significant in understanding the issues surrounding assessment and remediation placement. According to Tighe, Barnes, Connor and Steadman (2013), 2.6 million adults were not college-ready and enrolled in a program to prepare them for college. Tighe et. al., (2013) stated that adult learners who attended these

programs represented a heterogeneous population in terms of age, race, educational background, language experience, and prevalence for learning disabilities.

Purpose Statement

The purpose of this qualitative study was to investigate the implications of placement testing and remediation through student veterans' perceptions of these academic experiences at community colleges. Studying the implications of college readiness through placement testing and remediation was important to enhancing the research and supporting student veterans in higher education. For the purposes of this study, a student veteran is any person who has served (veteran), is serving (active military) or part-time service-member (reserves/national guard) in the United States armed services.

Student veterans were under-represented in research concerning their perceptions on assessment and placement accuracy of remediation courses. Hundreds of thousands of veterans have attended college after serving in the military since the passage of the G.I. Bill. And more than two million are expected in the coming years (Morreale, 2011). Yet, they appear to be the most invisible adult learner group on college campuses. However, recent studies, such as this one and others, answered the call for additional research (Cross, 2018; Davis, 2018; Dillard & Yu, 2018; Piland, 2018; Wallaert, 2018; Accamando, 2017; Boyd, 2017; Flory & Sun, 2017; Smith, 2017; Granger, 2016). While calling for more research, these studies have also increased awareness of the student veteran population's existence, challenges and transitional needs. Yet, few studies were specific to the topic of college readiness in terms student veterans.

While Cleary and Wozniak (2013) cited that 85% of U.S. military and veterans were undergraduates, only a few institutions were disaggregating data on dropout and graduation outcomes. A student affairs organization surveyed 239 higher education institutions that

indicated only 5% of the 239 institutions specifically tracked student veterans' graduations (naspa.org, 2013).

Researchers, Heineman, (2016), Molina, (2015), Cate, (2014), Mullins, (2013), and O'Herrin, (2011), in their separate studies, agreed that student veterans were defined as a nontraditional student sub-group. Morreale (2011) suggested that military veteran students were very similar to other non-traditional students. Cleary and Wozniak (2013) explained that student veterans were similar to 40% of nontraditional students in one of the following ways: 25 years old or older, delayed entering college after high school, independent with family responsibilities, employed, attended college at a high percentage rate, and the majority of veterans (38%) like nontraditional students (38%) were enrolled in community colleges (Molina, 2014, p. 2; Radford, Cominole & Skomsvold, 2015, p. 10).

Research Questions

The research questions are modified from the literature review of research studies on barriers facing student veteran learners in higher education and loosely modified from questions in Morris (2013) *A Bridge Program's Effect on Non-College Ready Student Veterans*. The questions are:

1. What context or situations do student veterans believe have typically impacted or influenced their experiences with placement testing and remediation at a community college?
2. What implications do student veterans perceive placement testing had on their remediation at a community college?
3. What perceptions do student veterans feel taking remedial courses had on their achievement of readiness for college-level courses at community college?

4. Do student veterans believe placement testing and remediation work in tandem to prepare them for college-level course work at a community college?

Significance

College was considered to be the strongest primary vehicle used to develop, educate, and prepare many students for the American workforce (Heller, Wolfe and Steinberg, 2017, p. 3; Papalia et al., 2007). Yet, in the Veterans Administration (2009) study, the researchers reported that, “Reliable data on student veterans’ progression and graduation rates from traditional non-profit schools are elusive” (Department of Education, 2009; Wounded Warrior Project, 2013).

According to a survey by National Association of Student Personnel Administrators (NASPA) (2013) which measured the success of student veterans and active duty military students, found:

Sixty-eight percent of colleges do not separately track data on student veterans at their institutions and only five percent disaggregate data on initiatives dealing with academic preparedness and prevention of dropouts among military–affiliated students.... Lastly, only twenty-five percent of colleges report having a detailed understanding of the root causes of why students who are veterans or active-duty military dropout (NASPA, 2013, p. 1).

The significance of this study focused on community colleges and their student veteran populations because there was a lack of reliable targeted research specifically on the impact of placement testing and remediation for student veterans who attended these colleges on the G.I. Bill. In 2012, President Barack Obama signed an executive order, mandating that research data on active duty military and student veterans be gathered by the Veterans Administration, Federal Government and U.S. Department of Education. Data from this research study on factors

affecting the impact of testing and remediation on college readiness of the population of student veterans attending community college was important to that mandate: it added to college based research studies like the Student Veterans of America (2017) and the NASPA Student Affairs (2013) study, as well as provided data to higher education institutions. Thus, this study endeavored to increase the body of knowledge available on this population at community colleges and assisted in furthering the impact of college readiness of adult learners with a military affiliation.

Delimitations and Limitations

The delimitation of the study was that placement testing may or may not be the best single determinant of college readiness as indicated by several studies cited in the literature review (Barns & Slate, 2013; Goldwasser, et. al., 2017; Hodara, Jaggars & Karp, 2012; Kirst & Venezia, 2006; Scott & Clayton, 2015; Solomon, 2010). However, placement testing was the primary measurement used for determining college readiness and remediation for college-level courses. Based on the research for the study, it was unclear as to the type of relationship, if any, there was between placement testing, remediation, and the college readiness of students. Therefore, there was a need to study participants' perceptions on the role that placement testing played in determining college readiness and the impact it had on placement into remedial and college-level courses (DiRamio & Spires, 2009; Goldwasser, et. al., 2017; Saxon, et. al., 2015; U.S. Department of Education, 2017).

This study was limited by being located at a community college in western Pennsylvania. It was also limited in size and scope as it was related to the population being narrowed by focusing on a subgroup of adult learners with former military service backgrounds. These male

and female student veterans have initially taken the placement tests and remedial courses while some attended community college with their G.I. Bill education benefits.

Definition of Terms

The definition of terms was provided in order to aid in the understanding of terminology used within this study. Definitions were from research studies, the Integrated Postsecondary Education Data System (IPEDS), and post-secondary glossary of related terms. Terms from the U.S. Military were obtained from The Department of Defense (DoD) Dictionary of Military and Associated Terms (August 2017). Also, online websites such as, the etymology dictionary (etymonline.com), Dictionary.com and Merriam Webster.com were used as sources.

- 1) Accuplacer - A web-based assessment tool to determine skills in reading, writing and math. It is untimed (accuplacer.collegeboard.org, p. 1).
- 2) American College Test (ACT) – designed to test prior college knowledge and skills of a student (act.org, p. 1).
- 3) Adult Basic Education (ABE) – programs designed for adults and out-of-school youths, age 16 or older, who are not enrolled in school and who want to improve their basic skills in reading, writing, math, listening and speaking (Wilson, 2006).
- 4) Compass - the ACT Compass test is a placement test that many colleges use in their admissions process. The Compass tests included modules in reading, writing skills, essay writing, and math (act.org/Compass, p. 5).
- 5) Community College - a regionally accredited institution of higher education that offered an associate degree and, in several states, community colleges offered a bachelor's degree. Most community colleges were public and received financial support from tax

dollars, primarily served commuter students, and do not have residential facilities (Cohen & Brawer, 2003, p. 13-14).

- 6) College Readiness – “refers to a student’s capacity to enroll at a postsecondary institution, take credit-bearing classes beginning in the first year, earn passing grades in courses, and persist to his or her educational goals” (Arnold et. al., 2012, p. 1).
- 7) Credential - a degree, diploma or certificate denoting a skill or set of skills earned through academic rigor and conferred by an institution of higher education (U.S. Dept. of Ed, 2013, pp. iii, v).
- 8) Cross-cut Skills - core (basic) academic skills in reading, writing, and math which can be found at the fundamental level of all courses across academic program in higher education (Fain, 2012).
- 9) Developmental Education - was a comprehensive process that focuses on the intellectual, social, and emotional growth and development of all students. Developmental education included, but is not limited to, “tutoring, personal/career counseling, academic advisement and coursework” (Saxon et. al., 2015).
- 10) G.I. Bill - a name initially given to the Servicemen’s Readjustment Act of 1944, a law passed by the U.S. Congress to provide veterans of “American wars with pensions, grants, bonuses, and muster-out pay.” Over the years, it has been amended and renamed the Montgomery G.I. Bill and the Post-911 G.I. This bill delineated benefits for service men of those wars. The G.I. Bill for this study is inclusive of a participant’s eligibility to receive any one of the education benefits provided by the department of Veterans Affairs or the Department of Defense (Altschuler & Blumin, 2009; Banner, 2006).

- 11) Non-traditional student - An adult student in higher education, who is 25 years of age or older, delayed enrollment, attends school part or fulltime, works part or fulltime while enrolled, is financially independent, has dependents other than a spouse or is a single parent, and does not have a high school diploma (Chao et. al., 2007).
- 12) Post-9/11 veterans - people who voluntarily enlisted and served in the military during the Iraq and Afghanistan war (Department of Defense, 2017).
- 13) Placement Test - a test (i.e. Accuplacer or Compass) “usually given to a student entering an education institution to determine specific knowledge or proficiency in core subjects (English, math or reading comprehension) for the purpose of assignment to appropriate first-year college-level or remedial courses” (Merriam-Webster.com, 2018).
- 14) Post-Traumatic Stress Disorder (PTSD) - a mental health condition that was triggered by a terrifying event – either by experiencing it or witnessing it. Symptoms may include flashbacks, nightmares, and severe anxiety as well as uncontrollable thought about the event (Cantrell, 2016).
- 15) Scholastic Aptitude Test (SAT) - was designed initially as a test to evaluate a person’s Intelligence Questionnaire (IQ) and later was expanded to test the aptitude of new college students (Ravitch, 1995).
- 16) Student Support Services - Specialized services provided by a higher education institution for a student with a diagnosed disability (Cooper, 2010).
- 17) Traditional Student - A student in higher education who was 24 years of age or younger, earned a high school diploma, enrolled full-time immediately after finishing high school, depended on parents for financial support, or either does not work during the school year or worked part-time (Pelletier, 2010).

- 18) Traumatic Brain Injury - an insult to the brain, not of a degenerative or congenital nature, but caused by external physical force produced a diminished or altered state of consciousness, which resulted in an impairment of cognitive abilities or physical functioning (Grossman, 2009; Roost & Roost, 2014).
- 19) Open Access – open admission, or open enrollment, is a type of unselective and non-competitive college admissions process in the U. S. in which the only criterion for entrance is high school or General Education Diploma (GED) (Cohen & Brewer, 2003).
- 20) Remediation – courses in reading, writing and mathematics for college students who lacked the proficient skills necessary for successfully passing college-level course work (Chen & Simone, 2016).

Summary

Initial research reported in this chapter and the following literature review suggested that more information was needed to properly assess readiness for college level course work. Little was known regarding assessment of student veterans' preparedness. Colleges rarely evaluated the results of previous assessments or college entrance examinations along with transcripts, training and skills obtained during military service to see if assessment or remediation was needed before recommending or mandating testing or remediation for student veterans.

Chapter Two includes the review of related literature for this study and a description of the theoretical frameworks that informed and framed the researcher's understanding of the study. Thus, in the following literature review, there is an extensive study of college readiness as an overarching topic, as well as background information on assessments and remediation. Information on global educational standards, international assessment and U.S. assessments were included as they pertained to the study.

The student veterans' population, as a subgroup of adult learners, was the focal group in this study. The academic challenges of this population, implications of their assessments, and their remediation experiences were investigated in Chapter Two. A brief history of community colleges was relevant to this review of literature, as well as the community college expansion through the return of U.S. military troops. After reviewing the literature in Chapter Two, the research methodology of Chapter Three was established. It was delineated with the inclusion of procedures, such as, coding, data analysis, interview questions, participants' selection, accessing the research site, and the plan for engaging participants in the Qualtrics questionnaire, one-on-one interviews and focus group session. Chapter Three concludes with a summary and explanation of how the data was collected and categorized into themes and analyzed. In Chapter Four, the researcher coded, analyzed and presented the results of the study on student veterans' perceptions of placement testing and remediation.

CHAPTER 2

REVIEW OF RELATED LITERATURE

A review of the available literature revealed substantial gaps connecting student veterans to the challenges of college readiness. Thus, there was a void in the research of nontraditional, student veterans' experiences, perceptions, and implications of placement testing and remediation in the higher education setting. Chapter Two encompasses a review of the current literature on the topic of college readiness and related research on placement testing and remediation for this phenomenological study on the population of student veterans. Creswell (2007) explained that phenomenology is a description of the experiences of the participant. Educational, sociological, anthropological and behavioral theories form the foundation that was used for framing this work and gaining an understanding of the college-readiness topic. These theories were used to filter the related literature and research specific to the focus for developing this study. This literature review was crucial to building an academic tool to interpret and to explicate participants' perceptions and implications for placement testing and remediation.

Theoretical Frameworks

Glass (1989) in defining how history guides research stated: "Historical research is the study of relationships among issues that have influenced the past, continue to influence the present and will affect the future" (Berg & Lune, 2012, p. 306). Therefore, a historical review of relevant literature was important for providing an existential setting for this study. Historical research aided in investigating the relationships between the issues in placement testing and remediation and how these relationships either impeded or improved student veterans' matriculation into college-level courses at a western Pennsylvania community college. Thus, the Social Historical Research method was utilized for this study. Through this method an

examination of combinations of historical events were explored in order to uncover accounts of what happened in the past and allowed this contemporary researcher to “slip the bonds of their own time” and be immersed in discovery that informed this research study (Hamilton, 1993, p. 43). The theory provided access to a broader understanding of human behavior and thoughts than would be possible if we were trapped in the static isolation of our own time (Berg & Lune, 2012).

World Culture Theory justified the need for this study on college readiness because of the ideology of education which was subsumed within the postulate of the theory. This theory implied that international education was influenced by Western schooling (European-designed educational systems), creating a potential for the homogenization of educational systems worldwide. This implied that the education of the populations of each nation was vital to each country’s national and global interests. This interest spanned from national educational systems to the education of everyone. Therefore, world culture theorists argued that all people should be educated to compete in the global economy (Anderson-Levitt, 2003).

Considering the World Culture Theory perspective, all students going forward should be educated to compete individually and nationally in the global economy. For the purpose of this study this global education should be inclusive of adult learners. Other theories that dealt with adult learners became apparent. Not all adult learners were the traditional college-aged students. Many nontraditional students were older while attending universities and community colleges. They, too, must be ready to compete economically in a globalized context. Thus, nontraditional students would be a significant addition of each nation’s workforce then and now (Chao, DeRocco & Flynn, 2007).

World Culture phenomenon suggested that the nation states should include nontraditional students in their educational plans to compete globally. Studying college readiness of community college students became imperative and significant. The academic abilities of students, both traditional and non-traditional, were explored when first starting their college programs. Preparing all students to succeed with college classwork enhanced the competitive edge of each nation. Therefore, an understanding of college readiness was necessary for any nation's educational system, economy, and the self-interests of all its students.

An understanding of college readiness for this research study started with Arnold, Lu and Armstrong's (2012) text on the ecology of college readiness. These theorists asserted the notion that there existed an "integrative ecological environment," which is the evolution of a students' understanding of their social and academic worldview (pp. 14, 102). This theory provided an ecological view of a student's college readiness through mapping the intersections (or interactions) of five "nested" environmental systems: 1) macro, 2) exo, 3) meso, 4) micro, and 5) chronos that were connected throughout the entire lives of students. Arnold et. al., (2012) suggested that, intersecting an individual's life, timing, and sociohistorical context were important determinants of educational outcomes. Within this perspective, the entire life experience of the student created the environment that the theorists call the "integrative ecological environment" (pp. 12, 14, 15, 17).

The text, *Ecology of College Readiness*, primarily addressed only traditional students in the K-16 educational pipeline. Therefore, other theoretical models were needed to further inform the research and enhanced this study on nontraditional, college-bound adults. Researchers' (Arnold et. al., 2012) believed that much more attention was needed to investigate the "nonstandard" trajectories to college, such as adult students, GED holders, and delayed and

discontinuous college entrants” (p. 106). This study utilized other theoretical models to compensate for the blind spots engendered by the Ecology of College Readiness theory regarding the nontraditional student, and the student veteran.

Mezirow’s (1996, 2000) Transformative Learning Theory was used in this study to interpret adult learners’ adaptation process to college attendance and success. Mezirow (1997) stated that transformative learning was a constructivist approach to education. The focus of this model was on an individual person’s ability to transform oneself by separating from his or her social context and not allowing it to have influenced academic learning. Thus, social forces affected learning (Mezirow, 2000).

Supporting Mezirow’s framework was Schlossberg’s (1984, 1995) Theory of Adult Transitions. Its specific use, regarding this study, was to illuminate the personal adaptations of veteran students who were beginning college. Schlossberg defined her theory as, “a vehicle for analyzing human adaptation to transition” (p. 2).

Lastly, Padilla’s (2009a) General Model of Student Success (GMSS) was chosen as a supporting framework for its focus on the influential dynamics operating in a student’s academic journey. The purpose of the model was to identify attributes that appeared to lead the student to academic success. Padilla declares, the “model identifies college success barriers (including college readiness barriers), formal academic and informal heuristic knowledge about how to succeed, and actions students take to put their knowledge into use to overcome barriers to succeed” (Arnold et. al., 2012, p. 7).

According to Arnold et. al. (2012), Padilla’s model stressed direct student experience in recognizing that education occurred within the “life world” of everyday affairs, where people attended to the business of living (Padilla, 2009, p. 7). Collectively, all the previously discussed

theoretical frameworks provided the foundation for a relevant study on the college readiness of nontraditional, student veterans. World Culture Theory, the Ecology of College Readiness and the other supporting frameworks listed helped hone the focus of this study on the experiences of student veterans as nontraditional students who were transitioning and adapting to college to earn credentials in order to compete in a knowledge-based, globalized workforce.

Global Educational Perspectives

In the *Anthropology and World Culture Theory*, by Kathryn M. Anderson-Levitt (2003), the author explored the question of, “Is there one global culture of schooling, or many?” as the solution to an ongoing dialogue between two different perspectives on education around the world. On one hand, anthropologists viewed the educational systems of the world as being a myriad of differences from district to district and even classroom to classroom. However, some anthropologists, sociologists and educators viewed the educational systems of the world as being more homogeneous with schools all converging toward one global model. The sociologists, anthropologists, and educators who held this view were considered world culture theorists.

World culture theorists argued that a single Western or European model of schooling has spread around the World as part of a larger cultural compilation of Western governmental, health, military and other institutional models (Anderson-Levitt, 2003). They considered this homogenization of national governmental systems, including education, to be a part of globalization.

These theorists saw an increase in common educational principles, policies, and even practices among countries with varying national characteristics (pp. 11-12), around the world (Anderson-Levitt 2003). These policies and practices were not only occurring in some

educational systems for the first time, but also as a part of a growing global reformation of education where they already existed, yet, perhaps, in a more inefficient form.

Anderson-Levitt (2003) supported the World Culture Theory with corroborating evidence from ethnographic and comparative studies which documented, for example, the increased occurrence of standardized testing, not only from country to country, but also from higher grades to lower grades. Content-centered instruction, educational standard, quality assurance, performance-based management, and local accountability were compiled in the supporting evidence.

Theorists like Anderson-Levitt (2003) considered their view of the global homogenization of education, or World Culture Theory, as being significant. This observation was due to the nations of the world increasingly viewing the education of their populations as being vital to national interest. According to Anderson-Levitt (2003), education was becoming globally standardized. Therefore, establishing a level of knowledge proficiency that every competing nation must meet in order to be considered viable in a globalized world (such as nations competing against nations in a knowledge-based globalized economy) was essential.

International Assessment K-16

In Wagner's (2006) text, assessment was based upon the premise that higher education is globalized and crucial to the international economic competitiveness of nations. This competitiveness spanned from national educational systems to even the individual student. For example, Wagner urged that each student will be competing with other students throughout the world with similar skills. Thus, institutions of higher education were major factors in a nation's economic competitiveness. Evidence suggested that a highly-qualified, knowledge-based

workforce contributed substantially to a nation's economic competitiveness, particularly when a large share of the workforce had acquired skills and knowledge through higher education.

For Wagner, the strength of his position lay with statistical documentation which demonstrated the correlation between high school graduation rates and higher education entrance and completion levels. Higher rates of high school completion implied relatively strong levels of demonstrated knowledge and skills among cohorts of youth. Countries with high levels of high school completion were more likely to be farther along in preparing their young people to enter higher education. Anything less than a "near-universal" high school completion rate was troublesome for any country for two reasons: 1) without high school completion, the challenges of raising the skills and knowledge of large numbers of young and older populations became more difficult, and 2) those students not completing high school were largely excluded from advanced learning opportunities in higher education. Non-completers of high school did not have the benefits of better employment options from knowledge-based professions and enhanced skills for living in a modern society.

Wagner (2006) suggested that international comparisons of higher education performances offered significant benefits to inform and guide U.S. higher educational policies. Many national, higher educational systems became similar to those in the U.S. in terms of scale and sub-national governance. Even the competitiveness of specific states was often considered in relation to other countries rather than to other U.S. states. This aspect meant that strong national competitiveness did not necessarily translate into strong international competitiveness.

Wagner (2006) argued that, although the U.S. is strengthening higher educational outcomes, other countries, such as Belgium and the Czech Republic were outperforming the U.S. in educational performance and high school completion levels. Additionally, Wagner purported

that the U.S. no longer holds the leading position in providing access to, participation in, and the completion of higher education. In order to stay competitive, the U.S. needed to be engaged in educational testing and analysis that better reflected international standards rather than just comparisons between U.S. states, school districts, or even classrooms.

U. S. Assessment K-12

The text, *Measuring Up: Assessment Issues for Teachers, Counselors, and Administrators*, was created for K-12 educators in order to improve the understanding of assessment concepts by addressing the broad issues faced by educators. Testing provided accountability and was intimately involved in the implementation of higher standards in education reform (Wall & Waltz, 2004). Increasing emphasis was placed upon testing for educators. Teachers were constantly expected to clearly establish their effectiveness. Future employers were demanding a more proficient workforce with higher skills, and the public expected schools to authenticate that they were delivering increasingly effective programs to all students. Wall and Waltz (2004) also addressed some of the most relevant issues related to testing and assessment in U.S. schools and provided a basic understanding of assessments. The rationale of this literary work was to help mitigate pressures and politics surrounding escalating issues, concerning testing and assessment, their use in education, accountability of educational processes, institutions, and educational reform. Wall and Waltz's (2004) work was used as a primary textbook in educational assessment classes or as a supplement to a more technical course in assessment within educator preparation programs. Additionally, educators utilized this publication as a resource to better grasp basic concepts and special challenges within educational assessment and testing. School members and state legislators used this book to help better understand the complexities of assessment issues in education. It was a broad and

comprehensive work on testing in the U.S. and was primarily concerned with the establishment of U.S. benchmarks for understanding assessment theory and PRAXIS exams (Wall & Waltz, 2004).

Assessment History

For nearly 90 years, assessing students' preparedness for academic proficiency through testing had been part of U.S. society and academic culture. Thus, assessments created in the 19th century that were later modified in the 20th century were the primary measurement instruments of academic knowledge. However, these systems needed to be modified to meet the challenges of the 21st century student. Heller, Wolfe and Steinberg (2017) stated that the U.S. was stuck with schooling its "twenty-first century students with a twentieth century system" (p. 3).

U.S. assessments gained momentum in the 1890s through the establishment of the College Board of Examinations which was comprised of private universities and secondary-level educators. The board's earliest assessments were in local member school districts in the Northeastern and Middle Atlantic States of the U.S (Britanica.com, 2019; Ravitch, 1995). In 1901, these schools tested students learned academic content. For a decade and a half, the mission for testing was more focused around college admissions, access and creating a common entrance examination to test subject-area knowledge. By 1916, problem solving, and critical thinking were added and emphasized as most important (Britanica.com, 2019). Also, around this time, in 1904 in France, psychologist's, Alfred Binet's, research on attention, mental ability and memory was commissioned by the French government. The government's request was that Binet developed a method to identify students who needed educational assistance. The result of his research was an intelligent quotient (IQ) test called the Simon-Binet Scale (Cherry, 2019).

Between 1900 and 1909, both the College Boards Entrance Examination and the Simon-Binet Scale would garner notoriety in their respective continents.

In 1908, the Simon-Binet Scale was brought by psychologist and eugenicist, H. H. Goddard, to the U.S. to support a growing societal ideology to delineate the intelligence of American people by race and class through mental testing. Thus, a movement on intelligence testing ensued via an English version of the Simon-Binet Scale. A short time later, the Binet Scale was revised by Lewis Terman and renamed the Stanford-Binet Scale. Terman standardized the test through a broad testing of Americans and expanding the objectives to include testing for “curtailing, the reproduction of feeble-mindedness, crime, pauperism and industrial inefficiency (intelltheory.com, p.7; White, 2000).

Binet, in 1909, spoke out against the eugenics philosophy of fixed intelligence, stating, “Some recent philosophers seem to have given their moral approval to these deplorable verdicts that affirm that the intelligence of an individual is a fixed quantity, a quantity that cannot be augmented. We must protest and react against this brutal pessimism...” (Les idées modernes sur les enfants, 1909, p. 118). According to Cherry (2019), Binet was the first to strongly admit his test was limited; he argued that intelligence was far too complex, diverse and malleable to measure by only quantitative assessment, and it needed to be further studied quantitatively. However, despite Binet’s cautions and the tests original intent of determining students’ educational need and placement, the Simon-Binet Scale became the first practical and widely used intelligence test.

Most notably, during World War I, the Simon-Binet Scale was the frame of reference for the design of the Army Intelligence Questionnaire (A-IQ). The military needed to determine which soldiers were best suited for the various roles within military service. Robert Yerkes,

Chair of the Committee on the Psychological Examination of Recruits, worked with a specialized team (H. H. Goddard, Lewis Terman, W. V. Bingham, T. H. Haines, G. M. Whipple, F. L. Wells, Carl C. Brigham and others). These psychologists and mental measurement experts developed variations on Binet's Scale to create intelligence tests called the Army Alpha (for literate) and the Army Beta (for illiterate). In 1917 and 1918, these examinations were administered to 1.73 million American and foreign speaking soldiers.

By 1922, the College Boards entrance examination was commissioned by board leaders to be overhauled to test college bound students. A team of "psychological testing experts," Robert M. Yerkes and Henry T. Moore, worked alongside military veteran, Carl C. Brigham who chaired the redesign of the examination. This team administered the first Scholastic Aptitude Test (SAT). It was an experiment to test the academic capability of 8,040 white male applicants for admission to Ivy League colleges in 1926 (College Entrance Examination Board, 2002, p. 5; Ravitch, 1995, p. 44). During World War II, the SAT examination grew greater in popularity than the essay designed college entrance examination because of its multiple-choice design (Ravitch, 1995).

Assessments evolved further during the late 1920s and 1930s. Under the auspices of Dr. Ralph W. Tyler, assessments were theorized into frameworks and gained more notoriety through various studies (Waples & Tyler, 1930). Their research studied classroom processes. Smith and Tyler (1942) examined and documented students' progress as well as the testing of military service members.

Fitzpatrick, Sanders and Worthen (2004) purported that Smith and Tyler conceived of evaluation as the process of determining the extent to which the objectives of a program were being attained (p. 72). The focus of Tyler's research was the application to education. For

example, The Eight Year Study that Tyler and Smith conducted between 1934 and 1942 measured the process by which students learned and retained academic information. As a result of The Eight Year Study, pre-college students had begun being tested nationally.

From 1943 to 1954, Dr. Tyler became the Director of Examinations Staff for the U.S. Armed Forces Institute. During his tenure as director, he assessed “service-men’s” ability to effectively comprehend military training and perform the duties taught (Fitzpatrick, Sanders & Worthen, 2004, p. 72; Tyler, Ralph W., Papers, 1932-1988). Following on the heels of Tyler’s work in 1959, the American College Test (ACT) was added alongside the SAT and became the second national test administered to college-bound students (Ravitch, 1995, p. 49). Both the SAT and the ACT continue to stand today as the leading standardized tests for college entrance examinations. However, the Simon-Binet and the Stanford-Binet Scales remain inspirational tools for intelligence quotient (IQ) research. American psychologist David Wechsler “believing that intelligence involves different mental abilities” used the groundbreaking work of both Alfred Binet and Robert Yerkes to craft new intelligence tests specific to children and adults as late as 1955 (Cherry, 2019).

Since Tyler’s time, tools for testing students had evolved and become more specialized. Today, institutions have several types of specifically designed assessments to evaluate, measure, and document characteristics of academic readiness, learning progress, skill acquisition, and educational needs of students. One such form of standardized assessments was college placement assessments (edglossary.org, 2015). The most frequently used placement assessments were College Board’s Accuplacer and ACTS Compass, which were designed with the same multiple choice online format as the major college exams: SAT and ACT.

Accuplacer and Compass assessments purposes differed vastly from Tyler's era. He tested for previously attained learning and capability for college (Fitzpatrick et. al, 2004). These tests assessed whether learning in core specifics, such as English, reading, and math was sustained after high school. The results of the tests were used in higher education institutions during the admissions and advising phase to diagnose individual students' strengths and weaknesses in order to place them into the appropriate college or remedial courses (Clayton, 2012; Tamar & Lewin, 2012; Esch, 2010; Ravitch, 1995, p. 49).

Test administrators in community colleges, while accepting the SAT and ACT scores, also administered placement tests to students who had not taken the SAT or ACT. The most common tests administered are the Compass (designed by ACT) or Accuplacer (designed by the College Boards). Like the SAT and ACT, these tests assessed students' college readiness for college level courses. Yet, these tests went a step further than the SAT or the ACT; they were used to determine remedial course placement for students who scored below an institution's benchmarks for college-level courses.

However, testing was not without significant complications. The national establishment of benchmarks was compounded by inconsistent policies and standards in college readiness across academia; there was no single consensus among higher educational leaders on benchmarks for setting college readiness standards and policies (Chen & Simone, 2016; Phipps, 1998). Each institution had its own set of standards, and these standards were often different nationally and across institutions within the same state (Arnold et. al., 2012; Source on Community Colleges, 2011; Ravitch, 1995, p. 33). In other words, higher education institutions were unclear when defining which skills and knowledge were expected from students in order to

meet their benchmarks to enter college (National Center for Public Policy and Higher Education, 2010, p. 3).

Adequately measuring students' skills through varied placement testing instruments and divergent college expectations created standardization issues, making it difficult for institutions to know what worked. Thus, assessment instruments were problematic for these reasons. For example, testing instruments did not consider that the typical age range of first-time college students could be older than 18 or 20. Therefore, a knowledge retention gap existed between high school graduation and college enrollment. This gap meant that adults older than 20 and not enrolled in college forgot what they learned in high school. These students had not engaged in academic rigor for two or more years. It was especially true for nontraditional students who were 25 years or older (NSBA Center for Public Education, 2014).

Forgetfulness is an issue with testing high school graduates and especially nontraditional students who delayed college enrollment immediately after high school. Because, according to Jenkins (2005), "Students were held accountable [through testing] for their short-term memory" rather than their long-term memory (p. 7). Under such circumstances, it was unlikely that students had retained what they had learned in high school in order to recall it during testing. Therefore, the problem became compounded when using nationally standardized or placement tests scores as predictors for determining course placement, especially in selecting one or more remedial courses a student needed to resolve an academic weakness (Hondara et. al., 2012).

College Remediation Overview

Adams (2010) stated that three out of every five community college students were unable to "handle the classwork" and needed help building or rebuilding foundational skills. When a student needed this kind of help in college, it was called remediation. Institutions took the

position that these foundational skills were learned previously and needed to be retaught or refreshed. Bettinger and Long (2005) included employment in their definition of remediation: “The purpose of remedial education was to provide underprepared students with the necessary skills to succeed in college and to gain employment in the labor market” (p. 19). In earlier years, remediation was defined by Grubb and Associates (1999) as “a class or activity intended to meet the needs of students who initially do not have the skills, experience, or orientation necessary to perform at a level that the institutions or instructors recognized as ‘regular’ for those students” (p. 174). Remedial education was described as precollege-level courses and support services provided by postsecondary institutions to help academically underprepared students succeed in college-level courses (Institute of Higher Education, 1998).

History of Remediation

Phipps (1998) in his study on college remediation explained that every college student throughout the history of American education entered college less than ready for college-level courses. Thus, it was a myth that remedial education never existed and was once never needed. According to Phipps, remediation was as old as “the early colonial settlements of the 17th century” (p. v). He cited Harvard College and the G.I. Bill as examples of traditional and adult students’ need for remedial help. Phipps explained that Greek and Latin students at Harvard College availed themselves of tutors to learn and to improve their proficiency in these early languages. Later in the 20th century, the need for remediation increased at colleges with the influx of thousands of underprepared former military veterans who were using the G.I. Bill. Like many students, they needed remediation to refresh their academic skills and improve success in college-level courses.

In his estimation, Phipps (1998) concluded that “remediation for inadequately prepared students has been an integral part of the American higher educational system for well over three centuries” and was here to stay as a core function of colleges,” especially community colleges because of the “ever-growing proportion” of those needing it. In the 1990s, for example, the National Center for Education Statistics (NCES, 1995) reported a high percentage of higher education institutions included one or more remedial courses in their programs. The report indicated that 100% of two-year institutions and 78% of four-year institutions included remediation courses and 94% of these institutions had high minority enrollments (NCES, 1995).

Phipps (1998) argued that since its inception, remediation has suffered from a major problem, inadequate financial aid or other such issues. He and other researchers of his time posited that students’ unpreparedness was linked to one consistent problem that had caused remediation to be a staple in higher education; that problem was the lack of standardized benchmarks detailing what institutions meant by the term “college-level work.” Phipps stressed that academia has not determined a definitive set of baseline knowledge and skills of what needed to be taught to students as pre-requisites for college-level coursework. Therefore, a student’s assignment to remediation courses was determined by admissions’ standards which changed considerably from institution to institution, typically based on the lowest score on institutions’ assessment tests (p. vi). Phipps stated that the line that separates students who needed remediation from those who did not is fairly arbitrary.

Remediation was not only for “underprepared high school graduates.” First-generation adult students, 27% over the age of 30, also opted for remedial courses. Phipps cited NCES statistics that while 56% of freshmen required remediation, 24% of sophomores and 9% of both juniors and seniors are also engaged in remedial coursework.

Phipps (1998) suggested that there was more to remediation than tutoring and building basic core skills in reading, writing, and mathematics. Remediation encompassed an assessment and placement, curriculum design and delivery, support services, and evaluation. Therefore, remediation had evolved from subject-based tutoring into an academic program. Phipps argued that the more successful a remediation program was at improving students' core skills and moving them into the mainstream of college-level courses, the more institutions benefitted from higher retention and completion rates for those students. This success was not only good for the student and institution but also for the public and overall nation. Phipps urged that "Since going to college results in greater benefits to the public as a whole—students who benefit from remedial instruction provided by higher education also must be contributing to the public good" (p. 27).

Phipps (1998) supported remediation as a means to help underprepared students. Yet, he reminded leaders that remedial education was not perfect, but it was "wise public policy" and should be reviewed and evaluated for ways to make it more effective and efficient. He offered three suggestions to higher education institutions for addressing the problem of high remediation rates among students: 1) implementing multiple strategies that help to reduce the need for remediation by aligning high school requirements with college content and competency expectations 2) improving the effectiveness of remedial education by creating best practices through inter-institutional collaboration among colleges and universities in a state or system, and 3) incorporating technology to build more comprehensive remedial programs that go beyond tutoring and skills development. Lastly, Phipps strongly urged colleges to conduct case study research to address gaps in knowledge about remedial education.

While Phipps (1998) argued that the issue of remediation went as far back as the first one-on-one tutoring sessions in the 17th century, Zeitlin and Markus (1996) in their study, two years earlier, reported that remediation is “vital” because of policies that provide opportunities to education through “open access higher education” institutions. Their assumption was that the very nature of “open access” creates an environment necessitating remediation, which would otherwise not be necessary if underprepared students were receiving quality education prior to entering into the higher education system (p. 27).

Proponents’ vs. Advocates’ of Remediation

Zeitlin and Markus (1996) synthesized research data from studies by Bell’s (1986) research with the National Commission on the Role and Future of State Colleges, an International Assessment of Education Progress and Universities (1991), and a United States Department of Education study (1993) and asserted that segments of U.S. citizenry were spiraling into “functional illiteracy” at home according to international assessment comparisons. Giving the example that American students’ test results were near the bottom of international mathematics assessment rankings, 17th place of the 19 highly industrialized nations, action needed to be taken (International Assessment of Education Progress, 1991). The U.S. continued to trend near the bottom. The Pew Research Center reported in 2017 that in 2015 the U.S. ranked 38th of 71 countries in math on the Programme for International Student Assessment (PISA) and 30th place in math among the thirty-five member countries who participated in the assessment ranked by the Organization for Economic Cooperation and Development (OECD) (Barshay, 2016). A longitudinal study conducted by Loveless (2017) reported that “U.S. students’ scores had been flat on all three subjects; however, [on] the PISA which had begun testing students in

2000, the U.S. had significant declines in 2015, 2012 and 2009, going from 470, 481 and 487 respectively on math assessments” (Brookings Institute, p. 3).

At the time of their study, Zeitlin and Markus (1996) expressed that the need for remediation was increasing and would continue to do so; further citing a United States Department of Education (1993) reported that “55 percent of high school graduates attended community colleges” and of all students attending either a community college or a university, high percentages of students needed “some form of remediation.” The data are representative of increasing remediation rates over ten years. Table 1 is a depiction of the U.S. Census Bureau statistical data for two-year community colleges and four-year institutions between 1981 and 1991.

Table 1

Increasing Remediation Rates

Higher Education	1981	1991
2-Year Colleges	83.8%	89.0%
4-Year Colleges	78.9%	94.9%

Note. Adapted from “Should Remediation be Mandatory in Community College,” by A. Zeitlin and T. Markus, 1996, *College Review*, 14(27). 13.

From the data in Table 1, Zeitlin and Markus (1996) surmised that in order for this new breed of underprepared students to succeed in college-level courses, “appropriate” remedial and developmental courses were necessary. Going forward from 1991, remediation continued to be just as important; Scott-Clayton (2018) reported that between 2000 and 2008 “self-reported” remediation rates, at all institutions especially community college students’, were rising.

However, remediation rates declined slightly from 2008 to 2012. Zeitlin and Markus (1996) also explained that there were two forms of remediation: voluntary remediation and mandatory remediation. Both were offered without college credit and institutions rarely or

intermittently received federal or state funding for these courses, which caused these programs to be burdensome for institutions to operate. In their study, community colleges were not in agreement as to which worked best. Each form of remediation had varying results. Zeitlin and Markus (1996) provided research results for both proponents of mandatory remediation and advocates of voluntary remediation. For example, proponents of mandatory remediation suggested that students were more successful and completed their degree or transferred to four-year institutions when engaged in remediation that was mandated by institutional policy. Additionally, proponents of voluntary remediation cited a report by Wiener (1985) that 67% of students in a voluntary remediation program at Grossmont Community College in California “withdrew, dropped out, or failed;” yet those who had chosen to take remediation rarely improved their performance (Zeitlin & Markus, 1996).

Advocates for voluntary remediation, while not disagreeing with proponents’ issues with voluntary remediation, desired to leave the onus of taking remediation to the student because in their view, it should be the student’s decision not the institution’s decision. Therefore, advocates for voluntary remediation recommended that after testing students, institutions use the “advisory placement” method rather than instituting “mandatory remediation.” According to Zeitlin and Markus (1996), proponents of mandatory remediation and advocates for voluntary remediation agreed that students in such programs should take a lighter academic load until “basic skills deficiencies are ameliorated” (p. 29).

Zeitlin and Markus (1996) concluded that typically remedial programs are offered at both types of institutions (community colleges and universities) but “many of these programs were fractionated, [and] uncoordinated” (p. 29). A disconnect appeared between the basic skills content taught in remedial courses and content taught in college-level courses. Therefore, Zeitlin

and Markus (1996) urged higher education leaders to understand that regardless of remediation being voluntary, or mandatory, remedial programs needed to be evaluated for how well they served the developmental needs of underprepared students, to ensure that they are actually purposefully preparing and moving students into “mainstream college courses” (p. 29).

Who Needs Remediation

Although remediation became a mainstream issue hotly debated in conversations among leaders in higher education, state and local governments, due to its high need among students, it was rare for students to need more than one or two courses to prepare them for college-level work. Oudenhoven (2002) built on the remediation research of Phipps (1998) and Zeitlin and Markus (1996) by agreeing that remediation was needed for a large majority of students of all walks of life, but for students to be successful, it should be mandatory (p. 40). Oudenhoven’s study described three types of students who typically required remedial courses and without the courses they would fail: 1) traditional-aged students attending immediately after high school; 2) adult students who had [either] served in the military, worked, [and] or raised families; and 3) students for whom English was not their first language (p. 40).

Of these three segments of remedial students, two needed it more often of which 60% were traditional-aged students, many students needed some form of remediation (primarily math), but others also required some English and reading remediation, whether or not they are engaged in college preparatory classes in high school. Forty percent were adult students who, according to Oudenhoven (2002), “were rusty due to not enrolling in college immediately or may have never learned the information” (pp. 39-40), while in high school; still others may have suffered from “academic or physical problems” and needed remediation.

While Oudenhoven supported mandatory remediation, she added that whether or not a student required it was usually based on the major they had chosen to pursue in college (pp. 39, 40). Certain majors required courses based on mathematics, heavy reading comprehension, and writing. Oudenhoven reported that the catalyst to successful transition out of remediation leading to improvement of “chances for completing a degree” appeared to lie in students developing strong foundations in reading. This inference was based on studies by Adelman (1996) and McCabe (2000).

Remediation and College Readiness

Bettinger and Long (2005) stated that “little was known about the causal effects of remediation on student outcomes” (p. 17). A literature review of studies on remediation revealed that these studies were more about “remediated and non-remediated students” and rarely compared cohorts of remediated students. Bettinger and Long (2005) attempted to address this “causal effect” gap in the literature when they studied the effects of remediation on 13,000 community college students in Ohio over a five-year period. At the conclusion of their study, Bettinger and Long reported that they found remedial classes have “drawbacks and benefits.” In other words, community colleges did not retain all the students in remedial classes because some students withdrew. For those who remained, they decided not to take the next series of remedial courses. A further result that was reported was that many of the students who tested into remedial classes had chosen to skip them and took regular college course without remedial assistance. Lastly, positive academic improvement was a result for students who chose to respond to remediation by taking and completing one or more courses.

The benefits of remediation reported in Bettinger and Long’s (2005) study were also found to be similarly reported roughly ten years later in Chen and Simone’s (2016) statistical

study. Chen and Simone (2016) investigated remediation among remedial students who took one class and non-remedial students who did not take any classes, at both two-year and four-year institutions over a six-year period between, 2003-2009. Chen and Simone’s study focused on documenting the scope, intensity, and “timing” of enrollment in remedial course work for underprepared students in three weakness levels: 1) remedial completers, 2) remedial non-completers, and 3) partial remedial completers. Table 2 below showed the level and percentage of remediation completed by students:

Table 2

Level and Percentage of Remediation Completed

Institution	Completers	Non-Completers	Partial-Completers
Two-year	49%	16%	35%
Four-year	59%	15%	25%

Note. Adapted from “Remedial course taking at U.S. public 2-year and 4-year institutions: Scope, experience and outcomes, statistical analysis report,” by X. Chen and S. Simone 2016, U.S. Department of Education. Retrieved from <https://nces.ed.gov/pubs2016/2016405.pdf>

An overarching result of Chen and Simone’s (2016) study revealed that some remedial students outperformed non-remedial students. An unexpected outcome that resulted from the study was that remediation was not relegated to underprepared students. Students who were able to test into college-level courses also benefited from taking remedial courses. Chen and Simone (2016) propounded that their study supported remediation as a pathway to readiness for college level coursework.

Defining College Readiness

College readiness had several definitions. The American College Testing (ACT) defined it as, “the acquisition of knowledge and skills a student needs to enroll and succeed in credit-

bearing first-year college courses at postsecondary institutions without the need for remediation” (ACT, 2015). Arnold, Lu and Armstrong (2012) proposed that “College readiness refers to a student’s capacity to enroll at a postsecondary institution in courses and persist to his or her educational goal” (p. 1). Barnes and Slate (2013) defined college readiness as:

The cognitive skills and strategies gained through successful completion of rigorous high school coursework, while at the same time, facilitating students’ development of the requisite set of metacognitive skills and strategies necessary for college success—creativity, critical thinking, self-efficacy, self-confidence, and self-regulation, which will allow them to develop an awareness and understanding of the academic expectations of entering and succeeding at postsecondary institutions, thereby internalizing a college going attitude. (Barnes and Slate,2013, p. 1)

According to Dr. David T. Conley, college readiness was a construct. Conley developed the model, Four Keys to College and Career Readiness (Conley, 2007), whereby he described college readiness “as a field of study, used as a broad brush, for structuring the components of debates on academic preparedness, policy reform, assessment standards and student performance” (p. 1). Thematically, all of the above definitions entailed constructs for determining the level of a student’s proficiency of high school educational and what academic ability they needed in order to succeed in attaining a college credential.

College Readiness Agenda

Barnes and Slate (2013) provided a critical analysis of what they claimed to be a one-size-fits-all college readiness agenda, dominated by the U.S. educational agenda, which echoed the notion that a college degree equals success. The authors accomplished this analysis through a historical review of college readiness research which Barnes and Slate surmised was primarily

concerned with obtaining a baccalaureate degree. Barnes and Slate (2013) surmised that it had been a mistake for the U.S. to only focus on baccalaureate degree completion without seriously developing alternative paths for students educational and career success, such as associate degrees and technical training programs.

Since the 1950s, stakeholders at all levels including college administrators and local community advocates were seeking ways to enhance students' academic success. Yet, these strategies for better prepared students created a stifling, ineffective one-size-fits-all agenda (Barnes & Slate, 2013). The first catalyst for the one-size-fits-all college-readiness agenda was the 1957 launch of the U.S.S.R. Sputnik satellite that challenged the United States' supremacy in scientific research. This phenomenon was the initial point-of-fear that led to the establishment of the National Defense Education Act (NDEA) of 1958 which was a major funding source for science and technology in American education (Burns & Slate, 2013). An effect of this fear was an increase in standardized testing. Between 1958 and 1967, standardized testing grew exponentially from 10 million to 45 million elementary and secondary students and from one-third to 100% of high school students (Barnes & Slate, 2013).

A report to President Ronald Reagan, in 1983, from the National Commission on Excellence in Education called, *A Nation at Risk: The Imperative for Educational Reform*, found that "American prosperity, security, and civility" were in serious jeopardy because the educational foundation on which the United States was built was rapidly eroding." With this highly disseminated report to the public, the authors claimed that the Reagan Administration succeeded in promoting an educational agenda that was rooted in fear of U.S. economic doom which almost exclusively focused on tougher standards in school reform as the remedy. The authors stated, "Through his use of the information in *A Nation at Risk*, President Reagan clearly

delineated the direction of America's education system, driving the nation's education system more steadfastly toward the present one-size-fits-all agenda as mandated by the No Child Left Behind Act (NCLB) of 2001."

NCLB had a basic premise of "better outcomes for all students." The act was specifically meant to close the gap between middle and upper socioeconomic White, urban, rural and lower-socioeconomic students. The No Child Left Behind Act mandated that schools met proficiency and federal targets or face sanctions. Yet, this punitive approach, instead of closing educational proficiency gaps, widened them. NCLB utilized high-stakes standardized test scores as the primary measure of students' learning and school equality, while excluding all other attributes of students, teachers, and facilitators. As stated by Barnes and Slate (2013), "With high-stakes standardized state tests and harsh, punitive accountability measures as the supposed motivators for learning, students became adept at taking tests, but they were unprepared to be academically successful in post-secondary institutions" (p. 2)

High-stakes testing and punitive accountability had exacerbated the educational gap between the "haves and the have-nots." Poorer schools were "teaching-the-test." This narrow focus upon only testable information lacked the breadth needed to achieve academic success, whereas, predominantly middle-and upper-class White schools, whose students regularly did well on standard tests do not teach-the-test, but are focused upon a more varied, comprehensive curriculum which ensured a greater probability of success.

Additionally, the authors considered the correlation between international standardized testing and the nation's economic well-being to be speculative. Barnes and Slate (2013) stated, "In a number of empirical studies, the relationship between scores on international tests and the economic strength of the 17 strongest economies in the world is actually negative, or lacks the

statistical strength to provide a cause-and-effect and relationship between the two variables” (p.

4). They continued:

fearfully, erroneously, and somewhat unethically, policy makers, corporate leaders, and the media have reduced the quality of education to standardized test scores that allow comparisons of students and school systems across state and international boundaries, which appeals to our society’s need for simplistic, yet sometimes misleading, information, thereby strengthening the one-size-fits-all college-readiness agenda. (Barnes and Slate, 2013, p. 4)

Instead of the NCLB, the authors proposed that through educators, policy makers, and administrators encouraging parent involvement, providing college and career planning information, and assisting students in planning for their post-secondary educations, students made more informed choices and enhanced their talents for specific careers, whether it involved a four-year degree, associate degree, or technical training program, in order to engage in a right-fit education-career process that led to, not only academic success, but also career success.

College and Career Readiness

In the changing U.S. economy, unpreparedness for college and careers along with job losses in the labor market for those with a high school diploma, became the recipe for “a new reform agenda to rise around college readiness” (Siskin, 2013, p. 10). Jobs required a college degree. Thus, a high-school graduation became the “ticket” to college and less about employment immediately after high school. In 2013, 4.3 million jobs that required a high-school diploma disappeared; 3.1 million of the jobs that were created between 2008 and 2013 required a college degree (Sachs, 2013 & Siskin, 2011). Researchers reported that in their studies, historically, there were huge growing trends of high school students across all demographics

aspiring to go to college. See Table 3 below for statistics on these student groups:

Table 3

Trends of Students Aspiring to Attend College

Research Study	Demographic	Year	Statistic
National Center for Educational Statistics	Sophomores	1980	41%
National Center for Educational Statistics	Sophomores	2002	80%
National Survey of High School Student Engagement	Ninth to 12 th	2004	90%
Alger Association Survey	Ninth to 12 th	2006	94%
National High School Center	Youth w/Disabilities	N.d.	77%

Note. Adapted from “College and career readiness in context. Education funders’ research initiative,” by L. Siskin, 2013, New York, N.Y.: Steinhart School of Culture, Education & Human Development.

While students who desired to attend college increased significantly since the 1980s, there was a strong difference between high-school proficiency and college readiness. High-school faculty (89%) reported that their students were well-prepared for college, however, 26% of college faculty reported that these students were not ready and many needed remediation (Act, 2012). Siskin (2013) posited that education was a single pathway from pre-K to p-20, but “building the bridge along the path had moved slowly, plagued by separate policy, governance, and data systems” (p. 17).

Yet, “The shift toward college and career readiness has stimulated considerable activity” (Siskin, 2013, p. 17). Across the nation, many high schools were collaborating with colleges to offer dual enrollment opportunities for students (p. 17). Siskin cited a recent Jobs for the Future study which implied that taking even one college course while in high school considerably increased the odds of college completion (Hoffman & Vargas, 2010).

In the 2000s, college and career readiness became a coveted education reform objective. It was even promoted by President Obama as a “new mission for schools ‘to ready students for career and college—and without the need for remediation’” (College Board Address, 2010). However, due to policy confusion, it was later realized that achieving this goal was difficult.

In his study, Siskin (2013) attempted to explain the policy context and hindrances that made achieving college and career readiness necessary, but difficult. Siskin had three focuses: 1) a broad look at the “context of reform,” 2) analyzing the “policy context”, and 3) the “context of high school” as the source that makes change difficult (p. 2). Siskin utilized the similarities in New York City’s school systems and the national educational system to highlight the difficulties of achieving college and career readiness. Nationally, students’ outcomes in NYC were very similar to students’ outcomes in the U.S. This fact made NYC Department of Education (NYC DoE) students’ outcomes a good sample for understanding the “college and career readiness” reform agenda (p. 2).

According to Siskin, the problem that schools were facing was “policy context.” While schools and colleges like the ones in NYC were implementing college and career readiness reforms, the requirements of older reforms (i.e., raising test scores and reducing dropout rates) were still in place, creating confusion and challenges (p. 6). This confusion was due, in part, to a report created in 1983 by the National Commission on Excellence in Education (NCEE). The report was titled “A Nation at Risk.” The report outlined major educational reforms later used by the federal government to set a national “educational system” mandate, “requiring a well-educated workforce to compete in a global economy” (NCEE, 1983). NCEE argued that education in America’s schools was in “crisis” and so “diluted and diffused” that students’ in the

U.S. were “emerging from high school ready neither for college nor for work” (NCEE, 1983, pp. 4, 9).

The problem with the report was that it became the cornerstone from which other reforms grew, such as the “Goals 2000,” “No Child Left Behind (NCLB),” and “Race to the Top” (p. 7). Although this seemed to be a positive outcome, problems arose because all of the subsequent reforms operated simultaneously, resulting in divergent goals with “unintended” consequences. Unfortunately, the report (*A Nation at Risk*) only exacerbated the problems it was designed to mitigate by creating more policy confusion (through its derivative reforms) which resulted in diffused implementation efforts and thwarted policy goals.

For example, testing was emphasized simultaneously with reducing dropout rates. Due to this diffusion of policy goals, Siskin (2013) wrote, “the strongest legacy of ‘A Nation At Risk,’ which persists today, was the high priority now given to quite distinct goals: raising test scores and reducing dropout rates” (p. 7). This confusion resulted in policies centered on test-based students’ achievement and educational system accountability, such as those emphasized by NCLB, with punitive outcomes for schools that did not achieve sufficient test scores. Therefore, “Tested subjects” became the “unintended” focus for schools fearing repercussions (Carnoy, Elmore, & Siskin, 2003).

Emphasizing such narrow policy goals, based only on testing, led to lower assessment scores, lower graduation rates, and increased dropout rates. Siskin examined the National Assessment of Education Progress (NAEP) test scores (the only assessment common across states) and discovered that during each assessment phase (1971, 1986, 2008 and 2012), core areas tested (math and reading) continued trending remarkably low and disappointingly flat in spite of reforms, as did high school graduation rates (p. 8). Added to the trends of continued low-

test scores and graduation rates were very “alarming high-school dropout rates: 1.2 million students a year” (Pinkus, 2006, p. 8). Siskin et. al. (2003) declares, referencing the Education Testing Service (ETS) website that, “one-third of students entering high school did not graduate. The Pew Partnership and the Gates Foundation referred to high school dropout rates as “a nationwide epidemic” and the “silent epidemic,” respectively.

Graduation and dropout rates were so severe that governors of all 50 states signed a compact, epitomized with the mantra: “Graduation Counts” (Siskin, 2013, p. 9). Siskin wrote, concerning the compact, “They [governors of all 50 states] pledged to implement a common formula for counting it [graduations] and to add graduation rates to the new accountability metrics” (p.9) for schools. Federal government also made high school graduation a priority (NGA, 2006). According to Siskin, “The federal system, too, moved to count four-year graduation rates in its NCLB and Race to the Top calculations—and to attach consequences to performance” (p. 9).

Siskin (2013) suggested that instead of only focusing on test-based policies, a broader understanding of college and career readiness led to a more “full range of capabilities and skills needed to succeed in college” (p. 22). He posited that “grade point averages remain, in many studies, the best predictor of high school and college completion” (p. 22). This factor was because grades were a composite of “things like going to class, turning in homework, putting in effort, and even getting along with an adult” (p. 22). Also, researchers have expanded the needed and commonly agreed upon factors that are considered necessary for successful college and career readiness into four basic categories: “1) key cognitive strategies (problem formation, analysis), 2) key content knowledge, 3) key learning skills (time management, persistence, meta

cognition, self-awareness, and 4) transition knowledge and skills (admissions, financial aid)” (p. 22).

A more recent shift of college and career readiness reform was founded upon a resurgence of community, families, and students interested in education. It became a grassroots movement to use a high school education as the foundation for the pathway to college instead of its traditional purpose of being the end goal to employment. Siskin stated, “This was ‘a profound shift from the idea of high school as the ‘people’s college to high school as the people’s ticket to college’” (2013, p. 10). Siskin further noted that even though significant barriers remained for many students to achieve college graduation, “it was now normal to expect not only to go to high school, but to go through it on to college” (p. 10). This expectation appeared across all demographics, most notably among minorities, immigrants, and youths with disabilities (Siskin, 2013).

This shift occurred because as high school graduation rates began to increase due to intensifying policy pressures, simultaneously, economic forces reduced the benefits of having a high school diploma. The new knowledge-based, global economy now demanded more college graduates than high school graduates. Siskin (2013) stated, “Researchers suggested that more than half of high school graduates were unprepared for careers in the new global economy (Education Trust-West, 2004; Gates, 2007), and unready for college” (Achieve, 2005; Roderick, 2006; 2013, p. 9).

Politicians and policy makers had begun to also see the need to go beyond high school skills and credentials and on to “higher credentials—college degrees or technical certificates—to find work in the new economy” (Siskin, 2013, p. 11). Though educational leaders employed different modes to achieve these goals, a common theme emerged around “a broader set of skills

and capacities (i.e. problem solving, teamwork) than those readily measured on the common standardized tests” (p. 11). This “broader set of skills and capacities” were known as Common Core (Siskin, 2013). According to Siskin, there was “much hope across the country” that these new standards and assessments “were a mechanism for systemic change—aligning curriculum, teaching, and testing for all students to a common and academically rich set of standards” (p. 11).

Additionally, educational leaders, policy makers and politicians sought to create policies to increase preparation for college, due to high remediation and college dropout rates, while continuing to demand higher test scores and lower dropout rates (Siskin, 2013). Siskin stated: “Reports called into question the relationship between college access and college success, pointing to high remediation rates and low graduation rates of the community colleges that serve as the entry point into postsecondary education for so many students” (ACT, 2013; Conley, 2007; Everson, 2010; National Center for Education and the Economy, 2013).

Complete College America (2012) reported that “nationally 50 percent of entering community college students would be placed into remedial courses, and fewer than 10 percent would make it to the degree” (p. 11). As a result, “Preparing students for college and career—without remediation—became the new reform agenda” (p. 12). For Siskin (2013), this new agenda created profound challenges for the U.S. educational system (especially, high schools), because high schools were never designed to prepare “all students to reach the same goal, at the same time” (2013, p. 14).

Siskin (2013) delved into the history of U.S. high schools to describe the process by which American high schools became the “comprehensive high school” of today in which “a single institution could educate ‘all the youth living in a town, city, or district’ by bringing them

together ‘under one roof,’ but under multiple, and distinctly different curriculum paths” (2013, pp. 9, 13, 602). This type of system required students to be placed in proper tracks, and “Counselors were charged with using test scores and transcripts to place students on appropriate tracks” (Siskin, 2013, p. 14). Consequently, elasticity was built into the system, because since all students were located in one school system, corrections could be made for “student efforts” and “testing errors” (Siskin, 2013, p. 14). “The comprehensive high school—by design—served in part as a ‘sorting machine’ (Spring, 1998), identifying and placing students on track to suit their perceived interest and talents, to supply appropriate coursework, and to signal to colleges and employers where that track led” (Siskin, 2013, p. 14).

By design, this system could not prepare all students for college. Therefore, it was unable to meet the needs of a knowledge-based and globalized economy. Due to its mutability, this type of system adjusted to contemporary demands; it was perceived as being able to meet the needs of shifting policies toward college and career readiness. Yet, ironically, it was its elasticity that made it so resilient to change. It promised much but was insufficient to prepare all students for college and college graduation. Siskin (2013) declared: “This was the traditional form of high school as we know it, the design that Bill Gates called obsolete-but that has proven so obstinately resilient to reform” (2013, p. 14).

Siskin (2013) declared that a sea change must occur, whereby everything changes: “1) textbooks, 2) professional development, 3) teacher preparation, and 4) evaluations of teachers, not only assessments for students” (2013, p. 15). College and career readiness required reform in every aspect of education, “from pre-K and elementary schools to the colleges themselves, and to the ways in which we defined college and career, and measure readiness” (p. 15). This readiness included reformation of the “logic of the comprehensive high school” and the determination to

“move beyond what U. S. Secretary Duncan described as the pervasive ‘myth’ that ‘college and career readiness was itself too elusive to evaluate meaningfully with assessments or to track with longitudinal data systems’” (Siskin, 2013, p. 16).

Adult Education: Barriers to College and Career Readiness

Wilson (2006) analyzed twenty-five college readiness programs that received funding for five years. These programs were to operate under “rigorous standards and implementing a program strategy with explicit annual goals for recruitment, program planning, and educational counseling and graduation rates. The programs coordinators developed collaborative relationships for participants with 40 higher education institutions (2006, p. 25). “The primary purpose of these readiness programs was to prepare program graduates to enter college with either limited or no additional remedial work needed in developmental education” (Kallison, 2017, p. 304).

Kallison (2017) agreed with Wilson (2006) and described that “Intensive College Readiness Programs for Adult Education Students (IP-AES)” as those which “provide participants with the necessary skills to enter and become successful in college” (p. 304). The purpose was to bridge the growing gap between a high school diploma and a college degree (Wilson, 2006, p. 25). Wilson (2006) stated that concerning the Adult Basic Education to College program (ABE-to-College), higher education was seen as the cure to obtaining a middle class job, but many adults were underprepared for college: a series of ABE-to-College pilot programs were developed by the state of New England. An outcome from the assessment of the five-year New England, ABE-to-College project revealed that:

Of the 2,532 adult students enrolled 63 percent completed the program and 90 percent allied or enrolled in college. An unexpected outcome that emerged from the study was

the determination of program participants. Half of them were working 35 hours per-week; this showed their remarkable level of motivation, discipline and purpose (Wilson, 2006, p. 25).

Kallison (2017) further explained that the purpose of pre-college programs was to help students achieve higher academic proficiencies in skills in subjects, such as reading, writing and math, to bring those skills up to par with college-level courses. The end goal was to help adult participants upgrade academic skills and increase successful completion of a college degree. For example, Kallison (2017) stated that “dropout rates were higher for students taking multiple developmental courses. However, a rise in placement test scores resulted in students “skipping one or two levels (out of three) developmental education courses in one or more subject areas, which can improve their chances of college success” (p. 317).

Although adolescents and adults benefitted from such programs, these were specific adult programs that were tailored for the needs of adults. Wilson (2006) explained that adult learners often needed help refreshing their English and math skills and reorienting themselves away from rote learning toward critical thinking. Also, adults faced specific challenges that hindered schooling, such as heavy work schedules and parental responsibilities. Additionally, many of these adults “have internalized a belief that they are not worthy or capable” of succeeding (Wilson, 2006, p. 25). Also, he stated that “another barrier was the lack of knowledge about college and its expectations” (p. 25). Concerning a group of adult New England students, Wilson reported, “These smart and capable adults did not know how to navigate the college admissions process or tap available financial aid resources” (p. 25). Wilson continued: “For young people who enrolled in college-prep courses, or whose parents went to college, these expectations may not be daunting” (p. 25). Lastly, Wilson urged that adult students and GED recipients faced

“Insufficient academic preparation” (p. 25). According to Wilson, the ABE-to-College programs helped to mitigate these needs.

Wilson (2006) stated that college readiness was not only needed for teenagers but for adults, as well. Adult students struggled with inadequate academic preparation and lack of confidence. College readiness was strengthened through pre-college programs, such as the one studied by Wilson (2006) and Kallison (2017) that augmented proficiency in core academic skills to help the adults’ complete college credentialing. A college credential was critical for adult students because, according to Wilson, in the 70s a terminal degree was a high school diploma and it opened the door to the type of jobs that raised people from barely getting by on a low income to a middle-class lifestyle. When the economy changed, a high school diploma became a barrier to good employment and a livable wage; adults needed a college education to take their families beyond poverty into the middle class.

Adult Students Pre-College Prep-Programs

According to a study on issues with adult learners returning to college, Cleary (2012) stated that adult students felt ambivalent about being a student again (p. 209). Cleary’s (2012) study was about adults returning to college. Cleary (2012) cited Tamsin Haggis (2002) who argued that adult learning theories failed to account for the diverse, complex, and sometimes contradictory learning experiences of adults. To better understand these experiences, she called for more studies on how adults describe their learning (p. 209). An issue for adult learners highlighted by Cleary (2012) was: “The limits of a central tenet in adult education: namely, that recognizing and building upon adults’ experiential knowledge increases their confidence and helps adults learn by encouraging them to connect what they already know to new learning” (p. 366).

This situation was very similar to Howell's (2001) statement on adult learning styles and served to bring Howell's (2001) research forward into the discussion of how adult students learned to learn in today's classrooms. Cleary (2012) concluded by emphasizing that adult students returning to college had higher anxiety than younger students because of the value they placed on education and what they hoped it would do to improve their situation in life (p. 372).

Adult Students Who Stop-Out of College

Differences occurred in the timing and circumstances by which people make decisions to become college students and continue or discontinue their academic career. Lane, Michelau and Palmer (2012), in their article, discussed how to help adult learners, who dropped out of college with 50% to 75% existing college credits completed towards their degrees. The goal of the study was to help "improve state and legislative policies and practices" that created barriers to college completion for adult learners. This help was done in an effort to raise states' higher education attainment levels. Between 2008 and 2011, six participating states received special two-year grant funding from the Lumina Foundation as part of the foundation's, "Nontraditional No More: Policy Solutions for Adult Learners project" (WICHE, 2012, p. ix). The Western Interstate Commission for Higher Education (WICHE) coordinated the project. WICHE (2012) assigned each state and their higher education institution an expert to advise the states in the formulation and management of their respective case studies.

WICHE (2012) coined the term, "Ready Adults," as a separate distinction and category of nontraditional students. Ready Adults was defined by WICHE as, "Individuals who have earned a significant number of prior college credits before leaving postsecondary education without earning a credential" (p. ix). According to Lane, Michelau and Palmer (2012) "there was

a growing recognition that serving this population of “Ready Adults” was key to reaching federal and state degree attainment rates” (p. x).

A barrier to degree completion was the need for “key state leaders and policy makers to work cooperatively and share their perspectives on ways to improve the academic environment for returning adults” (Lane et. al., p. xi). Additionally, other barriers were: 1) the need for more comprehensive advising to ease readmission processes, 2) transparent but fair acceptance of transfer credit, 3) and credit for prior learning to allow returning adults to progress quickly and develop new skills and knowledge without repeating material they had already learned (WICHE, 2012, p. x).

The case studies were primarily focused on mitigating barriers and degree completion outcomes during the funding period. The case studies did not report on whether or not any of the returning adult students were required to take placement testing or by what method returning adults were placed in courses, or if there was any needed remediation. Therefore, a gap in the research was inferred and created an opportunity for this study on remediation and placement testing. Lane, Michelau and Palmer (2012) described a key outcome of the study which was the need to urge stakeholders and higher education institutions to: develop clear policies and practices by conducting policy audits and gathering data and information from the student’s perspectives to better understand current strengths as well as gaps where student needs were not being met (p. xi).

WICHE (2012) recommended that higher education institutions identify a single representative or establish a “single point of contact” office for returning adults to ease the admissions and reentry process and to help guide them through their return to college. This “single point of contact” service was similar to the One-stop-Shop centers created on college

campuses in the late 2000s for returning military and veterans; which had been a welcomed resource to help veterans reintegrate into higher education and learn how to navigate college processes and the academic environment, as well as receive assistance with applying for veterans administration education benefits. Lane, Michelau and Palmer (2012) suggested that access to such a service or center may ease these “Ready Adult” students’ return to college and improve their chances of completing the remaining credits of their degree.

Traditional Students vs. Nontraditional Students

Historically, between the 20th and 21st century, higher education institutions primarily educated high school graduates (Pelletier, 2010; Ravitch, 1995) were defined as traditional students, who typically enrolled in college between the ages 18 and 23. Although the majority of researchers reviewed, reported that traditional students were between the ages 18 to 24.

Researcher’s agree that these traditional students attended full-time and received their support from parents or a close relative and typically did not work or only worked part-time in order that they may immerse themselves in the college environment and focus intently on academic work (Gulley, 2016; NCES, 2015; Shillingford & Karlin, 2013; Choy, 2002-2012; Pelletier, 2010).

For traditional college students, pursuing a college degree was their full-time job. It took them an estimated five or six years to complete a bachelor’s degree. However, as early as 1999-2000, the term and descriptors characterizing traditional students were changing. A different and growing demographic of nontraditional students were emerging onto the college campus with a myriad of challenges and barriers which included the need for remediation. Gulley (2016) stated that, “nearly half of the undergraduate students in American colleges and universities were categorized as nontraditional” (p. 1).

Gulley (2016) argued that the stereotype, nontraditional, is “inaccurate and damaging” and sent the wrong message to students who were 24 or older. Gulley (2016) declared that the tag, “nontraditional,” implied to adult students that they should not be college students and, therefore, encouraging a defeatist mindset and additional barriers to overcome. Citing (2015) U.S. Department of Education study’s statistics to support his position, Gulley (2016) suggested that nontraditional students were really not nontraditional at all, because “at least 70 percent of undergraduates had possessed at least one nontraditional characteristic since 1995” (p.1).

According Gulley (2016), when enrollment of a segment of students became the highest percent of the college student body, they should be reclassified and become traditional students. Thus, Gulley (2016) strongly suggested that higher education institutions re-evaluated the descriptors, traditional and nontraditional, or at least revised the term, nontraditional, for one that more accurately defined this demographic. Gulley (2016) suggested that the term, nontraditional, may be more indicative of these institutions’ “programs and traditions” as not being designed, specifically, to serve this demographic. Traditionally, the primary focus of these institutions was the 18 to 24 student age brackets. Therefore, Gulley (2016) added that it was greatly important for institutions to be more inclusive and strategic in the efforts to teach and train adult students. The “traditional student” was increasingly becoming a declining population of enrollees to colleges and universities (p. 2).

While Radford, Cominole, and Skomsvold (2015) used the term, nontraditional, to define this population in their study, they did undergird Gulley’s argument that adult students were the fastest growing population. Using statistics from the National Postsecondary Student Aid Study’s (NPSAS) Web Tables, nationally, the number of nontraditional students enrolled in college had

increased to well over seven million students (p. 3). Also, the nontraditional student population was expected to grow 28% nationally by 2019 (Markle, 2015).

An inference that was drawn from Radford, Cominole and Skomsvold (2015) was that adult students went to college to pursue a degree to gain the best chance of securing a good-paying job to achieve the American Dream. This information was inferred by Radford's et. al., research of the U.S. Department of Labor which suggested that those with a college degree earned more money in their life times than those with a high school diploma, and "the unemployment rate among people who had a professional degree was significantly lower than that of people who have a high school diploma" (Bureau of Labor Statistics, 2018).

Nontraditional Student's Characteristics

Researchers for the National Center for Education Statistics (NCES) prepared a study on criteria that constitutes a student being nontraditional and give categories with which nontraditional students align. The reason given for the deeper study of categories and characteristics of nontraditional students was that researchers consistently used age and background (race, gender, and residence) characteristics as the primary descriptors for a definition of nontraditional students. More than age was needed in order to understand this population's college going behavior.

Thus, other unusual factors were recognized by the NCES study to consider the issue of attrition among this demographic of students which used choices and behavior to specifically identify and describe this diverse student population. The three criteria for nontraditional students were the following: "1) enrollment patterns, 2) financial and family status, and 3) high school graduation status," (nces.ed.gov, 2018) along with seven descriptors: 1) delayed enrollment after high school, 2) part-time enrollment, 3) financial and family status, 4) full-time

employment while enrolled, 5) have dependents, 6) single parent, and 7) not receiving a standard high school diploma. The surveys in the NCES study covered academic years 1986-87, 1989-90 and 1992-93. Nontraditional students were placed in one of the three categories as a way to differentiate the level (minimally, moderately or highly) nontraditional status. This data is important to understanding the complexity of their enrollment patterns and areas affecting their success. Table 4 describes an adult student's categories and levels during enrollment.

Table 4

Nontraditional Student Enrollment Descriptors

Criteria	Variable Definitions Analysis	
	Enrollment Trends (NPSAS Surveys)	Persistence/Attainment (BPS Survey)
Enrollment Patterns:		
1] Delayed enrollment	Older than typical age 20 yrs. old in first yr. 21 yrs. old in 2 nd yr. 22 yrs. old in 3 rd yr. 23 yrs. old or older in any yr.	Delayed college by one yr., or longer from HS graduation of did not receive standard high school diploma
2] Part-time enrollment	Enrolled part-time in fall Survey yr. (1986, 89, 92)	Enrolled (PT) in fall of 1 st yr. of enrollment (1989)
Financial & Family Status:		
3] Financial independence	Defined according to 1989-90 Financial aid criteria	Defined w/federal income tax criteria (not claimed as Dependent on parents 1989 federal income tax form)
4] Full-time employment while enrolled	Worked 35 or more hrs p/wk in the month of Oct of survey yr.	Worked 35 or more hrs p/wk during any month of

		enrollment in 89-90 school yr
5] Have dependents	Student reported any non-spouse dependents	Student reported child(ren) living in the household
6] Single parent	Not married or separated and has child(ren) living in the household	Not married or separated and Has child(ren) living in the Household

High School Graduation:

7] Did not receive standard high school diploma	GED or high school equivalent or certificate of completion	GED or high school equiv. or certificate of completion
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Note. Adapted from “Adult learners in higher education: Barriers to success and strategies to improve results.” E. Chao, E. DeRocco, and M. Flynn, 2007, Employment and Training Administration Occasional Paper, U.S. Department of Labor. Retrieved from <https://files.eric.edu/fulltext/ED497801.pdf>

Table 4 is a depiction of the results of NCES’ surveys (National Postsecondary Student Aid and Beginning Postsecondary Students) which yielded descriptors for patterns surrounding nontraditional student enrollment trends, persistence and attainment. Once the descriptors are calculated from Table 4, Table 5 provides a scale for understanding an adult student’s level of nontraditional status.

Table 5

Scale of Nontraditional Status

The Sum of Nontraditional Characteristics (0-7)	
Minimally Nontraditional	1 Nontraditional Characteristic
Moderately Nontraditional	2 or 3 Nontraditional Characteristics
Highly Nontraditional	4 or more Nontraditional Characteristics

Note. Adapted from “Adult learners in higher education: Barriers to success and strategies to improve results.” E. Chao, E. DeRocco, and M. Flynn, 2007, Employment and Training Administration Occasional Paper, U.S. Department of Labor. Retrieved from <https://files.eric.edu/fulltext/ED497801.pdf>

The composition of nontraditional undergraduate characteristics, in the NCES data was compared to the three years of surveys to filter out types of characteristics that met the three categories of nontraditional students. Of the students in the three surveys, moderately nontraditional students with two or three nontraditional characteristics made up 25% to 31% of undergraduates.

Pelletier (2010) made the claim that adult learners were the new traditional students, because this was the largest population on college campuses. An important point in that study was that the researchers agreed that two-year institutions were where the highest proportion of nontraditional students were enrolled, and this result was similar to other researchers who studied student veterans and reported that they consistently chose two-year institutions over four-year institutions to begin their academic studies for career preparation (NCES.ed.gov, 2018).

According to Pelletier (2010), only “16% of college students as of 2010 to fit the traditional student mold,” (p. 1) and were defined by Pelletier as 18 to 24 years old, enrolling fulltime in college right out of high school, and dependent on parents’ financial help. By

comparison, nontraditional students were 47% of college students, age 25 years old or older enrolled in colleges and universities in the U.S. (p. 1).

A major problem discussed in the article was that adult students were in a constant, competing tension between life obligations and educational obligations. For example, Pelletier stated “that success for adult students hinged on whether they were prepared academically, financially and socially” (p. 4). Pelletier (2010) cited a Lumia study that suggested institutions could help adult students reach successful degree attainment through putting in place “support systems and structures that will serve them well” (p. 4).

Choy (2002-2012) agreed with Pelletier (2010) that nontraditional was not a recent phenomenon. A pattern for nontraditional student enrollments was that they were outpacing traditional students’ enrollments in 1999-2000 when only 27% of undergraduates met traditional criteria and 73% of undergraduates were in some way nontraditional. Choy explained that the lack of academic preparedness attributed to nontraditional students delayed enrollment at a younger age; therefore, enrolling at a later age, they had experienced challenges with course work. Added to this statistic were other factors like employment and family responsibilities that competed for their time and attention. To define nontraditional students, Choy used NCES’ seven descriptors of nontraditional students:

- Delayed enrollment (does not enter postsecondary education in the same calendar year that he or she finished high school);
- Attended part time for at least part of the academic year;
- Worked full time (35 hours or more per week) while enrolled;
- Was considered financially independent for purposes of determining eligibility for financial aid;

- Had dependents other than a spouse (usually children, but sometimes others);
- Was a single parent (either not married or married but separated); or
- Did not have a high school diploma (completed high school with a GED or other school completion certificate or did not finish high school) (2002-2012).

Choy (2002-2012) cited Horn's (1996) definition of "nontraditional" on a continuum that was based on the number of these descriptors present. Nontraditional students were considered to be "minimally nontraditional" if they had only one nontraditional descriptor. They were "moderately nontraditional" if they had two or three. They were "highly nontraditional" if they had four or more of the NCES descriptors. Choy emphasized that it was difficult to control for nontraditional students' lives and circumstance changes. Therefore, "nontraditional students' status referred only to when they first enrolled" (p.12).

Three commonalities were reported by Choy as consistent traits across all three categories of nontraditional students: 51% financial independence, 48% part-time attendance, and 46% delayed enrollment (p. 3). When choosing the type of higher education institution that they attended (minimally, moderately and highly), nontraditional students chose public two-year institutions over four-year institutions at higher rates (64% to 39%, respectively) than traditional students (17%) (pp. 4-7). Additionally, Choy (2002-2012) compared the 1995-96 survey data for the persistence rate of first-time nontraditional students to the seven descriptors, noting that "the seven descriptors ... had sometimes been called risk factors because they related negatively to persistence (staying in school or earning a degree)" (p. 11). An important point that Choy made about persistence was that it was most relevant when "studied" in relationship to "students' goals" (p.11). Therefore, it was important to know students' academic plan (degree or transfer) for going to college in the first place in order to learn from research on persistence.

Choy analyzed the survey data to determine persistence to degree attainment for nontraditional students within three years of enrollment and reported that the data was not “appropriate or useful” because nontraditional students at all levels—certificate, associate’s degree and bachelor’s degree—had discontinued their pursuit of a degree or unenrolled in college. From the results, Choy deduced that “nontraditional students were much more likely to drop out in their first year, if nontraditional students’ remain enrolled beyond the first year they were more likely than traditional students to leave postsecondary education without a degree” (pp.12, 19).

Although Choy’s study used data from the late 1980s and 90s, issues with persistence and degree attainment remain consistent in current research. As stated by Salvant (2016), “After many years of invisibility nontraditional students in higher education were finally beginning to be recognized within the higher education system as an essential form of human capital” (p. 15). Salvant (2016) used Knowles’s (n.d.) theory of Andragogy and Creswell’s (2012) Case Study methodology to study 10 adult students for “discovering factors that influenced nontraditional students to become disengaged or be retained in college” (pp. 1, 32). Paraphrasing Harris and Martin (2012), Salvant stated that “understanding the needs of nontraditional students is an important element in their persistence to graduation” (p.14). Salvant (2016) defined nontraditional students as being those in the U.S. who are 25 or older, working fulltime, independent with families and having barriers that cause them to drop out of higher education at higher rates than traditional students (p. 3). Additional barriers were described as based on the nontraditional student’s situation: “scheduling problems, home responsibilities, childcare, finances and healthcare” (Salvant, 2016, p. 15; Colvin, 2013, p. 22). Despite these barriers, nontraditional students were returning to college to pursue additional work skills, personal

enrichment and they were in college “to apply what they learned to their current job or future career” (Salvant, 2016, p. 14).

Student Veterans’ Similarity to Nontraditional Students

Student veterans were often depicted as being an isolated population, in their own unique demographic, because of their military service (Heineman, 2016; Morris, 2013; Mullins, 2013; Gann, 2012; VanDusen, 2011). While military service was an important demarcation, studies by Cleary and Wozniak (2013), and Morreale (2011) on adult learners and nontraditional students strongly suggested that some demographics of student veterans aligned closely with certain aspects of both populations. For example, student veterans were more similar to adult students today than in the past. Now, both demographic groups were age 25 and older. However, traditional students were between 18 and 24 years of age. To strengthen their point on similarities, Cleary and Wozniak cited Hart and Thompson’s (2013) national study:

“Many of the transition issues that were reported by veterans parallel in significant ways the transition many nontraditional students faced when making the move from careers back to college, suggested the possibility that some of the transitional issues were less about their status as veterans and more about their status as adult learners” (p.4).

Cleary and Wozniak explained that student veterans and adult students attended college for six similar reasons: “1) need to know, 2) readiness to learn, 3) learning by doing, 4) intrinsic motivation, and 5) self-direction and 6) connecting life experience to learning” (Knowles, Holton & Swanson, pp. 63-67). The authors explained that these reasons were closely related to Malcom Knowles’ (1973) reasons for adults’ return to higher learning that were presented in his “principles for adult learning” which were rooted in human resource development theories. Knowles listed four ideologies in his Assumptions of Andragogy: “1) changes in self-concept, 2)

the role of experience, 3) readiness to learn, and 4) orientation to learning” (p. 1). What can be drawn from Cleary, Wozniak (2013), and Knowles (1973) was that the purpose of college at the adult stage of life, for student veterans and adult students, is more about consuming knowledge from academic endeavors to infuse it into their existing experiences to change their behaviors and improve their skills for work rather than learning for the purpose of pure learning and becoming mature as was the case for their younger peers.

Salvant (2016), on nontraditional students, and VanDusen (2011), on student veterans, similarly suggested in their dissertations that both student types were parallel in the experiences that they both shared as it pertained to the influences affecting their academic lives. Salvant’s overarching themes and outcomes were used to represent the parallels between her study and VanDusen’s study. Salvant (2016) identified six overarching themes necessary to retain nontraditional students at a university, reduce their dropout rates and aid in their ability to complete their education and earn a college degree as follows:

- 1) they wanted help learning how to better manage school, work and life balance, 2) they desired that the institution build intentional connections between them, peers and school representatives, 3) to value their education, nontraditional students wanted their degree to “provide the proper tools for job skills and career advancement, 4) self-direction and intrinsic motivation varied among participants in the study from being more internally driven to pursue their education to external motivators, like making family and friends proud, 5) self-discipline and time management was “important to all participants and 6) customized student support was a common theme that was needed for consistent support and encouragement from faculty and

academic advisors from the beginning of their academic career through graduation (pp. 52, 53).

Similar to Salvant’s (2016) identification of themes for adult learners was Van Dusen’s (2011) identification of six overarching themes, based on the analysis of his research that, he determined was important to student veterans’ retention and persistence to obtaining a college degree attainment. These themes were relevant to Salvant’s (2016) themes, in terms of how participants from both studies responded, but the researchers’ overarching themes bore different names.

Table 6 on the next page exemplifies a listing of both researchers’ overarching themes from the research outcomes’ similarities between student veterans and adult learners were evident. See Table 6 for an example of the relatability of the outcomes:

Table 6

Comparison of Similarities Between Adult Learners and Veterans

Salvant (2016) Adult Learner Themes	Van Dusen (2011) Student Veterans Themes
(a) School, work and life balance	(a) Encouragement,
(b) Community of support,	(b) Finance
(c) Value of their education	(c) Academic Integration
(d) Self-direction and intrinsic motivation	(d) Social Integration
(e) Self-discipline and time management	(e) Institutional Commitment
(f) Customized student support	(f) Goal Commitment

Note. Adapted from A. Salvant, 2016. *Identifying barriers to graduation for nontraditional students*. Walden University: Online Dissertation. Retrieved from <https://scholarworks.waldenu.edu/dissertations/1931>. R. VanDusen, 2011, *A quantitative study of student veterans’ intent to persist*. Texas Tech University: Online Theses and Dissertations. Retrieved from <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.918.7468&rep1&type=pdf>

Van Dusen's (2011) Encouragement theme related to both of Salvant's (2016) Community of support and Customized student support themes in that participants of both studies felt it was important to have the support of family, friends and the college community, and that institutions provided support services specific to their needs as adult learners. Neither Van Dusen nor Salvant described if participants identified specific types of support service needs.

Van Dusen's Finance theme was aligned with Salvant's Value of their education theme, because finance was expressed as a challenge by participants of both studies. For example, adult learners in Salvant's study said that finance was a struggle because their primary source for paying for college was financial aid and it was not enough to cover college expenses. Student veterans in Van Dusen's study received the G.I. Bill which covered tuition and fees, paid a housing allowance and book stipend, but they also stated it was not enough to cover college expenses (VanDusen, p. 111; Salvant, pp. 52, 53).

Van Dusen's Social Integration theme related to Salvant's School, Work and Life Balance and Self-discipline and Time Management themes. These themes were reported as having had low importance to student veterans and nontraditional students on their desires to socialize with others in college, (p. 112), but they were related to how the participants in both research studies' discussed the difficulties they faced figuring out how to handle integration into higher education and effectively balancing the responsibilities of doing well in school, holding down a job, parenting, caregiving, and simultaneously resolving situations that came up in their day-to-day lives.

Van Dusen's Goal Commitment and Salvant's Self-direction and Intrinsic Motivation themes were similar. For instance, both reported that their participants' reasons for going to

college were less about graduating with a degree, like their traditional student counterparts, and more to do with completing college credits to improve skills for a work-related promotion which was indicative of reasons nontraditional students went to college for retraining or to change careers like student veterans returning from the military.

Van Dusen's Institutional Commitment and Academic Integration themes were related to participants' perceptions of the institution and investigated their "satisfaction with their academic program." Van Dusen's participants were less focused on choosing an institution for its brand-name and popularity and more specifically on choosing the academic program they needed. Researchers of both studies reported on concerns that student veterans and adult learners faced when it came to selecting an academic program and an institution that provided the appropriate education and/or training for their or a return to career advancement into the workforce.

Institutional Commitment and Academic Integration themes were not overarching themes in Salvant's study, but Salvant discussed learning modes (formats or vehicles for attending college) that created barriers to completion for nontraditional students that were similar barriers for student veterans in Van Dusen's (2011) study. Salvant (2016) reported on the type of modalities and delivery systems used by nontraditional students. According to Salvant, all participants wanted multiple options for taking classes and flexibility in course scheduling due to the need to fit school around their family and work responsibilities (p. 56). Lastly, participants in the study were asked about what they needed as it was related to academic and support services. All respondents in the study were reported as being in consensus around "both community of support from classmates and school representatives and customized student support services were vital in supporting the students' academic success" (Salvant, 2016, p. 60). Salvant (2016) explained that respondents in the study suggested the following:

Five items were shared by respondents “(a) Consistent and purposeful contact from school representatives regarding student’s progress, reminders, and next steps, (b) A roadmap in their student portal displaying a customized academic timeline from start to finish and the available resources to help students persist, (c) Community created to support and help both online and onsite students stay connected, network, and support one another [to include study groups], (d) Program specific advising to assist with class scheduling, advice, on career options and finally, (e) Creation of a navigation system to help students maneuver through the system as well as receive guidance” (p. 60).

To summarize, comparing these two studies was important to explaining how alike the goals and concerns were for nontraditional and student veterans, and that they experience much of the same issues which affect their retention and success when attending college. Salvant’s (2016) and Van Dusen’s (2011) studies isolated outcomes of their populations, which, when compared, provided lenses for this researcher to see connecting characteristic of both populations useful for studying the student veteran population of this phenomenological study.

Along a similar vein of Salvant’s (2016) research on nontraditional students’ barriers to retention and Van Dusen’s (201) research on student veteran’s persistence and retention were research studies that compared similarities with academic and employment challenges for these two populations. An earlier Education Quest Study cited the 2009 Lumina Foundation report, *A Stronger Nation through Higher Education*, the Nebraska profile (2013) to highlight similar challenges adult students and veterans both faced. The study by Education Quest Foundations (EQF) was a good example of similarities and differences experienced by adult learners and student veterans. In the Education Quest Foundation study, Nebraska was looking for ways to build a workforce expediently by increasing the graduation rates of adult learners and veterans.

The EQF authors reported from a study by Georgetown University on the Nebraska job market as the impetus for the state's focus on building a workforce with adult learners and veterans. Georgetown Universities study indicated that by 2018 over 200,000 jobs will require a college degree in Nebraska alone. To fill the gap, Nebraskan leaders were turning to adults between the ages of 25 and 64 who made up 25% of the adult population (236,000) that withdrew from college without completing a degree. Also highlighted in the article were the nearly 140,000 military veterans that lived in Nebraska. The study reported that in 2011 only 38% of these veterans used their G.I. Bill education benefits to attend institutions in Nebraska. An American Council on Education research study was cited, listing barriers veterans face when attempting to attend college:

- Lack of knowledge on how to finance postsecondary education
- Difficulty transitioning to life after military service
- Lack of expertise at post-secondary institutions about veterans' benefits
- Bureaucratic difficulty in transferring credits between institutions or receiving college credit for experience (2012)

Additionally, to create a plan for addressing the barriers, Nebraska utilized research from the Association of American Colleges and Universities' recommendations:

- Establish specific points of contact within campus offices for veterans
- Create a campus-working group that spans departments
- Ensure veterans receive a thorough introduction to the university through an orientation
- Improve campus climate by establishing a student veterans' group, educating faculty and staff about veteran-specific issues, and if possible, creating a veteran-specific resource center

- Investigate the possibility of creating veteran-specific learning communities on campus
- Streamline disability and veterans' services (2012)

According to data from the U.S. Census Bureau's 2010 American Community Survey, that 25.2% of Nebraskan adults had some college, but no degree and there was a big push, spearheaded by the Governor of Nebraska, for institutions to: "increase adult students' degree attainment by implementing programs and services to address barriers unique to this group: career, family and financial responsibilities, rigid schedules and limited time, tight budgets and lack of money, poor academic preparedness, lack of self-confidence, and lack of information and services" (p.2). The assumption was that if supports were put in place to mitigate these barriers to degree completion, adult students and student veterans would complete their degrees and be ready to enter the job market. If this was true for Nebraska, the authors of the EQT study inferred that it would successfully be replicated in other states.

Education and Employment

In the 1990s, "one in five U.S. large employers downsized their workforce" (Chao, DeRocco & Flynn, 2007, p. 3). For these workers, having a high school diploma meant they could earn a living wage. Now these same people needed post-secondary degrees and certificates. The 20th Century workforce was primarily dominated by unskilled laborers with a high school credential. However, the 21st century was being dominated by a need for knowledge-based workers with skills in technology, service industries, communication and problem solving (Chao, DeRocco & Flynn, p. 3). Chao et. al., (2007), urged that, "The significant positive return to increasing one's education was evident at all levels of educational attainment" (2007, p. 4).

Fewer young people were attending college. However, in "recent decades, enrollment of adults over age 24 in college credential programs had grown far faster" (p. 7). But, working adult

students were arriving on college campuses with at least four barriers to overcome: “1) lack of time to pursue education, 2) family responsibilities, 3) the scheduling of course time and place, and 4) the cost of educational courses” (p. 7).

Statistics for students attending college between 1999 and 2000 were categorized based on their traditional and nontraditional status. These results were analyzed and graphed to show common characteristics for nontraditional students. Chao, DeRocco and Flynn (2007) utilized Choy’s (2002-2012) seven risk factors for the categorization of nontraditional student barriers as follows:

- Delayed enrollment in postsecondary education beyond the first year after high school graduation (45% of undergraduates)
- Part-time attendance (48% of undergraduates)
- Financial independence from parents (52% of undergraduates)
- Full-time work (39% of undergraduates)
- Having dependents other than a spouse (27% of undergraduates)
- Being a single parent (14% of undergraduates)
- No high school diploma or GED) (7% undergraduates) (p. 7).

Using Choy’s risk factors, Chao et. al. gave an example of the degree of students traditional to nontraditional status: 27% of undergraduates in the study year were traditional, 28% highly nontraditional, 28% moderately nontraditional and 17% minimally nontraditional. According to Chao et. al. (2007), “U.S. higher education systems were segmented into three categories:

- Traditional public and private four-year institutions
- Community colleges (public two-year) and
- For-Profit and Proprietary (p. 10)

Over a ten to twenty-year period, adult students had been educated by these institutions, who strategically focused on attracting this population. Community colleges (38%) and public and private 4-year colleges (58%) had higher enrollments than For-profit /proprietary (4%) (p.10). Community colleges, along with technical and vocational schools, were more attractive to adult learners, but of these three community colleges were the most attractive for the following reasons:

- More cost-effective by “offering state-subsidized tuition substantially lower than that of private colleges and universities” (Chao et. al., 2007, p. 10).
- Mission-driven to “serve less academically-prepared adult students”
- Flexibility in scheduling courses such as day, evening, online or weekend classes
- Focus on employer-skill needs to offer occupational and technical programs (p. 10).

Chao (2007) cited NCES (2004) In 2001, over 2.6 million people, aged 25 and over, enrolled in public two-year institutions, comprising 44%t of total community college enrollment. Part-time students outnumbered full-time students by 62 to 38%. An additional 13% of community college students were aged 22 to 24, meaning that more than half of community college attendees were older than the traditional college student (NCES, 2004). The more nontraditional the student was, the more likely that he or she attended a community college (p. 11).

Barriers discussed in the study were that “many working adults enroll in postsecondary programs that can improve their career and income potential—only to find that they lacked basic

skills necessary to take even introductory degree-credited courses” (NCES, 2004, p. 16) Chao cited Kazis and Liebowitz (2003) and McCabe (2002) who respectively stated “that fewer than half of all developmental education students completed their programs and moved on to for-credit courses and “40% of all community college students were required to take at least one remedial course” (NCES, 2004, p. 16).

Challenges with credit mobility that adult learners faced were issues with cross-institutional collaboration on transferring previously-earned credits between institutions, causing adult students, especially student veterans, setbacks in their educational pursuits because of rejection of transfer credits between institutions and also programs within institutions not allowing credits or non-credits to be used toward programs within their same institution causing delays in degree completion because of institutions policy alignment issues with courses and credit transfer ability (Chao et. al., 2007, p. 18). Therefore, there was a need to have a more flexible path for transferring credits across programs and institutions for a more interconnected system. Other barriers included but were not limited to:

- Program structure and duration that made access and persistence difficult; and
- Pedagogy and supports that did not meet adult learner needs” (pp.16, 18).

Chao, DeRocco and Flynn (2007) strongly suggested that adult learners were in more demand than ever before due to the declining enrollment of traditionally-aged students in higher education and that a higher number of them were turning to these institutions, especially community colleges, to improve job skills while they worked (p. 18). However, Chao et. al. concluded from the study, that attrition rates were high for working adults who reported that working full-time negatively affected their educational progress with 62% compared to 39% of them not completing their degree or being enrolled in college after 6 years of enrollment (p. 9).

Also, at community colleges, Chao et. al. reported that “78 % of first-time, full-time adult learners do not complete a two-year course of study within even three years ... [and] taking six or seven years to complete is not uncommon” (p. 16).

Need for an Educated Workforce

While a growing number (23% by 2019) of nontraditional students were expected to join the ranks of those in college, many did not (Kasworm, 2012, p. 2). Citing a Lumina Foundation study, Salvant (2016) suggested that nontraditional students were the lost workforce that could move the U.S. back into the position of a world leader, especially if these students (54 million) without degrees completed their education and moved into the U.S. workforce (Snyder, 2005). Salvant (2016) argued that U.S. nontraditional students needed to be prepared for global competitiveness in the 21st-century because they were less ready to compete in the global workforce than international students (p. 5).

Ritt (2008) suggested that the U.S. was ranking tenth worldwide. The excerpt was about the need for focusing on adults to reach college graduation goals nationally. Jobs requiring a bachelor’s degree were discussed, specifically, the challenge of educating more U.S. citizens. Statistics were given on salary ranges relating to educated and non-educated adults and the number of adults who lacked a college degree or college experience. In 2008, 34% of American adults 25 to 34 years old in the workforce had earned “at least an associate degree but that number needed to be 55 percent in order to keep pace with degrees attained by the leading nations. In 2006, “90 percent of the fastest growing jobs in the U.S. required a post-secondary education” (p. 7).

In a study on the earning potential of credentialed adults, Ritt (2008) cited Snyder (2005), Long-term earning potential of a person with a bachelor’s degree was \$2.1 million (p. 7). Money

was not the only benefit of a college education. Ritt included: 1) greater work productivity, 2) significant contributions to a particular field or professional discipline, 3) increased involvement in community events, as a leader through volunteerism, service or active participation in political and social justice issues. Ritt suggested that college seemed to educate and influence the whole person, it enhanced their well-being, connected them to the local community and society at large. Consequently, from Ritt's perspective, the U.S. was in danger of losing this group of adults. Snyder (2005) argued that sustaining and invigorating the U.S workforce required intellectual capital which was at a deficit by 20 million adults in the U.S. labor force (pp. 7-8).

Employments Effect on Education Attainment

Carnevale, Jayasundera, and Cheah (2013) studied the longitudinal growth and decline of U.S. employment levels, based on education attainment of Americans between 1989 and 2012. The purpose of their study was to report on the disparity of jobs for less educated Americans between 2008 and 2012. Carnevale, Jayasundera, and Cheah stated that during, “the marked global economic decline—that began in 2007 and termed the Great Recession—severely damaged the economic progress of the United States” (p.3). According to the researchers, in 26 months (December 2007 to January 2010), the U.S. experienced 78% or 7.2 million jobs lost (p. 4). Those adults with no high school education or less (39%) lost four out of five jobs (5.6 million), meaning that they were “three times” more likely to lose their jobs than workers with a college degree. Those workers with Associates degree or some college lost 1.75 million jobs and those students with a bachelor's degree or higher gained 187,000 jobs in the recession (p. 5). These high losses and meager gains returned employment rolls to 1999 employment levels and sparked an arduous struggle for U.S. economic and job recovery reminiscent of the World War II's recession.

Carnevale, Jayasundera, and Cheah (2013) using the Current Population Survey estimated that by 2012, less than half, 47% of jobs lost were regained, however, at the time of the study, job creation remained insufficient (p. 3). People with Associate degrees fared significantly better (at 1.6 million jobs gained in recovery) than those with a high school diploma (at 230,000 jobs lost in recovery) and workers with a bachelor's degree or higher saw their job opportunities increased above high school diploma and Associate-degree earners to 2 million jobs recovered in 2012. By the end of the recession, bachelor's degree earners had gained over 2.2 million jobs (p. 7).

According to the results of the research, Carnevale, Jayasundera, and Cheah (2013) strongly suggested that “employment growth since 1989 had been driven entirely by workers with education beyond high school. ... In such an environment, the best alternative for the less educated to increase employability was to seek more schooling” (p. 11). Throughout the study, the researchers urged that employers were hiring more workers with higher education than those with a high-school diploma or less and wages for Associate-degree holders, while “the wage premium had changed very little, it was 20 percent above the wages of high school degree holders between 1970 and 2012” (2013, p. 13). Bachelor's degree holders' wages were almost twice as high as for workers with a high school diploma (p.12).

It nearly goes without saying that due to the high percentage of job losses during the recession, there were stark increases in college enrollments across the U.S. Adults entering or returning to college sought to shelter themselves and their families from the hardships of the recession. It was an opportunity to improve their job skills during the hiring slump and wage freeze while waiting for the economy and employment markets to recover. Carnevale, Jayasundera and Cheah (2013) cited the U.S. Department of Education's (2005) projections that

in 2010, 18.7 million Americans would enroll in college. However, the actual enrollment that year was 12% higher at 21 million. The researchers suggested that the 12% increase was due to the economic recession (p. 30).

Not only were more Americans attending college, they were also graduating with degrees in high-paying fields. From 2005 to 2010, the most popular degree earned was in the nursing field. Associate degrees earned by men and women were 58% and 36%, respectively. Bachelor's degrees earned were 110% by men and 6% by women (Carnevale, Jayasundera and Cheah, p. 33; IPEDS, 1995-2010). Men and women completed degrees in other professions, such as biological and biomedical sciences (72%), psychology (41%), social sciences (26%) and legal professions and studies (15%). The researchers proved their point that pursuing and completing a degree in higher education paid off in the workforce (p. 35).

Community College Growth Influenced by the G.I. Bill

“The United States dramatically expanded higher education opportunities through measures like the G.I. Bill after World War II.” Vivian Stewart

According to the American Association of Community Colleges, half of the students who received a baccalaureate degree attended community colleges in the course of their undergraduate studies. Community colleges were the “gateway” to post-secondary education for a diverse population of students from all income levels. Higher education had begun during the Civil War in the 1860s when President Abraham Lincoln passed the Morrill Act of 1862. It was a landmark piece of legislation that created land-grants for states to receive federal land for the establishment of colleges and vocational schools. These schools re-educated an agrarian society and played a significant role in transforming America into an industrial society (Friedman and Mandelbaum, 2012, p. 39).

Cooper (2010), in an article on *Student support services at community colleges: A strategy for increasing student persistence and attainment*, stated, “community colleges were a significant part of the country’s landscape, about 43 percent of all undergraduates were enrolled in community colleges” (p. 1). Community colleges (originally known as junior colleges) had begun with the establishment of Joliet Junior College in 1901 (Kasper, 2002, p. 15; Vaughn, 2006, p. 27). Between the 1920s and late 1940s, the Truman Commission Report mandated and financed the expansion of community colleges by “urging an increase in enrollment from 2.3 million in 1947 to 4.6 million by 1960. ... The Truman Commission report added momentum to the movement to expand access to higher education.” According to Altschuler and Blumin (2009), the commission’s report contained four fundamental reforms:

“1) Each state should develop a master plan to build and staff new institutions of higher learning, 2) since the ratio of “semiprofessional” occupations that required two years of education to professions that necessitated a four-year degree was about five to one, a dramatic expansion in the number of junior colleges should begin. These institutions, which the commission called “community colleges,” should offer terminal vocational degrees, 3) the federal government should grant need-based scholarships to deserving undergraduates and graduate students, and 4) federal legislation should expand access to education to all who want to attend college” (p. 112).

An effect of this legislation was two-fold; education became accessible to all races, ethnicities genders and income-levels, thereby diminishing discriminations influence on these populations’ educational opportunities and Federal funding assisted with the establishment of 440 junior colleges and 320 private two-year institutions (Vaughan, 2006, p. 27; Kasper, 2006, p. 15). This spike in two-year college growth occurred because World War II ended, and more than

five million veterans returned to America. The “Montgomery GI Bill” funded the veterans’ retraining because military skills were often incompatible with American industrial workforce demands (Cohen & Brawer, 2003, p. 13-14; Presidential Documents Archive, 2012, Vaughan, 2006, pp. 28-29). In the late 2000’s, U.S. military draw-downs from the Afghanistan and Iraq wars caused a similar need for retraining and spiked growth in enrollment with more than 900,000 service members and veterans returning home and using education benefits for academic and employment retraining. Of that number, western Pennsylvania was home to more than 235,000 military personnel and veterans, of whom 62% used their G.I. Bill education benefits to pursue degrees. Historically, this percentage was the largest number of student veterans to attend community colleges (National Conference on State Legislators, 2014; Center for a New American Security, 2015).

Wheeler (2012) suggested that service members chose community colleges because the students’ ages tended to be closer in range to their own age. Also, noteworthy was the ease of access. Since the majority of community colleges were open-access institutions, the student veterans did not have to compete or wait for acceptance into a college to enroll and begin receiving their housing and education benefits. Most courses and programs were paid for in full or in part by the G.I. Bill (pp. 775-792).

Facilitating a Supportive Academic Environment

Ryan, Carlstrom, Hughey and Harris (2011) suggested that higher education institutions (57%) were doing a poor job of preparing their advisors, faculty, and support staff to assist student veterans. For example, at least 50% of institutions did not have a dedicated staff person with knowledge of transitional issues affecting student veterans. Fewer than 37% of higher

education institutions reported employing trained staff to provide help to student veterans with disabilities (p. 55).

However, faculty, advisors, and support staff play critical roles in the education, training, and enculturation of student veterans into academia (Ryan, Carlstrom, Hughey & Harris, 2011, p. 55). Therefore, they should be equipped to help student veterans succeed. Advisors' work with student veterans was essential. Student veterans spent a great deal of time with advisors, planning their academic paths. For example, discussing life and career goals, choosing a major, and scheduling classes were all essential to students' success. By the same token, faculty should have the skills to teach using varying techniques beyond the lecture method to facilitate student veterans' learning of the curriculum and performing assigned tasks in class. Roost and Roost (2014) recommended that faculty "fine tune their skills to support veterans" by incorporating classroom accommodations and developing teaching strategies that enhanced learning and reduced or eliminated student veterans' feelings of being unwelcomed or uncomfortable during class sessions (p. 33).

In addition to supporting student veterans in teaching and advising, Ryan, Carlstrom, Hughey and Harris (2011) suggested strongly that faculty and advisors should be well versed in the types of support services offered at their institutions. This fact was especially true of supportive services, such as counseling and disability services, because about 96% of student veterans were transitioning to college from combat zones and many (between five% and 40%) needed referrals to supportive services, both on campus and off campus, to address post-war disabilities and transitional issues (Gonzalez & Elliott, 2016; Queen & Lewis, 2014; U.S. Department of Education, 2013; Grossman, 2009). Some five% of student veterans who attended college have self-reported as being diagnosed with visible, as well as invisible disabilities.

Additionally, Grossman (2009) estimated that “forty percent [of student veterans] suffer various physical and psychological traumas” (p. 55), namely Post Traumatic Stress Disorder (PTSD) and Traumatic Brain Injury (TBI). Both have adverse effects on “mental processing” that can slow or impair learning (Grossman, p. 55; U.S. Department of Education, 2013).

Research by Roost, A. and Roost, N. (2014) added trauma-related Anxiety Disorder to the list of trauma-injuries (PTSD and TBI) suffered by veterans. Anxiety disorders, PTSD and TBI, have become typical diagnoses for veterans returning from war, making these diagnoses central issues for student veterans. In some cases, these disorders had been cited as reasons for learning disabilities, lower academic performance, and lower grade-point averages (Medley, et al., 2017; Gonzalez and Elliott, 2016; Roost & Roost, 2014). Eakman, Schelly and Henry (2015) agreed that injuries, like PTSD and mild TBI, negatively affected resilience in student veterans’ attendance at college, but those with therapy and support systems achieved academically. Furthermore, Cantrell (2016) and De La Garza (2016) indicated in their studies that PTSD and mild TBI affect student veterans’ learning. Student veterans had been reported as having grade point averages (GPAs) that were in line with or above the grade point averages (GPAs) of undiagnosed students.

Once on campus, student veterans spent two or more years in classes interacting with faculty in pursuit of knowledge to fulfill their goals or degree requirements. Thus, faculty needed to have a deeper understanding and awareness of the diverse needs of student veterans in order to ensure their students were getting the proper classroom, counseling, support, and assistive services necessary for their integration into college and success in the college environment (Gonzalez & Elliott, 2016, p. 35; Roost & Roost, 2014; Ingala, Nall & Peters, 2013).

A key element that was needed was preparation. Colleges and universities must be prepared to help student veterans by providing faculty and adviser training so that they were aware of issues affecting student veterans. They must know how to properly assist and refer them to services, such as becoming aware of community support systems designed to assist veterans. For example, partnering with the Veterans' Administration to learn about their external services and building bridge services were crucial. These efforts connected the veteran through the institution to these supportive services. Through training and connecting services, colleges and universities took the lead in assisting their faculty, advisors and staff to become catalysts in student veterans' success (Ingala, Nall & Peters, 2013) so students can join others in the workforce upon attaining a higher education skill or degree.

Research Location Background

The research location for this study was a community college in western Pennsylvania that has educated service-members, veterans, and their dependents since 1966. In 2010, a Center for Excellence for Veteran Student Success (EVSS) was awarded by the U.S. Department of Education. Military and Veterans Services Centers (MVSC) were established by 15 national higher education institutions for the improvement of post-secondary education (FIPSE) for service-members and veterans. The research site for this study was one of the 15 institutions selected as a recipient of the grant. The grant provided funding to facilitate service members' and veterans' difficult transition from the highly structured military culture to academic and civilian life.

To date, more than 6,000 military, veterans, and service-connected students attended the selected research site community college, providing a significant population from which to draw participants (Community College Office of Information Technology, 2015). Based on the

literature review at the research site, a study was needed for the site on this specific student veteran population in western Pennsylvania (Center for Excellence in Veteran Student Success, 2014). Therefore, this site and its student veteran population provided a unique opportunity and reasonable option for conducting a research study on their common experiences.

Summary

Chapter Two was a review of literature that covered the theoretical frameworks that structure and undergird this research study, along with the historical background of educational reforms, college readiness, assessment, workforce and the G.I. Bill's influence on community college growth. Studies were included on the declining enrollment trends of traditional students, giving way to the increasing enrollments of nontraditional (adult) students. Similarities and differences in the college-attending behaviors between nontraditional (adult) students and their subgroup, student veterans, were drafted from qualitative and quantitative data from research studies, dissertations, and scholarly articles to validate the importance of this study.

Chapter Three includes a description of the research methodology and how the study was conceptualized and designed by this researcher. Also provided was an outline of procedures needed to organize the study and to manage the data sets created from information gathered through the stories of the participants. Their perspectives were investigated and guided by responses to the research questions. The researcher reported on what was learned from the common experiences of student veterans at a community college in western Pennsylvania.

CHAPTER 3

RESEARCH METHODOLOGY

The research methodology for this study was qualitative with a hermeneutic phenomenological approach. This approach led the researcher to discovering important data for a deeper understanding of individuals' common experiences. In this study, student veterans shared their encounters with placement testing and remediation. Creswell (2007) states,

hermeneutic phenomenology (van Manen, 1990) is oriented toward lived experience (phenomenology) and interpreting the 'texts' of life (hermeneutics) ... the researcher approaches a phenomenon with an 'abiding concern' (pp. 26, 31) ... in the process the approaches reflect on the essential themes, that constitutes the nature of this lived experience. ... They [researcher] write an interpretive description of the phenomenon, maintaining a strong relation to the topic of inquiry and balancing the parts of the writing to the whole (van Manen, 1990, p. 4, 26, 31; Creswell, 2007, pp. 57-62).

Creswell (2007) explained that, "A phenomenology provides a deep understanding of a phenomenon as experienced by several individuals" (p. 62). Leedy and Ormrod (2010) added, "a phenomenological study tries to answer the question, 'What is it like to experience such-and-such.... by looking at multiple perspectives on the same situation, the researcher can then make some generalization of what something is like from an insider's perspective'" (p. 141).

Leedy and Ormrod (2010) cited Creswell (1998) for the length and size of interviews. They recommended that interviews average 1 to 2 hours and included a sample size of between 5 to 25 individuals who have experienced the exact phenomenon that is being studied. Using these recommendations, the researcher of this study organized and conducted one-hour audio recorded interviews with eighteen student veterans, currently or previously enrolled at a community

college in western Pennsylvania. (p. 141). The interviews were arranged as one, four-member focus group, and fourteen one-on-one interviews. The participants of both groups were interviewed to obtain qualitative and survey data on their perceptions of on their readiness to engage in college level courses, through undergoing placement testing and describing the implications of their experiences with taking remedial courses.

Purpose and Population

The purpose of this study was to research the topic of college readiness with a concern for sifting out implied relationships between placement testing and remediation, from the under-represented population of student veterans, in view of these experiences. According to Hodara, Jaggars and Karp (2012) in *Improving Developmental Education Assessment and Placement: Lessons from Community Colleges Across the Country*, “most colleges adopted a measured approach that addressed a single limitation without attending to other limitations that contribute to the same overall problem of inconsistent standards in placement testing and remediation” (p. abstract).

Veterans who transitioned from the military to civilian life often attended community colleges as a way to retrain for work. After taking placement tests, many of them spent up to two years in remedial courses and used 24 months of their 36 months of G.I. Bill Education benefits to pay for school. Yet, they may not have earned an employable degree (Ryan, 2011; Kirst & Venezia, 2006). The Veterans Administration (VA) was aware of this issue and implemented some measures to assist veterans with developmental needs. For one, the G.I. Bill had a provision that allowed remedial education courses to be included in the student veteran’s degree plan. Secondly, the agency paid for a student veteran’s second attempt when repeating a course before requiring the student to pay out-of-pocket for tuition and fees for a third attempt. Thirdly,

the VA provided additional funding to cover the cost of personal tutoring services to assist those struggling to grasp concepts while engaged in college courses. According to Banner, the Veterans Administration recognized that providing developmental education policies and funding to assist military and veterans in obtaining stronger core academic skills would better prepare them to pursue more employable college certifications and degrees (2006, p. 44).

Research Questions

Research questions were gleaned from the review of literature and modified for this study from Moustakas (1994) research procedures and Morris' (2013), A Bridge Program's Effect on Non-College Ready Student Veterans, (Morris, 2013. p. 145). This researcher obtained permission from Morris (2013) to use the questions from his study as they are or modified. In addition to being research questions, these questions served as the basis for developing interview and focus group questions. The general research questions were the following:

1. What context or situations do student veterans believe have typically impacted or influenced their experiences with placement testing and remediation at a community college?
2. What implications do student veterans perceive placement testing had on their remediation at a community college?
3. What perceptions do student veterans feel taking remedial courses had on their achievement of readiness for college-level courses at community college?
4. Do student veterans believe placement testing and remediation work in tandem to prepare them for college-level course work at a community college?

Research Approvals

The researcher obtained approval from the Provost of the selected community college institution and sought Institutional Review Board (IRB) approval from Indiana University of Pennsylvania (IUP). Once all approvals were completed, the researcher requested a list of student veterans from the community college research sites departments of Institutional Research (IR) and Information Technology (IT). The researcher worked with these departments to obtain email, demographic and academic data on the potential candidates for the study. The participants identified were: 1) male or female, 2) student veterans, 3) who were eligible for G.I. Bill Education Benefits, 4) had taken the community college placement testing, 5) and were currently or previously enrolled in one or more remedial courses. The researcher entered their email addresses into the Qualtrics software program, and an email invitation was created and sent through the system to student veterans meeting the selection criteria. The Qualtrics system informed the selected participants of the specifics of the study and requested they consider volunteering to participate in the study. The email procedure for obtaining participants for the focus group was followed in the same manner for inviting the participants for the one-on-one interviews.

Student veterans who accepted the invitation were identified and contacted via email to schedule their participation in the focus group or one-on-one interviews that were conducted by the researcher. The focus group session consisted of four male student veterans. The interviews included three females and 11 male student veterans. Thus, the total participants in the study were 18.

Creswell (2008) explained that a researcher can choose the method (surveys, questionnaires, or questions) to design or formulate a tool for interviewing participants. The tool

can be “existing, modified or designed by the researcher, whichever of the three ways best fits the study” (p. 135). A Qualtrics questionnaire was created and provided to both the focus group members and the one-on-one interview participants prior to sessions (Creswell, 2008; 2013). Obtaining additional data from the participants was through a specific set of interview questions for both the one-on-one interviews and the focus group. After the four-member focus group session, and four-teen person one-on-one interviews were completed with individuals that were not part of the focus group.

Berg and Lune (2012) emphasized that a researcher formulates a focus group to collect data from a group perspective (Berg & Lune, 2012, p. 164). Respondents were invited by email to join a focus group (Creswell, 2008, p. Berg & Lune, 2012). At the beginning of the interviews and focus group, a questionnaire, designed in Qualtrics, was given to the participants to gather demographic educational and military information. The questionnaire, interview, and focus group questions were based on interview and focus group questions from the dissertation of Morris’ (2013), *A Bridge Program’s Effect on Non-College Ready Student Veterans*. His study on the program and student veterans’ perceptions was similar to this research study. Therefore, permission had been obtained from Morris to use a modified version of interview and focus group questions from his research study.

In Morris’ (2013) dissertation, he posed questions to student veterans concerning their experiences in a cohort format for an Upward Bound remediation program at a four-year institution, designed for under-prepared student veterans (Morris, 2013, p. 145). Unlike Morris’ cohort based study, the design of this research study was structured on regular college format of individual student veterans’ experiences with assessment testing and placement in remedial

courses, as they prepared for college-level course work at a two-year (community college) institution.

Data Sampling

A qualitative, interview study was designed through Purposive Samples. Berg and Lune (2012) described this form of sampling as being done by researchers who used their “special knowledge or expertise about a group to select subjects” (Berg & Lune, 2012, p. 52). While Berg and Lune noted a “lack of wide generalizability” as a limitation of this type of sampling, they cited the results of a study, by Laquinta and Larrabee (2004), as being a rich and textured description of participants lived experiences” (Berg & Lune, 2012, p. 52).

The Purposive Samples process for selecting participants for this study worked well for the researcher of this study because of having special military-connected knowledge and expertise. The researcher had five years of experience in higher education at the community college level, worked in a military and veterans’ services department, experienced serving in the Junior Reserve Officers Training Corps, grew up on military installations and attended schools populated primarily by dependents of military personnel, as the dependent of an active duty veteran, and had over twenty-five years of marriage to a military veteran who attended college after serving on active duty and in the national guard.

In deciding on the number of interviewees and sites for a study, according to Creswell (2008), the range of the number of individuals or site locations “varied from one qualitative study to the next.” Creswell suggested that the larger the interview sample size, the more time-consuming it was to analyze the data. Each additional individual or site that was added to the study lengthened the time. For example, each one-half-hour of an interview yielded roughly 20 pages of single-spaced transcribed information” (pp. 214-217; p. 238 paraphrased).

For this study, twenty-six respondents from a list of student veterans were invited to the research study, eight declined and 18 agreed. Of that number fourteen were invited to one-on-one interviews, and four to six student veterans as proposed by Creswell (2012) were invited to join a focus group (Creswell, 2012, p. 218). Therefore, 18 of 26 or 69% of student veterans who were invited to participate were engaged in this research study

Interview Procedures

The procedure for this study was according to van Manen (1990), procedural steps for conducting phenomenological research which were taken from Moustakas' (1994) approach and applied to van Mannen's hermeneutical phenomenology as follows:

- 1.) Choose a problem to understand the common experiences of several individuals. In this regard, for this study, this researcher chose to understand 18 student veterans' experiences with placement testing and remediation because according to research a high percentage of military and veterans return from the armed services and go to college unprepared or underprepared for college-level course work.
- 2.) Chose a phenomenon of interest to study. The phenomenon for this study is based on research which indicated that college readiness was a major concern because over 75% of all students are not passing placement tests and need one or more remedial courses. It was important to understand this issue from perspectives of student veterans who were under-represented in college readiness research.
- 3.) Data was collected from the individuals who experienced the phenomenon. The researcher collected data directly from student veteran's experiences through open ended and probing questions during a focus group and one-on-one interview sessions.

4.) Creswell (2007) recommends that the researcher ask “two broad, general questions” based on (Moustakas, 1994) research procedures: What have you experienced in terms of the phenomenon? And what contexts or situations have typically influenced or affected your experiences of the phenomenon? Framed with Moustakas’ general questions in mind, four research questions were crafted for this study to collect answers on placement testing and remediation experiences of participants preparing for college-level courses. Interviews were organized by the researcher for this study.

Interview Elements

The interviews were conducted according to the process found in Creswell’s (2013), *Qualitative inquiry and research design*. The sequence for the interviews was as follows: First) Modified interview questions from a dissertation research study by Morris (2013). The ten open-ended and probing interview questions were for answering the 4 research questions. Second) Permission was obtained from Morris for adapting the research questions and interview questions to suit this research study on implications of placement testing and remediation on student veterans enrolled in community college. Third) Student veterans were identified as participants who were best able to answer the interview questions through purposive sampling as described by Berg and Lune (2012).

Fourth) Focus group and one-on-one interviews were determined to be the appropriate type of interviews to gather data on the stories of participants. Scheduling of interviews was determined between the researcher and the participants. Interviews were held at various locations at the research site conducive to the needs of the participants. Fifth) Signed consents were obtained from participants before the interviews. Sixth) Confidentiality was stressed and risks to confidentiality were explained as part of the interview protocol and according to approval by

Indiana University of Pennsylvania's Institutional Review Board (IUB) requirements. Seventh) the use of good interview procedures was employed as approved by the IRB department. Interview protocols and instructions were developed and prior to conducting the focus group and one-on-one interview sessions these protocols and instructions were read verbatim to the participants.

Eighth) written permission was secured from Solomon (2010) to modify survey questions from his dissertation for developing the Qualtrics questionnaire for this study. The Qualtrics questionnaire was the method used to gather demographic, educational and military information, as well as seeking data from participants on taking placement testing and learning their enrollment behaviors in remedial courses. Ninth) To capture first-hand information during the four-member focus group and the 14 one-on-one interviews' the procedures used were audio recordings and detailed note taking. Data from recordings and notes were later transformed into transcribed documents for coding and data analysis.

Research Site

The research site for this study was a community college in western Pennsylvania and the military and veterans' services department (MVS) of the college. The MVS was selected because it was specifically tasked to follow the student veterans from admission to post-graduation and employment. The MVS department was established in 2010, as a single point-of-contact, direct service for assisting military and veterans that were transitioning into community college.

The military and veteran's department staff worked with student veterans as the students navigated the college environment and reintegrated into civilian life. A large portion of the staff's role was making referrals to academic and student support resources, such as: 1) counseling, 2) supportive services for disabled student veterans, 3) early intervention, 4) tutoring,

5) transfer counseling, 6) job placement, and 7) referrals to off-campus agencies for transition assistance (i.e. housing, food, mental health and special services). Additionally, the staff assisted the students in obtaining VA educational funding.

The community college site for this study had multiple campuses with a military and veterans' center on each campus, managed by a campus coordinator. The MVS was responsible for the oversight of the campus centers. The average annual enrollment of student veterans was about 1,000 annually (fall, spring and summer). Three-fourths of the population self-identified as student veterans (PA Dept. of Ed SAA/VA Audit, 2016).

Participants selected for this study were eligible for Veterans Administration education funding to help with academic retraining skills, as part of the U.S. Federal Government's Service Members Readjustment Act of 1944. There were two programs: the Montgomery G.I. Bill and the Post 9/11 G.I. Bill. The Post 9/11 G.I. Bill expanded on the Montgomery G.I. Bill in 2001 to include the Afghanistan and Iraq War veterans. Both programs were referred to as the G.I. Bill. The Post 9/11 G.I. Bill was used by most veterans in this study. It provided financial support to student veterans admitted to colleges and universities in the form of both tuition assistance, monthly housing allowance, and a book and supply stipend (U.S. Department Veterans Affairs, 2009; Altschuler & Blumin, 2009, p. 49).

Accessing the Research Site and Population

Permission to engage in this study was gained via written proposals submitted to the Indiana University of Pennsylvania's Institutional Review Board (IRB) and to the Provost's office of the community college research site, requesting to perform a qualitative research study at campuses of the institution which was in western Pennsylvania. Once approval to commence the research study was received, the researcher worked with the research sites information

technology and institutional research departments of the study site to obtain the complete list of the student veteran population for selecting interviewees and focus group members for this study. As described earlier, the researcher selected eighteen participants to take part in one-on-one interviews and a focus group.

Conducting Interviews and Focus Group

Scheduling and conducting one-on-one interviews and the focus group session was planned between the researcher and interviewees. The times for the interviews and focus group and the physical location were based on interviewees' availability, space availability, and conducive to providing a "quiet, distraction free" environment, both for audio recording and to encourage a relaxing, comfortable atmosphere for the interview process (Creswell, 2012, pp. 221, 225). Prior to the interview and focus group sessions, dates, and times; confirmation emails were sent by the researcher. Creswell (2012) recommended an ice breaker question. On occasion, the researcher used the ice breaker method with confirmations. Contacting participants served two purposes: 1) to confirm interviews and the focus group session; and 2) to begin building rapport with the interviewees and focus group members at the sessions.

Interview and Focus Group Questions

These questions were administered by the researcher during one-on-one interviews.

- 1) How did you view college before you enlisted?
- 2) Did serving in the military make you feel more or less ready for college? Explain.
- 3) What was it like to experience placement testing and remediation?
- 4) What situations have typically influenced or affected your experiences with placement testing and remediation?

- 5) Do you believe that placement testing and remediation work in tandem to prepare you for college-level course work?
- 6) How do you view your over-all experience with taking remedial courses?
- 7) How do you view paying for remedial courses that do not count toward your degree (graduation)?
- 8) Do/Did you feel that deficiencies shown on the placement test were fixed/improved when you took your remedial courses?
- 9) On a scale of 1-10, how important is social integration with other veterans' to influence your desire or ability to persist in college? 1 is least important 10 is most important.
- 10) Were there any other veterans in your remedial class or classes? And if so, how did you view that experience?

Pre-Interview and Pre-Focus Group Questionnaire

The core questions for the Qualtrics questionnaire on this page were being used to ascertain the demographic characteristics of student veterans taking one or more remedial courses at a community college. The questions for the questionnaire provided here are modified from Solomon's (2010) The state of college placement: Assessment with Accuplacer at the Massachusetts public community colleges. This researcher obtained written permission from Solomon (2010). This researcher modified questions from Solomon's study to develop the following questionnaire questions:

- 1) What is current your age?
- 2) When did you join the military?
- 3) What branch did you choose?

- 4) When did you separate from the military?
- 5) What degree are or did you pursue?
- 6) Did you take a placement test?
- 7) Which placement test did you take?
- 8) How long was the test?
- 9) How long has it been since you took the placement test?
- 10) Have you taken placement tests at more than one institution?
- 11) Was remediation mandatory or voluntary?
- 12) How many remedial courses did you take?
- 13) Which remedial courses did you take?
- 14) Did you complete the remedial courses?
- 15) Where there any other veterans in remedial courses with you?
- 16) Did you feel the concepts on the placement test lined up well with actual remedial courses?
- 17) Do you believe that the placement test accurately assessed your readiness for college?
- 18) Do you believe that you were placed in the correct remedial course or courses after taking the placement test?

Coding the Data

After the interview phase of the phenomenological study, the researcher used a transcription software (Temi.com) for converting the audio recordings into the initial transcription of interview data and then the researcher reviewed each recording and compared them to the transcribed documents of the audio recordings to edit the Temi software transcriptions for accuracy. Later in the coding process, interview questions were aligned to the

research questions and related audio responses were transcribed into text from the audio recorded interviews. Then the Qualtrics questionnaire data were sorted into common data segments and the data were entered in the NVivo software according to the nine elements above proposed and described by Creswell (2013). NVivo used electronic “indexing, searching and theorizing to categorize the unstructured data” into themes (Creswell, 2012, p. 243). Bazeley and Jackson (2013) stated that the typical components of an NVivo project were to organize data in the following manner:

data records (e.g., for this study; transcriptions, interview notes, research journal, audio interviews, web articles excerpts); notes of the researchers thinking about the data. From the myriad of data, nodes were created to store coded references to the research data (in order to retrieve all that is known about the college readiness topic and relationships of variable-type information (attribute values) relating to sources or cases in this study (e.g., demographic details, responses to categorical or scaled questions, dates); records of and results from interrogative queries conducted on your data; and models showing relationships between items in your project (p. 23).

Using NVivo in this research study, the data were organized by their relationship to the research questions and coded into value responses, by combining the responses into larger categories with connecting themes. This process simplified the management of the data in preparation for analysis. The next steps included creating data nodes under subfolders for “places and people where all data for each individual location and for each separate person in the project were stored, and auto-coded responses for every-one’s responses to each question asked” (Bazeley & Jackson, 2013). NVivo served as a systematic process for minimizing the potential for researcher bias and validating coding work.

Data Analysis

Tinto (2016) argued that “institutions must take the time and make the effort to understand how student experiences shaped their motivation to persist” (p. 3). For data analysis, Creswell (2007) recommended, “building on the data from the first and second research questions, highlight ‘significant statements,’ sentences, or quotes that provided an understanding of how the participants described their experiences” (p. 61). Once the transcribed interview data and Qualtrics questionnaires were coded, the researcher used Leedy and Ormron’s (2010) data analysis process. See the steps in Table 7 as follows:

Table 7

Data Analysis Steps

Analysis Steps	Qualitative Data
1) Identified statements that related to the college readiness topic on placement testing and remediation	Data were separated into relevant information units, small, specific, and singular thought segments.
2) Group statements into “meaning units”	Eighteen participants’ experiences were grouped into meaning segments and labeled overarching categories and themes.
3) Seek divergent perspectives	Experiences were identified and related to the research questions.
4) Construct a composite.	Overall phenomenon on placement testing and remediation experiences were described according to student veteran’s typical experience.

Note. Adapted from Qualitative inquiry and research design: Choosing among Five approaches (2nd ed) by J. Creswell, 2007, Los Angeles, C.A.: Sage.

From this data, “textual and structural descriptions along with the themes helped the researcher report on the essence” of student veterans’ experience. Without reporting on the characteristics of the individual or interview setting of this study, the result, as a whole, was a data analysis of interviews that yielded a description of the firsthand and common themes of the 18 participants (Creswell, 2007, pp. 62, 142).

Summary

Chapter Three described a qualitative (phenomenological) research study with the purpose of beginning to gain information on student veterans' perceptions of placement testing and mining for the implications of experiences with taking remedial courses at a community college in western Pennsylvania. Data was obtained through two interview components: one-on-one interviews and a focus group with participants completing a demographic questionnaire before each session.

In chapter Three, the general methodology outlined the processes for this study such as: 1) the research methodology, 2) purpose and population, 3) method of the study, 4) procedures, 5) interview elements 6) how the data analysis occurred, 6) data sampling, 7) participant selection criteria, 8) location of the study, 9) site and population access 10) interview and focus group questions, and 11) how participants' interviews and the focus group were scheduled and conducted, and how data was captured, and entered into NVivo for coding and prepared for analysis.

Chapter Four is a detailed report of the results of this phenomenological research study aligned with the research questions in relationship to the participant's responses. Chapter four concludes with a summary of the data results aligned to related literature from the literature review. Chapter Five begins with a brief introduction and overview into the chapter, followed by the conclusions and recommendations for further study.

CHAPTER 4

PRESENTATION OF DATA

Adults enroll in postsecondary programs that can improve their career and income potential only to find that they lack basic skills necessary to take even introductory degree-credited courses (Chao, 2007). Students who struggle to “handle classwork” in community colleges are three times more likely to need remediation to help them refresh or learn core academic skills (Adams, 2010).

Chapter Four contains the results of this phenomenological research study and how the analysis and data were reported on student veterans taking one or more remedial courses. It includes a brief overview of the components of the study. The purpose of the study, the research questions and the methodology are restated for context. Four research questions and supporting questions related to the participants’ stories which were employed to obtain the essence of the results of the study on placement testing and remediation.

According to Moustaka (1994), a research study investigates a problem experienced by many, but of specific interest to the researcher. In the literature review for this study, there were many barriers to college readiness, but two were identified as common to students: placement testing and remediation. Thus, the purpose of this qualitative study was to investigate student veterans’ college readiness. Based on their perceptions, the impact of college placement testing and remediation affected them during preparation for college-level courses.

To perform this qualitative research study, Moustaka’s (1994) process for conducting phenomenological research was applied to van Manen’s (1990) hermeneutical phenomenology for reporting on the reflective and interpretive results of a study. Chapter Four is a presentation of the results (i.e. compiled data, coded and analyzed) during the participant phase of this study.

Here, the research focused on the common responses of 18 student veterans. These student veterans shared their stories concerning placement testing and remediation, which are integral components of college readiness. College placement testing is a diagnostic tool used to assess retention of previously learned content. It is used to diagnose a student's academic proficiency (Jenkins, 2005; Fitzpatrick, 2004; Ravitch, 1995), and to determine a student's path to college-level courses or placement in remedial courses. Remediation is the "building or rebuilding" of foundational academic skills through basic courses (Adams, 2010, Grubb & Associates, 1999). Subsequently, college readiness is accomplished when a student has retained sufficient knowledge from basic skills (reading, math and English) that can be applied proficiently leading them to success in college-level courses (Arnold et. al., 2012; Barnes & Slate, 2013).

Research questions and supporting interview questions were developed to gain understanding of the implications of these barriers (placement testing and remediation) as experienced by student veterans enrolled at a community college in western Pennsylvania. The Research questions that drove this study were as follows:

1. What context or situations do student veterans believe have typically impacted or influenced their experiences with placement testing and remediation at a community college?
2. What implications did student veterans perceive placement testing had on their remediation at a community college?
3. What perceptions do student veterans feel taking remedial courses had on their achievement of readiness for college-level courses at a community college?
4. Do student veterans believe placement testing and remediation work in tandem to prepare them for college-level course work at a community college?

Data Collection and Triangulation

Supporting questions were aligned to the respective research questions. Below is Table 8, which is a depiction of the questions and their alignment matched within the three modes:

Qualtrics questionnaire, focus group and one-on-one interview:

Table 8

Alignment: Research and Supporting Questions

Research Questions	Qualtrics Questionnaire	Focus Group Questions	Interviews Questions	See Appendix
RQ1	3, 4, 15, 17.	1, 2, 3, 4, 6, 7, 9, 10.	1, 2, 3, 4, 6, 7, 9, 10.	pp. 212-215
RQ2	6, 7, 8, 9, 10, 16.	3, 4, 8.	3, 4, 8.	pp. 212-215
RQ3	5, 11, 12, 13, 14.	3b, 5, 6, 7.	3b, 5, 6, 9.	pp. 212-215
RQ4	16, 18.	5, 8.	5, 8.	pp. 212-215

Note. Research questions alignment to Qualtrics and questions for participants. See Appendix A, B and C for the questionnaire, interview and focus group questions.

These modes (questionnaire, focus group and interviews) were used to triangulate the data. These modes increased the potential for trustworthiness during data interpretation, which improved accuracy within the study (Lincoln & Guba, 1985; Creswell, 2012, pp. 257, 259; Creswell, 2008, p. 266). Data from each collection method was implemented and facilitated by the researcher and compiled through computer software, audio recordings, transcriptions, and interview notes. Obtaining data through multiple modes aided in strengthening the credibility of the research findings in this study (Creswell, 2008). “Unstructured data” were organized,

indexed, and coded into value responses in NVivo (Creswell, 2012). From the value responses, themes were developed (Egri, 1946; Creswell, 2012).

Analysis of the data was made through comparisons of thematic meanings and in-depth reviews of participants' common experiences (Leedy & Ormron, 2010, Creswell, 2007). Those results became the essence of this research in order to answer the research questions on participants' readiness for college-level course work.

Participants and Modes of Research

Eighteen student veterans (15 male and three female) participated in the online questionnaire, which produced data for demographic, military background, educational levels, and participant profiles. A focus group was created with four of the 18 student veterans to gain knowledge from "a group perspective" on the topic (Berg & Lune, 2012). Lastly, the remaining 14 student veterans were interviewed individually to obtain "rich and textured descriptions" and details about their unique "lived" experiences on the topic (Laquita & Larrabe, 2004; Berg & Lune, 2012, p. 52). The descriptive profiles of the participants follow, along with demographic tables, for the focus group and interviews. The Qualtrics results and research study data were aligned to the research questions as shown in Table 8.

Participant Profiles

Participants in this study were student veterans who were a subgroup of nontraditional students (also called adult learners) and were defined by the National Center for Education (NCES) criteria. More than meeting the age criteria (25 or older), 95% of the student veterans participating in this study also met one or more of the three NCES criteria used to identify nontraditional students: 1) enrollment patterns, 2) financial and family status, and 3) high school graduation status (nces.ed.gov, 2018). Participant profiles were organized by focus group and

individual interviews. Pseudonyms were chosen by each research participant to protect their identity and for anonymity.

Focus Group Members

Darnell Brown (age 24) is a general studies major at the community college (research site). He enlisted in the Air Force one year after graduating from high school. Darnell served three years and separated from the military in 2017. He has enrolled in college using the G.I. Bill. He and his wife have a toddler. Based on his Compass college placement test results, Darnell was placed into the first level of remedial math but withdrew before completing it. He began taking other courses in his major. Darnell Brown plans to complete his associate degree and find employment.

Roscoe Jenkins (age 38) is a cyber security major at the community college (research site) and is enrolled using the G.I. Bill. He enlisted in the Marines immediately after completing his general education degree (GED). Roscoe served 16 years and was deployed twice overseas for combat. He separated from the military in 2015. He is divorced with a teen-aged daughter. Roscoe traveled for about a year after leaving the Marines. He attended a community college in another state and an online college before enrolling at the research site. Based on his Accuplacer college placement test results, Roscoe was placed into the first level of remedial math. During two semesters, he took two levels of remedial math before advancing to college-level algebra. Roscoe Jenkins is on track to graduate with his associate degree in the fall of 2018. In the spring of 2019, he plans to pick up a certificate in business management and run his own business.

Joey Costa (age 31) is a criminal justice (corrections) major at the community college (research site) and is attending using the G.I. Bill. He chose to enlist in the Marines after high school and served until he separated from the military in 2015. He is engaged to be married.

Based on his Compass college placement test results, Joey was placed into three remedial courses: math, English, and reading. In three semesters, he completed the remedial courses and was advanced into college-level courses that followed his remedial coursework. Joey Costa plans to graduate with his Associate's degree and work in the criminal justice field.

Torrin Boulware (age 57) was a former culinary major at the community college (research site). He graduated with an Associate's degree with the assistance of the G.I. Bill. He enlisted in the Army before taking courses at a community college and served two tours in combat before injuries required him to retire. Torrin Boulware separated from the military in 2013. He is married with two adult children and is a grandfather. Based on his Compass college placement test results, he was placed into a remedial reading course prior to taking college-level English. Torrin Boulware continues to operate his own business in the culinary field.

Individual Interview Participants

Dillard Raven (age 38) is a physical therapy assistant major at the community college (research site). He is enrolled thanks to the G.I. Bill. He completed a Bachelor's degree at a small private college prior to enlisting in the Army and served 10 years. He separated from the military in 2015. Dillard Raven has been married for about a year. Based on his Accuplacer college placement test results, he placed into college-level English and did not need remediation. He is on track to graduate in the spring of 2019. Dillard Raven plans to work in the Physical Therapy field after earning his Associate's degree.

Joe Thompson (age 47) is an accounting major at the community college (research site) and is enrolled with the G.I. Bill. He chose to enlist in the Army at some point after high school. He separated from the military in 2010, started a small business, and later decided to attend community college. Joe Thompson is married. His wife is an Air Force Reservist, currently

serving on deployment. Based on his Compass college placement test results, he was placed into college-level courses but did not trust the test results. He decided to take a business math introductory class instead of going directly into college algebra. Business math is similar to a remedial course because it does not count for college credit toward his major, even though it costs the same amount of money as a regular college course. Joe Thompson plans to continue to run his own business after completing his Associate's degree.

Dylan Gene (age 31) is a social work major at the community college (research site). She is also receiving the G.I. Bill to pay for school. Prior to enlisting in the military, Dylan Gene attended college for one year at a four-year university. She was recruited and enlisted in the Air Force during college. She suffered a traumatic brain injury while serving and separated from the military in 2008. Dylan Gene is single and has a toddler. After leaving the military, she attended a local community college and later transferred to the research site in this study. Based on her Accuplacer college placement test, Dylan Gene was placed into the second level of a remedial math course and is retaking it in the spring 2019 semester in hopes of advancing to college-level algebra. Once she passes the course, Dylan Gene plans to complete her Associate's degree and acquire a certificate.

Billy Bob (age 48) is a general studies major at the community college (research site) and is also on the G.I. Bill. After high school, he chose to enlist in the Army. He completed his first tour of duty, separated from the military, and earned an Associate's degree. He later re-enlisted in the Army and separated in 2002 after his second tour of duty. Billy Bob identified with having a learning disability and a physical disability. He is married with adult children and grandchildren. Billy Bob became a student at the research site in 2017. Based on his Compass college placement test, he was placed in the first level of remedial math, reading and English. On

his second attempt in remedial math, chronic health complications and the exhaustion of G.I. Bill benefits caused Billy Bob to withdraw from the community college to focus on improving his health.

Bo Michaels (age 33) is a general studies major at the community college (research site) who is enrolled via the G.I. Bill. He chose to enlist in the Army after high school. Bo served ten years and separated in 2016. He is married. Based on his Accuplacer college placement test, he was placed in the first level of remedial math. Subsequently, he took the second level of remedial math; Bo did not pass the course and needed to retake it. After both levels of remedial math, Bo did not feel ready for college algebra and plans to take a college-level preparatory math course in his next semester. Bo Michaels plans to transfer to a four-year university.

James Alexander (age 28) is a criminal justice major at the community college (research site). He is not using the G.I. Bill. He chose to enlist in the Marines after high school. James Alexander served in the Marine Reserves for three years before separating in 2011. He is recently married. Based on his Accuplacer college placement test, he was placed in remedial math, but decided to wait to take it at a later date. He is currently taking other college-level courses in his major. James Alexander plans to continue working on his Associate's degree part-time and remain employed as a security supervisor full-time.

John Henry (age 28) is majoring in computer information systems major at the research site and is using the G.I. Bill to pay for his education. He enlisted in the Army after high school and served until 2016 when he separated. He is married with a toddler. Based on John's Accuplacer college placement test he was placed in the second level of remedial English and has advanced to college-level English. He plans to transfer to a four-year university, join the Reserve Officer Training Corps and reenlist in the military but this time as an officer.

Kerry Simons (age 32) started at the research site as a liberal arts and science major and is now a Political Science major using the G.I. Bill to pay for his education. He enlisted in the Marines after high school and served until 2011 when he separated. He is single. Based on his Accuplacer college placement test, he was placed in the second level of remedial math and advanced to college level algebra. Kerry Simons plans to complete his associates and transfer to a four-year university.

Robert Paulsen (age 46) is a software development major at the community college (research site) using the G.I. Bill to pay for his education. He enlisted in the Air Force after high school and served until he retired in 2014. Based on Robert Paulsen's Accuplacer college placement test, he was placed in the second level of remedial math and is currently in the process of completing that course. Robert Paulsen plans to transfer to a four-year university.

Laureen Smith (age 20) is a health and physical education major at the community college (research site) using the G.I. Bill to pay for her education. She enlisted in the Army Reserves after high school and is still currently enlisted. Laureen Smith is single and works two jobs while attending school fulltime. Based on her Accuplacer college placement test, she was placed in the second level of remedial math for one semester. Laureen Smith successfully completed it to advance to college-level algebra. Laureen Smith has applied to a four-year university in the area and plans to transfer in the spring of 2019.

Minister T (age 54) was a social science major during his enrollment at the community college (research site). He completed his Associate's degree without G.I. Bill education benefits. He enlisted in the Army after high school and served until 1991 when he separated from the military. Minister T is married with a teen-aged daughter and adult son. He remembers taking a placement test but does not know which one specifically. However, based on the results of the

test he was placed in the first level of remedial math and subsequently took the second level of remedial math and advance to college-level Algebra. Minister T recently completed a doctorate in education and leadership.

Byron (age 33) began at the community college (research site) as and accounting major after completing the eligibility requirements; he became a business major in a collaborative Bachelor's degree program which holds classes at the research site. Byron is using the G.I. Bill to pay for his education. He enlisted in the Air Force two years after graduating from high school and served for 10 years until 2014. He is married. Based on the results of his Compass college placement testing, he was placed into the second level of remedial math. Initially, he was incorrectly placed into college-level algebra. Unable to pass college-level algebra, he elected to take the second level remedial math. He is currently retaking college algebra. Byron is dually enrolled in a collaborative Associate's to Bachelor's degree program that is delivered at the research site.

Tony (age 34) began at the community college (research site) as a business major using the G.I. Bill to pay for his education. After high school, he took some courses at a community college. Tony enlisted in the Marines after taking classes and served until 2009. Tony is married and has a toddler. After enlistment, Tony completed a barber school program and worked in his field. He returned to the community college to resume his Associate's degree. Based on his Accuplacer college placement test, he was placed in the second level of remedial math; he tested out after advancing to college-level algebra. He took several college courses until the spring of 2017 when he stopped attending. Tony holds a license to operate as an entrepreneur and continues to work in that field as a fulltime Barber.

Samantha (age 27) is a homeland security major at the community college (research site); she is using the G.I. Bill to pay for her education. Samantha was recruited in high school and enlisted in the Navy after graduation. She is single. Based on her Accuplacer college placement test, she was placed in the first level of remedial math and second level of remedial English. Subsequently, she took the second level of remedial English and math then advanced to college algebra. Samantha appeared to be on track to graduate in fall 2018 with an Associate's degree, but a mistake with her course requirements extended her graduation to the spring of 2019. After graduation Samantha plans to work in homeland security.

Qualtrics Results

This section of Chapter Four was a report of the research results from the Qualtrics software questionnaire which was administered to the 18 participants via email invitation. There are three parts to this section: Table 9 is a listing of the participants, Table 10, depicts the participant’s placement test results, and Table 11, is the summary of remediation results. Below each table is a brief narrative that aligns to the corresponding research questions.

Table 9

Qualtrics Questionnaire Participants

Name (Pseudonyms)	Gender	Major	Placement Testing	Remediation Courses	College Level
Darnell Brown	M	Gen. Studies	Yes	Yes	No
Roscoe Jenkins	M	Cyber Security	Yes	Yes	No
Joey Costa	M	Criminal Justice	Yes	Yes	No
Torrin Boulware	M	Culinary	Yes	Yes	No
Dillard Raven	M	Physical Therapy	Yes	No	Yes
Joe Thompson	M	Accounting	Yes	No	Yes
Dylan Gene	F	Social Work	Yes	Yes	No
Billy Bob	M	Gen. Studies	Yes	Yes	No
Bo Michaels	M	Bus. Management	Yes	Yes	No
James Alexander	M	Criminal Justice	Yes	Yes	No
John Henry	M	Computer Tech.	Yes	Yes	No
Kerry Simons	M	Lib. Arts & Sciences	Yes	Yes	No
Robert Paulsen	M	Software Dev.	Yes	Yes	No
Laureen Smith	F	Health & Phys. Edu.	Yes	Yes	No
Minister T	M	Edu./Leadership	Yes	Yes	No
Byron	M	Accounting	Yes	Yes	No
Tony	M	Business	Yes	Yes	No
Samantha	F	Homeland Security	Yes	Yes	No

Note. M=Male; F=Female; Gen. = General; Bus. =Business; Lib=Liberal; Dev.= Development; Phys. = Physical; Edu. = Education.

Research Question 1 Placement Test Results

What context or situations do student veterans believe have typically impacted or influenced their experiences with placement testing and remediation at a community college?

According to participants' responses in Qualtrics, all 18 student veterans took a placement test at the research site and each of them responded that the placement test accurately assessed their level of readiness for remediation or college-level courses. See the results shown in Table 10.

Table 10

Placement Testing

Answer	%	Count
Yes	100.00%	18
No	0.00%	0
Total	100%	18

Note. Qualtrics questionnaire for all participants engaged in taking the placement test at the research site.

Research Question 2 Readiness for College Courses

What implications do student veterans perceive placement testing had on their remediation at a community college? The intent of this question as it related to the Qualtrics questionnaire was to simply ascertain if placement testing had any impact on diagnosing preparedness for college-level courses verses a need for remedial courses. Table 11 indicates that of the 18 who took the placement test at the research site not all needed remediation.

Table 11

Participant Remediation Status

Answer	Count
Yes	16
No	2
Total	18

Note. Qualtrics questionnaire for determining student veterans who needed or did not need remediation at the research site.

According to Table 11, two participants responded that they tested at college-level and 16 of the 18 participants indicated that the placement test recommended remedial courses. The result was that 80% of participants needing remediation and 20% of them did not need any remediation courses. Three student veterans shared unique experiences concerning their placement tests:

Dillard Raven said, “that he was required to take the placement test because he was told that the English course that he took in his bachelor’s degree program was not comparable to the college English at the community college research site.” Dillard thought it “strange” that the course did not transfer. The result was that he tested into college-level English and subsequently completed it.

Joe Thompson tested into college-level courses. He agreed that the test accurately passed his academic skill, but he stated that he “did not trust the results” because, in his opinion, “the test that placed him in all college-level courses was inadequately short.” Therefore, he decided to take a college-level introduction to business math course, which he shared that he believed would be a “steppingstone” to the college-level algebra he needed.

Laureen Smith indicated that “she tested three points below the cut-off for college level math but stated that she guessed on all of the questions.” She further shared “that she was glad that she didn’t pass because she was sure that she didn’t really know the math that well.”

Research Question 3 Experiences in Remediation

What perceptions do student veterans feel taking remedial courses had on their achievement of readiness for college-level courses at a community college? To learn from participants on this question, the questionnaire was set up with questions about actual experiences during attendance in remedial courses. Questions were asked about whether the

student veterans had the option to take remedial courses or not, the number of courses taken, the types of remedial courses taken, the number of semesters in remediation, and if student veterans completed the remediation courses.

Of the 16 participants who answered, three responded that remediation was optional and 13 responded that remediation was required. On the number of remedial courses taken in one semester, 11 participants took one remedial course which was equal to 68.75% of the participants. Two participants responded that they took two remedial courses over two semesters which was equal to 12.50%, and one participant each took three or more remedial courses over three or more semesters respectively. Table 12 gives a more simplistic break down of the remedial courses taken and the number of semesters that participants needed to be enrolled in order to attempt the courses (see Table 12).

Table 12

Remedial Courses Taken by Participants

Courses	Answer	%	Participants
1	One	68.75%	11
2	Two	12.50%	2
3	Three	6.25%	1
4	Four	6.25%	1
5	Other	3.25%	1
	Total	100%	16

Note. Qualtrics questionnaire participants' responses.

For the types of remedial courses taken, 14 student veterans needed remedial math; four needed remedial English, and two needed reading (see Table 13).

Table 13

Type of Remedial Courses Taken by Participants

Course Type	Answer	%	Participants
1	Math	70.00%	14
2	English	20.00%	4
3	Reading	10.00%	2
Total		100%	20

Note. Qualtrics questionnaire participants' responses.

During the remediation period, 12 participants were in one semester of remediation, two participants were in remediation, two and three semesters respectively. (see Table 14).

Table 14

Semesters Participants Were Enrolled in Remedial Courses

Number	Answer	%	Count
1	One	75.00%	12
2	Two	12.50%	2
3	Three	12.50%	2
Total		100%	16

Note.. Qualtrics questionnaire participants' responses

In summary, 11 participants of the 16 student veterans who were placed into remedial courses completed them. The majority, 11 student veterans shared that taking remedial courses helped them achieve readiness for college-level courses. Two students, Dillard Raven and Joe

Thompson, tested into college-level courses, Dillard Raven tested into college English, and Joe Thompson tested into college Algebra.

Research Question 4 Placement Test vs. Course Concepts

Do student veterans believe placement testing and remediation work in tandem to prepare them for college-level course work at a community college? The answer to this research question was from participants' responses to the question on the Qualtrics questionnaire, regarding concepts from the placement test being addressed in actual remedial courses. Data were needed to determine if the placement test was aligned to concepts taught in remedial courses and addressed students' weaknesses.

Sixteen of the 18 participants advanced to this portion of the Qualtrics questionnaire. As mentioned earlier, the other two student veterans tested ready for college-level coursework. All 16 participants' responded affirmatively that they believed they were placed in the correct remedial course or courses. However, when responding to whether they felt the concepts revealed on the placement test were addressed in actual remedial courses, 11 participants responded "yes," five responded "maybe" and none responded "no."

Summary of Qualtrics Results

All 18 participants responded in this study that they took the placement test at the research site. Sixteen placed into remediation and two placed into college-level courses. Thus, most of the participants (80%) needed remediation. Eleven of 16 (68.75%) participants took at least one remedial course while five (31.25%) needed two or more remedial courses. For the type of remedial courses needed, 14 of the 16 participants (70%) required remedial math, four or (20%) English and two or (10%) reading. The number of semesters that participants were in remediation: for one semester, there were 12 of 16 or (75%), and for two or more semesters,

there were four of 16 participants or (25%) engaged in remediation courses.

As stated, 100% of participants (18 in all) took placement testing at the research site. However, on occasion, their responses varied on the Qualtrics questionnaire in the following areas: on the question of whether remediation was mandatory or voluntary responses were in consistent. The majority (over 80%) responded that remediation was mandatory and just fewer than 20% responded that remediation was voluntary. When responding to the question of alignment between placement testing and remediation concepts 11 of 16 (68.75%) participants thought concepts were aligned on both, but five of 16 (31.25%) participants responded (maybe) indicating that they were unsure of alignment between placement testing and remediation concepts.

On the issue of participants' perceptions of readiness for college-level courses after remediation, 11 of 16 (68.75%) participants indicated that they completed their remediation goal and were prepared, five of 16 (31.25%) responded that they did not complete their remediation goal and two of 16 participants (12.5%) responded that they tested into college-level courses. Consequently, of the total participants (18) in this research study who took the Qualtrics questionnaire, 16 placed into remedial courses and two (Dillard Raven and Joe Thompson) tested into college-level courses. Dillard Raven tested into college English, completed it, and (Joe Thompson) tested into college-level Algebra.

Focus Group and Interview Sessions

Two groups of student veterans attending a community college in western Pennsylvania were selected as participants in interview sessions. One group of participants was selected for a focus group and the others participated in one-on-one interviews. Data collected during the sessions included demographic, educational and military data. The data are provided in the

following three tables: Table 15 Focus Group Members, Table 6 Female Interviewees and Table 17 Male Interviewees.

Table 15

Focus Group Members Information

Name	Age	Gen	Eth	Ed. Prior Military	Branch	College Majors	Emp. Status
Darnell Brown	24	M	White	High School	Air Force	General Studies	Working
Roscoe Jenkins	38	M	West Indian	High School	Marines	Cyber Security	VA Work Study
Joey Costa	31	M	White	High School	Marines	Criminal Justice	Working
Torrin Boulware	57	M	African American	High School	Army	Culinary	Self-Employed

Note. Gen = Gender. M = Male. Eth = Ethnicity. Ed. = Education. Emp. = Employment. Focus group members' demographic information, education, military and employment data from the Qualtrics questionnaire.

In this summary of Table 15, the four participants of the focus group were male, however they were diverse in their ethnicities. Two were White, one was African American, and one was West Indian. Each participant had a high school diploma prior to attending the research site. Their ages varied from young adult to senior adult. All participants were employed at the time of the focus group discussion. Two participants served in the U.S. Marines, one served in the U.S. Air Force, and one served in the U.S. Army. All group members chose different majors to pursue for retraining for employment in the civilian workforce.

Table 16

Female Interviewees

Name	Age	Gen	Eth.	Education Prior Military	Branch	College Majors	Emp. Status
Dylan Gene	31	F	White/ Italian	1yr at 4-yr College	Air Force	Social Work	Disabled
Laureen Smith	20	F	Caucasian	High School	Army	Teacher Education	Working
Samantha	27	F	White	High School	Navy	Homeland Security	Working

Note. Gen = Gender. F = Female. Eth = Ethnicity. Ed. = Education. Emp. = Employment. The Interviewee’s demographic data also includes prior schooling, military, major and employment data.

Table 16 provides information on the three one-on-one interview participants who were female, however they were similar in their choice ethnicity. All chose white or Caucasian American one included Italian American in their ethnic description. Two participants finished high school and one attend a four-year college prior to attending the Community college research site. Their ages were close in range. Two were employed and one indicated disabled. Each chose to serve in a different branch of the military: U.S. Air Force, U.S. Army and U.S. Navy respectively. All chose different majors to pursue for retraining for employment.

Table 17 on the next page provides similar demographic, educational, military college and employment information for the individual male interviewees in the study. An interesting note is that more chose to serve in the Army than any other military branch. However, each chose a different major as an area of retraining for finding civilian employment after college.

Table 17

Individual Male Interviewees

Name	Age	Gen.	Eth	Ed. Prior Military	Branch	College Majors	Emp. Status
Dillard Raven	38	M	Caucasian	Bachelor Degree	Army	Physical Therapy	Working
Joe Thompson	47	M	Caucasian	High School	Army	Account- ing	Self Employed
Billy Bob	48	M	White	High School	Army	General Studies	Disabled
Bo Michaels	33	M	Caucasian	College Classes	Army	Business	Working
James Alexander	28	M	Black	High School	Marines	Criminal Justice	Working
John Henry	28	M	Biracial	High School	Army	Computer	Working
Kerry Simons	32	M	Caucasian	High School	Marines	Liberal Arts	Working
Robert Paulsen	46	M	American	High School	Air Force	Software	Retired
Minister T	54	M	African	High School	Army	Education	Working
Byron	33	M	American	High School	Air Force	Business	Working
Tony	34	M	Latin American	High School	Marines	Business	Self Employed

Note. Gen = Gender. M = Male. Eth = Ethnicity. Ed. = Education. Emp. = Employment.

Research Questions Purpose and Themes

Research question one was foundational for the overall study to get at the cause and effect of student veterans' experiences. In this question, the researcher sought to learn if certain environments, events, circumstances, or stimuli in a student veteran's life played a role in how he performed on the placement test and resulted in them taking remedial courses. Friedman and Mandelbaum (2012) argue that students must take remedial courses because of their low-test scores on placement tests. Therefore, this question examined potential reasons students may have low-test scores and the implications thereof. The emerging categories were the following: social context and knowledge retention gap. Interviewees and focus group members share the same categories and some of the same themes which were: age, forgetfulness, misconception, developmental level and adjustment.

Research question two was important in helping the researcher understand if student veterans were able to draw any conclusions about their experiences with placement testing and remediation. The question also sought whether concepts on the placement test were evident in remedial courses and whether concepts in remedial courses were evident on the placement tests. Implications were the primary category and themes revealed from responses to supporting interview questions for the focus group were the following: perceptions, value and expectations, and for interviewees themes also included instructors/professors.

Research question three was important to the exploration of participants' perceptions of their preparation for college-level courses. The researcher sought to learn if student veterans who took remedial courses felt they were actually ready for college-level courses, based on what they learned in the corresponding remedial courses. The major category for interviewees and focus group members was achievement and the emerging themes for the focus group was enhanced

cognitive ability but for interviewees they further shared they experienced improved academic deficiencies, and disability. The intent of research question four was to learn about the experiences of student veterans after placement testing and subsequent remediation. The goal was to learn if student veterans believed that their experiences showed they had achieved the skills they needed for college readiness. Additionally, the question sought to see if any issues or concerns arose with placement into courses or errors with accuracy between placement testing and placement into remedial courses occurred. The major category for both interviewees and focus group members was college readiness and the themes for both for this question were: belief, preparation, and readiness.

Focus Group Session Results

According to Padilla (2009), “Group interviews have a built-in cross-check on the quality of the data being gathered” (p. 29). A focus group provides the researcher with data from a group perspective (Berg & Lune, 2012, p. 164). Each group member’s response had the benefit of being developed through a multi-level perspective from peer responses (Schein, 2013, p. 106). This insight allowed for deeper group conversations to evolve. Four focus group members responded to interview questions aimed at answering the research questions.

Table 18

Focus Group Themes and Categories

Research Question	Themes	Categories
RQ-1	Age Forgetfulness Misconceptions Developmental level Adjustment	Social Context and Knowledge Retention Gap
RQ-2	Emotions Perceptions Value	Implications
RQ-3	Enhanced Cognitive Ability	Achievement
RQ-4	Preparation Readiness	College Readiness with Remediation

Note. Focus group relationships of research questions, themes and categories from the results of the research study.

Research Question One Social Context

What context or situation do student veterans believe have typically impacted or influenced their experiences with placement testing and remediation at a community college? The overarching category for research question one was social context. It was the primary driver for student veterans’ perceptions of placement testing and remediation. The next emerging category was knowledge retention gap. Themes were age, forgetfulness, misconceptions, developmental level, and adjustment. All four of the focus group members described

experiencing a gap in time and loss of memory or prior knowledge. Three of the four focus group members, Darnell Brown, Roscoe Jenkins, and Torrin Boulware discussed being away from an academic setting for a number of years, while serving in the military, as affecting their test results and remedial placement. For example:

Darnell Brown explained, “It’s strange to you know a decade after I was probably at that math level to still be at that math level,”

Roscoe Jenkins said, “Being out of school for 16 years, you know, I was like, okay, I know I’m going to need to brush up on some things.”

According to Torrin Boulware, his low placement test scores were a result of his lack of focus while in high school not that his military service had as much of an effect.

Torrin Boulware replied, “Ah made me sit back and think about I should have paid more attention in high school instead of my sports.”

Since none of them performed at the college level on the placement tests, they shared that they were being put back with younger peers in remedial classes rather than college-level classes. Forgetting high school concepts and its effects during testing was discussed by Jenkins (2005), who postulated that a knowledge retention gap existed between high school and college enrollment. Forgetting concepts was also cited as an issue effecting test scores in a report by NSBA Center for Public Education (2014).

The second theme of misconception was about the goal of the placement tests and remediation courses in terms of their design and purpose. The misconception was between what they believed their academic ability to be and what the placement test results actually revealed about their developmental level. Focus group members (two of four) shared the following about their feelings about their developmental level in regard to their test results as follows:

Torrin Boulware stated, “Yes. The placement tests were shocking. To get the results to see where my level was at. Ah made me sit back and think about I should have paid more attention in high school instead of my sports.”

Roscoe Jenkins said, “The placement testing wasn't bad. I mean it was what was required, you know, and being out of school for 16 years, you know, I was like, okay, I know I'm going to need to brush up on some things.... The remedial classes, it wasn't at first, I was like, man, these are dumb classes. I mean, I shouldn't say dumb they were. These were classes for slow learners.”

Three of the four focus group participants described the placement test and remedial courses as defining their identity as to who they were as a person instead of where they were academically. One participant, Darnell Brown, was placed into remedial math and approached his remedial class with a negative viewpoint and did not return to the class.

Darnell Brown explained, “I was in one of the courses for like maybe a day before I switched out... I'm definitely stubborn and I'm more inclined to take things I am good at already.”

Bettinger and Long (2005) surmised that they found remedial classes have “drawbacks and benefits.” In other words, community colleges may not retain all of the students in remedial classes because some students withdraw. The third theme, age, was impactful because participants shared that they were behind academically because they were older than their younger peers. They shared that they engaged in classes better when there were veterans or people in the class more closely in age to themselves. Cleary and Wozniak (2013) and Morreale (2011) stated that student veterans were very similar to nontraditional students in age, 25 or older, and delayed

enrollment in college. Concerning younger peers and feeling socially displaced three of the four focus group participants, replied as follows:

Torrin Boulware said, “I would say having more adults my age in my class helped me out a lot...So having people your age does make [it go] a little smoothly.”

Joey Costa stated, “At first, I felt um ... I felt a little off because everyone was younger than me... there's a bunch of people ah just coming out of high school.”

Roscoe Jenkins explained, “It was, to me it was a crash course in social skills because mine was a mix of uh, some that were younger than me, much younger and my age and it just opened my eyes to what the rest of my college experience was going to be. So it kind of got my feet wet, of hey, you're going to be dealing with a wide range of classmates, different ages.”

Roost and Roost (2014) recommended that faculty “fine tune their skills to support veterans” by incorporating accommodations and creating teaching strategies which may enhance learning and reduce or eliminate student veterans feeling uncomfortable during class sessions (p. 33). Lastly, those who persisted through their remedial classes, Joey Costa, Roscoe Jenkins and Torrin Boulware, began to go through a period of adjustment and felt better about the classes and remediation because they realized it was helping them.

Joey Costa explained, “So at first it felt kind of awkward, but then as I went on I got used to it and um as I went on in some of the other classes, I noticed that there were other veterans in the classes as well...I actually ended up enjoying the classes.”

Roscoe Jenkins said, “So I think it was actually beneficial. I didn't set myself up for failure by just jumping into classes I wasn't ready for. So, to me it was beneficial.”

Torrin Boulware stated, “Ah, taking those courses first it did shock me, like I said [to]

see what my level was at, but ah taking those courses, did bring everything up to a conscious level and I had to realize what I had to do.”

All four focus group participants experienced an adjustment in their feelings concerning being in remediation. They seemed not to realize that a majority of students out of high school actually needed remediation (Scott-Clayton, 2018; Adams, 2010; Oudenhoven, 2002; Phipps, 1998). The issue they expressed was that they were academically behind younger students, which caused confusion and mixed emotions, because they were with younger students as their peers in remedial classes. On this issue, researchers reported that nearly 80% of all students required remediation (Kallison, 2017; Chen & Simone, 2016; Highereducation.org, 2015; Tighe et. al., 2015; Lane et al., 2012; Kirst & Venezia, 2006). Based on the analysis of data in this study, 100% of the focus group members needed remediation.

Research Question Two Perceptions

What implications do student veterans perceive placement testing had on their remediation at a community college? Research question two was important to helping the researcher understand if student veterans were able to draw any conclusions about their experiences with placement testing and the remediation courses. Data on whether concepts on the placement tests were evident in the remedial courses and whether concepts in remedial courses were aligned with the placement tests were needed. Themes were emotions, perception, and value.

Initially, three of the focus group members, Roscoe Jenkins, Torrin Boulware, and Darnell Brown, shared negative emotions such as perceptions of being “slow learners” and experiencing “shock,” and feeling “lame” regarding the results of their placement tests and placement into remedial courses. However, Joey Costa discussed positive emotions about his

placement test results. Joey Costa stated, “I didn’t let my pride or arrogance get the best of me. Definitely, I knew I placed appropriately.”

After attending the remedial courses, two participants, Roscoe Jenkins and Torrin Boulware, who initially had negative reactions, experienced a change in their perception and saw the value of the remedial courses as being beneficial. Roscoe Jenkins and Torrin Boulware each agreed with Joey Costa that the remedial classes were effective into getting them into college-level courses. They shared the following about their experiences:

Joey Costa stated, “I would say it definitely, was worth it. And I'd say the overall experiences, that is, it helps you in almost virtually every category as far as being a student and being prepared for college material work.”

Roscoe Jenkins explained, “I would definitely do it again. I would recommend it to anybody that's coming out [military]. Like hey, it's going to make you feel like you're far behind. But in the long run it [is] going to put you ahead. So, I, it’s definitely a great experience for me.”

Torrin Boulware said, “Yeah. I had a couple of classes on that [remedial] and it was, it Was real helpful. English, catching up on my English. It help[ed] me out lot. I'm glad I did take it.”

Research Question Three Achievement

What perceptions do student veterans feel that taking remedial courses had on their achievement of readiness for college-level courses at community college? This research question was important to the exploration of participants’ perceptions of their preparation for college-level courses through taking remedial courses. The emerging category was achievement and the theme was enhanced cognitive ability. According to Chen and Simone (2016) research study on

remediation and college-level courses, students at two-year and four-year colleges and universities indicated that at four-year institutions, 77% of students needed remedial work and at two-year colleges, nearly 75% of all students needed remedial work. In their study remediation was credited with preparing students for college-level courses. Participants in the focus group (100%) required remedial course work. However, only 75% actually engaged in remedial courses as shared by the following:

Joey Costa replied, “It gave me the know-how I needed to do things such as take down notes, study for tests.” And in response to a different interview question, Joey acknowledged that “it improved my...skills as far as English reading mathematics significantly. So... it fixed or improve[d] any deficiencies.”

Roscoe Jenkins explained, “Yes, it did. It gave me the confidence that when I hit those College level classes that I knew, hey, you know, I'm ready for this. I understand the work that's going on...I was more confident...once I reached the college level classes.”

Three focus group members, Roscoe Jenkins, Joey Costa and Torrin Boulware, responded that they believed that the remedial courses did prepare them, and they were ready for college-level courses. Darnell Brown, who withdrew from his remedial course, declined to answer. However, the other focus group members shared the following about their experience:

Joey Costa explained, “I feel that it improved my, skills as far as English reading mathematics significantly. So as far as do I [think], it fixed or improved any deficiencies, I say yeah, it did.”

Torrin Boulware remarked, Yeah. I would say so to made me pay more attention to detail. All my next classes going through that it helped me out a lot.”

Roscoe Jenkins said, “Yes, so, definitely. It was like I had to bust the rust off the stuff I

had forgotten. So there was (chuckles) major improvement.”

According to Oudenhoven (2002), about 40% of adult students, “may be rusty on academic concepts due to not enrolling in college immediately or may never have learned the information” while in high school; still others may suffer from “academic or physical problems” and need remediation (p. 40). Of the focus group participants above all of them talked about a delay or not enrolling in college right out of high school or prior to the military. Three of the four shared that their academic skills improved as discussed by Barnes and Slate, “cognitive skills and strategies are gained through successful completion of rigorous coursework (2013. p. 40).”

Research Question Four College Readiness

Do student veterans believe placement testing and remediation work in tandem to prepare them for college-level coursework at a community college? Research question four was important to learn from the focus group if placement testing and remediation were complementary in terms of working interdependently toward their preparation for college-level coursework. The theme that emerged was the process of remediation (which included placement testing and remedial classes) being successful in getting students prepared for college-level courses. The results indicated that the students believed that placement testing and remediation working in tandem played an important role in the success of the students attaining college readiness. Concerning the process of testing and remedial classes, in this research study, 75% of focus group (3of 4) said, “Yes”, that they worked in tandem to prepare them for college-level courses. For example:

Joey Costa: For me, I remember taking the placement test. I actually took the compass test. I wasn't nervous. Normally I'm nervous when I take tests. I wasn't nervous. I had a little bit of confidence in my ability to take the test. When the results came back, I didn't

let my pride or arrogance get the best of me. Definitely, I knew that I placed appropriately and so I went to the classes and that actually benefited me a lot and going ahead and just getting my skills, my mathematical, reading and English comprehension skills ah, more sharpened.

Phipps suggested that there was more to remediation than tutoring and building basic core skills in reading, writing, and mathematics. Remediation encompassed an assessment and placement evaluation (1998).

Interviewee Results

Interviews provide an opportunity to learn from an individual participant by looking at multiple perspectives on the same situation, whereby the researcher can then make some generalization of what something is like from an insider's perspective (Leedy & Ormrod 2010, p. 141). In the interview sessions 14 student veterans participated. Two of the 14 participants tested into college-level courses. Where appropriate their comments are included. Therefore, fourteen one-on-one interview participants in this study shared their perspectives on the impact of placement testing and remediation on their readiness to engage in college-level courses. In preparation for reporting the results of the common experiences of interviewees, the research questions were organized by themes and major categories in Table 19.

Table 19

Interviewees Themes and Categories

Research Question	Themes	Categories
RQ-1	Ambivalence	Social Context and Knowledge Retention Gap
	Anxiety	
	Age	
	Forgetfulness	
RQ-2	Value	Implications
	Expectation	
	Perceptions	
	Instructors/Professors	
RQ-3	Extended Time	Achievement
	Cognitive Ability	
	Disability	
RQ-4	Preparation	Belief
	Readiness	College Readiness with Remediation

Note. Interview relationships are drawn between research questions, themes and categories from the results of the research study.

Research Question One Social Context – Knowledge

What context or situations do student veterans believe have typically impacted or influenced their experiences with placement testing and remediation at a community college?

Two major categories, social context and knowledge retention gap, encompassed the emerging themes: ambivalence, anxiety, age, and forgetfulness. Social context is defined as the way in

which a person interprets their surroundings in relationship to the people, circumstances, and situations affecting them emotionally, mentally and physically. From these elements a person builds their social context (reference.com). Theories on adult learners describe this population as separating themselves from their social context so that it doesn't affect their learning (Mezirow, 2000). Knowledge retention gap was defined earlier by Jenkins as a loss of academic knowledge after being away from learning for a time (Jenkins, 2005).

In regard to feelings about taking the placement tests and remediation, many participants discussed the social context as evoking various levels of anxiety. The majority, more than 50%, expressed feeling nervous. Others voiced deeper feelings such as fear (Kerry Simons), scared (Billy Bob), embarrassed (Robert Paulsen), shock and angst (Joe Thompson) and humbling (Bo Michaels). After receiving the results of their placement tests, 90% of the participants consistently referenced a gap or length of time away from an academic or training setting (i.e. high school, college and military) as affecting both their feelings about being older college students, as well as, issues with loss of memory or forgetting concepts, which they believed affected their scores and subsequently led to placement in remedial courses. Examples of these themes were described in responses by the following participants:

John Henry stated that “It kinda a little bit of a struggle, just like feeling like the old person in [laughs] the back of class?”

Samantha said, “U'm just like a lot of stuff that I had've forgotten like math, especially I, knew none of that,”

According to studies by Cleary (2012) and Howell (2001), adult students struggled with feelings of ambivalence and anxiety, respectively, about returning to college (Howell, p. 372).

Research Question Two Perceptions of Impact

What implications do student veterans perceive placement testing had on their remediation at a community college? Participants like John Henry and Kerry Simons did not understand the significance of preparing for the placement test and its potential effect on their academic path until it was too late. The two shared the following:

John Henry stated, “the one thing I wasn't aware of was that I could only take it twice. I didn't prepare as much as I should have for my second testing.”

Kerry Simons said, “I didn't do any of the pre-placement, online...study guide...I went in with what I knew, and I figured let the chips fall where they may.”

Sharing that they did not prepare for the placement test is an indication that they did not take into consideration the kind of impact it would have. Once these two participants along with the other 14 of 18 in the study tested into remedial courses, their path was set on the remedial track and they could not reverse it. The overarching category for research question two was implications and the themes were: value, perceptions, expectations, and instructors or professors. When responding to this question participants discussed their perceptions about the effects of placement testing on their having to be in remediation. Participants' attitudes about placement testing and remediation became a key factor.

Following are Tables (20 and 21) which are provided as examples of common experiences shared by participants concerning the effect of placement testing and remediation. These varying perceptions are indicators of participant's similar emotions to those stated by (Bo Michaels and John Henry). In Table 20 and 21 they shared their expectations about placing or not placing into remediation. And in Table 22 they discuss how their perceptions changed after being engaged in remedial courses.

Table 20

Did Not Expect to Test Into Remediation

Participants	Comments
Bo Michaels	It was a bit humbling... finding [out] the results and being made aware that oh, you did need some of this stuff after all... I was put into a remedial math class after the testing...it was kind of a shock to see that oh wow... I did get, sour on a lot of these skills.
John Henry	I didn't score as well as I like to. So I ended up taking it [placement test] a second time. The one thing I wasn't aware of was that I could only take it twice. I didn't prepare as much as I should have for my second testing. So I needed to take [remedial] English 100.

Table 21 below, shows that participants who thought that they needed remediation before taking the placement test were more positive when they learned that the results of their placement tests met their expectations. Therefore, their attitude when asked about remediation was more positive.

Table 21

Expected to Need Remediation

Participants	Comments
Kerry Simons	I knew it was going to be rough, so I just went in there and gave it my best...I mean the actual test, I didn't go in with to high expectations I guess. [I] was willing to accept whatever results I got... I had to take remedial math before I took the college math, I was actually hoping that will be the case.
Laureen Smith	Um, the math, I guess my way through the entire thing. Oh, I had no idea. And then, um, they said I scored three points away from getting placed into normal math just by guessing. ...I was very much so lucky that I didn't [pass] because I would not have known what I was doing at all.
Minister T	It was very nerve wracking. Uh to be under the scrutiny of a placement test because I had been out of school for so many years...I pretty much knew...what the results were going to be...I knew I needed some help in math.

In Table 22 below, the results from student veterans, Bo Michaels and John Henry, showed the positive change in their perceptions from the negative perceptions they shared in Table 20. Ultimately, they both acknowledged some value in experiencing remedial courses. These two tables (20 and 22) showed the effects of the placement tests on their knowledge that they needed remediation and how they later saw the value in taking the courses.

Table 22

Perceptions and Value of Remediation

Participants	Comments
Bo Michaels	“I think that it's helping. Um... the key word there is remedial. So it's not brand new stuff that. It is jogging my memory and emphasize key points that I'm going to be needing in the future.
John Henry	“Yeah, I think it was good to get that refresher. It sucks because it kind of pushed my whole timeframe back... because it added a that extra semester...[but] I started seeing the value of it...”

Table 22 is an example of participants Kerry Simons, Laureen Smith and Minister T’s sharing their perceptions of learning that they needed remediation. Thus, the result in this research study was that twelve of fourteen one-on-one interview participants tested into remedial courses. Participants placed considerable weight on their experiences with instructors or professors. They used these two terms instructor and professor interchangeably to describe their experiences with these professors. This theme, instructors or professors, in research question two was used to show examples of results from participants’ engagement in remediation. When

sharing their experiences with their overall remedial courses, the participants talked about instructors and differences in teaching styles:

Tony remarked that “The instructor was really easy to understand. It really helped me. I didn’t know about math before I went to him. So yeah, the experiences it was a great one.”

Laureen Smith replied “Yes, Um, I know [my] problems were more um, with the teaching style than it was the course itself... I found that I wasn't very in tune with how the professor was teaching, um, and so I had to go get more help on the side, but I think if the instructor would have been different enemy, he was a very nice person.”

Kerry Simons explained “I had a really good professor and I had that same professor for [college Algebra]. It was a lot of good information, a lot of old stuff and some new stuff. I think it had a lot to do with the professor though, to be honest with you.”

John Henry said “Um, it was good. Uh, the instructor knew it was like a remedial course course, so she really tried to make sure that we understood what was going on and getting us prepared for English 101.”

Byron stated “I'm thinking that it really is a teacher thing...how they’re implementing Their classes...I've taken two [math] classes now and they're both two completely different teaching styles...neither of them kind of worked for me...um, I have had better results when my teachers have also been veterans themselves because knowing that I'm a vet, they know how to talk to me...so that I can understand it...non-veteran teachers, they don’t understand we have a teaching style that we learned that's not the same.”

According to Ryan, Carlstrom, Hughey and Harris (2011), faculty, advisors, and support staff play critical roles in the education, training, and enculturation of student veterans into

academia. Faculty should have the skills to teach using varying techniques beyond the lecture method to facilitate student veterans' learning the content and performing assigned tasks in class to help them succeed. Siskin (1998) declared that a "sea change" must occur, whereby everything changes: 1) textbooks, 2) professional development, 3) teacher preparation, and 4) evaluations of teachers, not only assessments for students" (p. 15).

Research Question Three Achievement

What perceptions do student veterans feel that taking remedial courses had on their achievement of readiness for college-level courses at community college? Ryan (2011) explained that after leaving the military, many student veterans go to college needing remediation. Research question three sought to learn shared perceptions of taking remedial courses. The category was achievement and emerging themes were: cognitive ability, disability and extended time. Eleven of the 14 one-on-one interview participants had currently or previously taken one or more remedial courses. As mentioned earlier two of the 14 participants tested into college-level courses and one of the 14 delayed taking remediation.

Achievement, according to Tinto (2008), explains that "it is clear that our nation will not be able to close the achievement gap unless we are able to effectively address [all] students' needs" (p. 2), especially their college and career readiness needs in ways that are consistent with supporting participation in higher education and lead to their ability to compete for jobs in the local, national and global workforce. An excellent example of achievement is:

Kerry Simons stated, "So when I started school, I was actually a homeless veteran. And so school was a way for me to have [G.I. Bill] money to obtain housing, to pay my bills and to have something to look forward to. So forth. There was no other option really...for that's how I started to rebuild my life. Yep. The homeless veterans'

program and I didn't even have a job yet, but I knew that I had my G.I. Bill benefits. I did get enough money for that to get my own place and to get on my feet and [I] just focused on school amongst other things....Oh yeah So I would say that going to school for me coming from homelessness has increased my social mobility tremendously.”

A key element in achievement for this study was remediation. Remedial education is described as precollege-level courses and support services provided by postsecondary institutions to help academically underprepared students succeed in college-level courses (Institute of Higher Education, 1998). Chen and Simone (2016) purported that the results of their study backed remediation as a “pathway to readiness for college coursework.” Forthcoming themes on enhancing cognitive skills and improving disability issues incorporated remediation to build core skills. These skills tied remediation and testing into the research results which are presented below as the shared experiences of student veterans.

Regarding cognitive skills – Siskins (2013) suggests that a broader understanding of college and career readiness can lead to a more “full range of capabilities and skills needed to succeed in college” (p. 22). Those who passed remediation and then advanced to college-level courses felt they were actually ready for college-level courses based on what they learned in the corresponding remedial courses. Three student veterans share their experiences:

Samantha said, “I’m not in any math or English right now, but the remedial classes fixed what I didn’t know, like to get to the classes I needed.

Kerry Simons stated, “Oh yeah, absolutely improved. I learned everything that I needed to know for the next course, had I not learned it, I would’ve been behind and possibly failed.”

Lauren Smith commented, “I’m not entirely sure where each and every deficiency

was...math, as a whole, is not a strong suit for me. I'm in the higher up math now [college algebra] and it's making more sense. But I also have a tutor and I'm trying to learn on my own."

Samantha and Kerry Simons described how their cognitive skills grew when they engaged in remedial courses. Laureen Smith experienced improvement as well in her capabilities with remediation but said that she also used tutoring.

Disability was an emerging theme. Two student veteran participants volunteered during their interviews that they had learning disabilities. Oudenhoven (2002) reported that some adult students "may suffer from academic or physical problems" (p. 40). Billy Bob discussed that in childhood, he was diagnosed with (ADHD), Attention Deficit Hyperactivity Disorder (ADHD), which presents in a person as difficulty focusing, over activity, or a behavior control problem. Billy Bob stated, "I had to take math and English remedial courses. I had a lot of trouble with my classes. I have ADHD and I have other learning disabilities, so it takes me longer to learn something than somebody who doesn't."

While serving in the Air Force, Dylan Gene explained that she suffered a severe head injury. A Traumatic Brain Injury (TBI) is an insult to the brain, not of a degenerative or congenital nature, but caused by external physical force that may produce a diminished or altered state of consciousness, which results in an impairment of cognitive abilities or physical functioning (Dictionary.com). According to Dylan Gene, "I have a disability with my head injury, so I had basically completely switched my math, went down and my English went up to the 90s so I had to basically redo some math... Um, yeah, I mean I just noticed that from being really good in math and you know, high school and my first year of college I was actually in Pre-

calculus, not going to school for so long and then my injury I had to take an extra class before I could take college math and so it [TBI] had just changed a lot for me.”

Cantrell (2016) and De La Garza (2016) reported in their studies that learning disabilities are associated with Traumatic Brain Injury (TBI) and Post Traumatic Stress Disorder (PTSD). However, with therapy and supportive services, these student veterans [can] earn grade point averages (GPA’s) at or above those of undiagnosed students.

According to a research study by Ryan (2011) while remediation is beneficial, the researcher relented that many student veterans spend additional time and resources in remedial courses. Hodara, Jaggars and Karp (2016) agreed that “taking one or more remediation courses extends a student’s time and expense in college.” (p. 135). Eleven one-on-one interview participants in this research study completing remedial courses agreed that remediation improved their academic skills and knowledge, but they admitted it added a semester or more to their time frame at the community college. Concerning extended time, John Henry and Kerry Simons shared:

John Henry replied, “I think it was good to get that refresher. It sucks because it kind of Pushed my whole timeframe back a little bit, because it added that extra semester.”

Kerry Simons said, “Um, I actually waited until my second to last semester to take the math because I just didn't know how well [I was] going to do on it. And it actually like delayed me graduating probably a semester or two.”

Research Question Four Readiness With Remediation

Do student veterans believe that placement testing and remediation work in tandem to prepare them for college-level course work at a community college? Research question four category was college readiness with remediation. The themes were preparation and readiness.

They were related to whether placement testing and remediation were aligned and work interdependently. Most student veterans in the study stated in the affirmative for research question four that they believed that the placement test accurately showed their need for remediation and that remediation prepared them for college-level courses. Phipps (1998) posited that remediation develops core academic skills as well as being inclusive of assessment and placement components for evaluating students for college level work. Goldwasser, Martin and Harris (2017) postulated that an issue with placement testing and accuracy of placement in remediation courses was alignment.

Forty percent of participants were unsure if placement test and remediation were well aligned, thus they responded that maybe placement testing and remediation were complementary to each other. However, over 60% of interview participants shared that they believed the two were well aligned because the placement testing correctly assessed their academic level (retention of previously-learned concepts), and they were accurately placed in appropriate remedial courses.

In response to whether or not placement testing and remediation worked in tandem to prepare them for college-level courses, ten one-on-one interview participants responded that remedial courses helped to make them ready for college-level coursework. Examples shared were the following:

Dylan Gene exclaimed, “Oh yeah, absolutely! I mean, they just got the basics down, you know.”

John Henry remarked, “Yeah, it definitely helped me get prepared for that course. That's what I Was saying initially, I was kind of angry about it, but after taking the course and going into 101 [English 101] and I saw how it helped me transition into it.”

Kerry Simons said, “A hundred percent. Yep, I wouldn't be nearly as successful as I am in [college algebra] 108 without a remedial course.”

Minister T stated, “I do. It built my confidence up to give me the courage to go forward With my goal of getting my Associate’s degree.”

Samantha explained, “Yeah...it was an easy transition actually, I’m glad I...had to take the remedial classes it was helpful.”

Thus, nearly all agreed. But, one student shared that he repeated a remedial course and another one who agreed discussed an administrative error with remedial placement. Participants Byron and Bo Michaels shared issues and concerns they faced with remedial placement:

Byron shared, “I think it did accurately place me. I just fell through the system whenever It Came to actually taking the class.”

Bo Michaels explained, “I’m re-taking [it] now it’s an hour a day, four days a week. So it's a lot more spread out, a lot more bite sized chunks to deal with and I feel like it is certainly better than the information overload of the [first] fast pace remedial [math] class.”

Concerning errors in course placement, according to Clayton (2012), Tamar and Lewin (2012) community colleges made mistakes when placing students into both college-level and remedial courses after placement testing. The researchers urge institutions develop better strategies to improve placement accuracy and remediation completion rates.

Outlier Participant Results

One focus group member and three interviewees shared different responses and their answers did not align completely with the interview or research questions. Their responses, however, are important to the effects of placement testing on their academic experiences.

Therefore, while each of them had taken the placement tests like the others, they had dissimilar experiences than their peers in the research study. For example: Focus group member Darnell Brown tested into remedial math but stopped attending the course and withdrew from it after one day. According to Darnell Brown,

It is pretty lame to be placed in like an 8th grade math education [class]. I was in one of the courses [remedial math] for like maybe a day before I switched out because it [I] didn't feel like being in that class. Hmmph, even though I'm still going to have to go back and take it. I didn't feel like doing it. I mean it's strange to you know a decade after I was probably at that math level to still be at that math level. I guess maybe some pride. I didn't feel like being in that class.

Therefore, Darnell delayed taking remediation. By withdrawing from remediation and delaying taking it, Darnell ran the risk of getting bogged down in remediation as stated in research studies by Clayton (2012), Tamar and Lewin (2012) and Esch (2010). However, he did express that he believed that remediation would be beneficial if he gave it a chance. Interviewee James Alexander, like Darnell Brown, delayed taking remediation courses. James Alexander stated, "It'll benefit me in the sense of getting me caught up to speed on a college level, but I haven't taken my remedial courses yet."

While Darnell Brown and James Alexander chose to delay taking remedial courses for different reasons, Dillard Raven and Joe Thompson were placed into college-level courses but had unique experiences.

Dillard Raven said, "I had to take the placement test, although I already had a Bachelor's degree. I thought it was strange to have to take a placement test prior to taking English 101 to see if I could take English 101... I had taken English courses before...in

college it was just labeled different and they [the research site] compare[d] the two and they, I just don't know for whatever reason, said that it wasn't the same.”

Joe Thompson also was placed into college-level courses, but he didn't trust the test. Joe explained, I tested out of a, you know, at the level where I didn't have to take any of the, uh, the remedial classes or anything...even though the school said, I was ready. I kind of didn't want to put myself at a disadvantage. One of the counselors when you're signing up for classes, [said] ‘Oh, you'll be fine, you know, take an algebra class, take 108 [College level Algebra].’ And I said I don't want to do that. I'm going to take a business math class first and then I can move up into that. So yeah, even though the placement tests [said] that I could take a [college-level] class, I took a business math class before I jumped into these algebra classes. So I went from the business math class last semester and into this algebra this semester. It definitely prepared me for this, the more advanced class.

These participants' particular experiences were considered to be outliers in this research study.

Summary of Results

Chapter Four was a presentation of mined data from this phenomenological research study, which investigated the perceptions and implications of placement testing on the remediation of student veterans enrolled at a community college in western Pennsylvania. The purpose of the research study was to deduce their readiness for college-level coursework through analysis of the narratives. Demographic and background data that were used to develop profiles of each participant, 15 male and three female student veterans shared their experiences through responses to support questions embedded in a Qualtrics questionnaire, focus group and interview modalities.

Presentation of data was organized in tables, graphic representations and infused within paragraphs throughout the chapter. Major categories (social context, knowledge retention gap, achievement and readiness with remediation) emerged from the coded data. The analyzed data and related scholarly literature were aligned to answer four research questions, 1) What context or situations do student veterans believe have typically impacted or influenced their experiences with placement testing and remediation at a community college? 2) What implications do student veterans perceive placement testing had on their remediation at a community college? 3) What perceptions do student veterans feel taking remedial courses had on their achievement of readiness for college-level courses at a community college? And 4) Do student veterans believe placement testing and remediation work in tandem to prepare them for college-level course work at a community college?

Based on the combined data analysis for the entire research study, four of 18 participated in a focus group, and 14 of 18 participated in interviews. In the overall study, two of the 18 tested into college-level course, and 16 of the 18 participants needed remediation. The summary of results in this study, were closely compared to research results in studies by Hodara et. al., (2016), Chen and Simone (2016), Tighe et. al., (2015); Clayton, (2012), Tamar and Lewin, (2012) Esch, (2010), and Bettinger and Long (2005): According to Tighe and others, some students are able to make a transition to college and enroll without the need for remediation, but others required at least one remedial course (Kallison, 2017; Morris, 2013; Lane et.al., 2012; Bannier, 2006; Wilson, 2006; Howell, 2001). Participants in this study fell into both categories described by these researchers. Two tested participants were ready to enroll without remediation and 16 needed one or more remedial courses. In a study by Hodara et. al., (2016) students' chances of dropping out of college are increased with the addition of remedial courses to their

major. Two participants in this study dropped out of college and did not reach their goal of graduating. Related to this issue, four researchers discussed in their studies that students enrolled in remedial courses tend to get stuck in the cycle and withdraw or never complete the courses, so they never make it to regular college courses (Clayton, 2012; Tamar & Lewin, 2012; Esch, 2010; Bettinger & Long, 2005). Of the participants in this study affected one withdrew and two are repeating remedial courses.

While remediation results showed that some participants (five) in this study suffered hardships as mentioned above, others benefited such as the participants (11) who stayed-the-course and remained enrolled and finished one or more remedial courses their core academic skills were improved (Bettinger & Long, 2005). According to Chen and Simone (2016) an increased number of remedial students (49%) completed their studies than those who did not (16%). In this study, the result was that, 90% of the participants completed remedial courses than the 10% that did not. It was also important to note here that both studies primarily concentrated on remedial students. However, the sample size of this research study of (18 participants) was vastly smaller than the size of Chen and Simone's research study (of a nationally representative sample of students). The connection made between these two studies was that they showed an increase in remedial completion rates over non-completion rates for students.

Interestingly, the majority of participants in both the focus group (three of four) and one-on-one interviews (11 of 14) shared that they felt more confident about their ability, more acclimated to the college environment, less ambivalent and more comfortable in classes after taking one or more prescribed remedial courses.

In Chapter Five, a brief overview of the chapters is discussed for continuity as follows: Chapter One, introduction of the study; Chapter Two, literature review; Chapter Three,

methodology; and Chapter Four, results and participants common experiences related to selected the literature. After the overview of the first four chapters, the primary drive of Chapter Five is the theoretical and supporting frameworks from the literature review that were used for the discussion of the findings in relationship to their importance to the student veteran population of this study. Additionally, Chapter Five includes a description of the implications for practice, recommendations for future research and summary remarks to close the research study.

CHAPTER 5

CONCLUSION AND RECOMMENDATIONS

Higher education stakeholders expect students to come to college ready for college-level courses without needing remediation (ACT, 2015; Siskin, 2013; College Board Address, 2010; Conley, 2007; Grubb & Associates, 1999). Phipps (1998) argued that remediation will remain as a “core function of colleges” especially community colleges where “100%” of entering students needed remediation. Chapter Five covers an overview of this study on college readiness and discussion of the findings are connected to the theories that frame it. Overarching theoretical frameworks were Glass’ Social Historical Theory and Anderson-Levitt’s World Culture Theory. Supporting frameworks, specific to adult learners were Arnold et. al., Ecology of College Readiness, Mezirow’s Transformative Learning, Schlossberg’s Theory of Adult Transitions and Padilla’s General Model of Student Success, which were introduced in Chapter Two are reintroduced in detail here in Chapter Five.

The purpose of this qualitative phenomenological study was to explore student veterans’ unique experiences with college placement testing and remediation to determine the implications of their readiness for college-level coursework from the findings. This research study investigated the processes of placement testing and remediation, and whether they impeded or improved student veterans’ matriculation into college-level courses. Both male and female student veterans who have taken one or more placement tests and remediation were interviewed. A thorough analysis of the narratives of their experiences formed the essence of this research project via examining the relationship between placement assessment and remediation. The premise being that understanding the interdependence between these two factors may subsequently improve student veterans’ overall college success.

Decades of confusion have plagued institutions when dealing with students' college readiness. Even now, higher education stakeholders continue to struggle with how to help students become more college-ready without using remediation. However, fewer and fewer students entering their institutions were prepared to handle college-level courses. Phipps (1998) in his study on college remediation explained that every college student throughout the history of American education has entered college lacking core skills for college-level courses. These students often sought help through tutoring to prepare for college-level coursework. He concluded that tutoring assistance adequately prepared students to take college-level courses, and tutoring has been an integral part of the American education system since the mid-1700s. This situation of tutoring in preparation for college level courses morphed when higher education institutions experienced influxes of under-prepared students, due in part, to policies that widened educational access to primarily veterans, some women, and even fewer African Americans (Altschuler & Blumin, 2009, p. 86). Managing the exponential need for tutoring paved the way for a system of tutoring in mass at institutions across the nation. The transition from tutoring to remediation courses occurred when tutoring was needed on a large scale, serving a multitude of students needing tutoring for college readiness.

However, the causal effects on students' outcomes were virtually invisible (Bettinger & Long, 2005). In the late twentieth century, specific studies like NCEE (1983) and Bell (1986) evaluated educational proficiencies and researchers reported that assessments pointed to a critical need for remediation. In these studies, some 75% to 80% of Americans pursuing a college education needed help to be completely ready to take on first year college courses (Zeitlin & Markus, 1996; U.S. Dept. of Ed, 1993). Thus, the term college readiness was coined.

College readiness was defined as cognitive proficiency in first-year core academic skills at college equivalency without remediation (ACT, 2015; Conley, 2007; Grubb & Associates, 1999). This ideology of readiness without remediation did not abide with national assessments (i.e. Scholastic achievement tests, American college testing) and college placement tests. Results of each of these organizations estimated that high percentages of students were unprepared. Regardless, Complete College America (2012) reported that nationally at least 50% of entering community college students would be placed into remedial courses, and fewer than 10% would make it to the degree. As a result, “Preparing students for college and career—without remediation—became the new reform agenda” (p. 12). The results of this study indicated that remediation was significant to readiness for college-level courses.

The problem raised by the reform agenda was finding a resolution to college readiness without depending on remediation to ameliorate academic deficiencies. However, this would be difficult to do because the need for remediation was strongly argued or implied in the research through reports that the vast majority of students’ assessments and placement tests showed that they needed remediation. Remediation became too important to mitigate issues with college readiness. Remediation presented complications. A study by Hodara, Jaggars and Karp (2016) stated, “Taking one or more remediation courses extends a student’s time and expense in college, which increases the chances of their dropping out instead of completing their degree” (p. 135). A few years earlier the same researchers pointed to issues with both placement testing and remediation when they stated that “most colleges adopted a measured approach that addressed a single limitation without attending to other limitations that contributed to the same overall problem of inconsistent standards in placement testing and remediation (Hodara et al, 2016, p. 135). Placement testing was an added problem along with remediation. These problems have

been identified in the literature as key barriers affecting students' matriculation to college readiness. The following research questions guided this study:

- 1) What context or situation do student veterans believe have typically impacted or influenced their experiences with placement testing and remediation at a community college?
- 2) What implications do student veterans perceive placement testing had on their remediation at a community college?
- 3) What perceptions do student veterans feel taking remedial courses had on their achievement of readiness for college-level courses at community college?
- 4) Do student veterans believe placement testing and remediation work in tandem to prepare them for college-level coursework at a community college?

Research Approach

This study was a phenomenological approach to college readiness research. Phenomenology has roots in philosophy and psychology. Creswell (2007) stated that "phenomenology provides a deep understanding of a phenomenon as experienced by several individuals" (p. 62). Leedy and Ormrod (2010) added that, "a phenomenological study tries to answer the question, 'What is it like to experience such-and-such.... By looking at multiple perspectives on the same situation, the researcher can then make some generalization of what something is like from an insider's perspective'" (p. 141). For this phenomenological approach, the researcher synthesized several theoretical frameworks.

Theoretical Frameworks

Theoretical frameworks provide archetypes for meanings implied in the research questions and their broader context. For example, Anderson-Levitt's (2003) World Culture

Theory of Education and Glass' (1989) Social Historical Research Theory are big picture perspectives that frame the driving forces of educational behaviors and macro-educational structures explored in this study. Mezirow's (1996, 2000) Transformative Learning Theory, Schlossberg's (1984, 1995) Theory of Adult Transitions, Arnold, Lu and Armstrong's (2012) Ecology of College Readiness and Padilla's (2009a) General Expertise Model of Student Success were also used as interpretive frameworks for the study.

World culture theory (Anderson-Levitt, 2003) explains the driving beliefs and behaviors behind higher education which is the need to compete in a Western schooling and knowledge-based society and world. This theory suggested that the student must augment or acquire needed education and skills to find a place in the current, globally competitive job market (Anderson-Levitt, 2003). As it relates to this study, this concept suggests that the student veteran acquires post-secondary education in an effort to succeed competitively in the global job market.

The Social Historical Research theory facilitated a broader understanding of the origin and evolution of educational structures, human behaviors, and thoughts of students' experiences in the past, but currently informs their present beliefs and behaviors (Berg & Lune, 2012). For example, the historical theory helps us understand why money is not a significant issue for student veterans in this study because of the origins, goals, and consequences of the 1944 G.I. Bill legislation was designed to cover or at least provide supplemental funds for educational expenses.

Four theories were identified that specifically applied to adult learners and inferred a connection to issues relatable to the subgroup of student veterans, who were the sample population for this study. Participants' experiences comingled with aspects of each of the theories, serving as lenses to filter the responses as they aligned with the appropriate research

questions. Therefore, data and each research question were married to an articulating theory.

Table 23 is a brief overview of the relationship between the research questions and the archetypes found in the theoretical frameworks.

Table 23

Research Question and Framework Alignments

Research Question	Theorist	Theoretical Framework	Archetypes
Higher Education	Anderson-Levitt	World Culture	Pressure to be educated to compete globally
Educational Structures	Glass	Social Historical	Evolution through understanding history
RQ1: Context-Military Frame of Reference	Arnold, Lu and Armstrong	Ecology of College Readiness	Sense of meaning and interpretation of circumstances
RQ2: Impact or implications	Mezirow	Transformative Learning	Degree of transition toward goals
RQ3: Achievement	Schlossberg	Adult Transitions	Intermingling of student and educational environment
RQ4: Influential Dynamics	Padilla	General Model of Student Success	Overcoming barriers

Research Question One Mezirow (1996, 2009)

What context or situation did student veterans believe previously impacted or influenced their experiences with placement testing and remediation at a community college? This question is related closely to Mezirow's (1996, 2009) Transformative Learning Theory. This theory aided in focusing on how adult learners made sense of "meaning" in their experiences and how this meaning assisted in the "interpretation and explanation" of circumstances in their lives. The theory sought to explain the ways adults structured and interpreted experiences to determine by which perspective or frame of reference they used to view their learning and were changed or transformed (Mezirow, 1991).

For this research study, Transformative Learning Theory was utilized to understand how the military influenced student veterans' sense of meaning about college. The research question and Mezirow's theory were similar in how they sought the same information: contextualization of meaning in experiences. The meanings that surfaced were based on the sum total of the student veterans' military experiences, their affected perceptions of college, and the placement testing and remediation process. Concerning making meaning from the context of their experiences, the majority (15 of 18) of participants in the study shared that college was not in their purview until after enlistment in the military. Mezirow's theory of transformative learning connects here to students making meaning from their frame of reference, which in this case, were their military experiences and the thought that they should consider going to college. They were transitioning from a military career to academia to prepare for a career in the civilian world.

The participants (15 of 18) shared their common experiences of how they came to be in community college after serving in the military. Prior to joining the military, college was not in their plans. They acquired a "frame of reference" from their military experience that influenced

their decision to enroll in college and to pursue an education (Mezirow, 1991). Therefore, serving in the military was the primary context through which they created meaning, made their decision to pursue college and filtered their future academic experiences.

The majority of participants in this study (three of four focus group members and 12 of 14 one-on-one interviewees) shared that they experienced feelings of anxiety or nervousness when taking their placement tests. They related feeling shock or humility after receiving test results and learning that they would, in fact, need one or more remedial courses before admittance into college-level courses. Mezirow (2009) stated that perception is related to making meaning: “Memory is intimately related to perception and learning. ...Remembering involves the reconstruction of past events” (p. 10). In their interviews, participants discussed believing they were not college material, feeling that they did not do their best in high school, or that maybe they had not learned the material. The focus group members (three of four) and one-on-one interview participants (100%) referenced having trouble remembering what they learned after many years away from an educational environment, thus they struggled to answer placement test questions correctly.

Based on Mezirow’s (1996, 2009) theory, their perceptions about learning and trouble remembering material or concepts affected their ability to reconstruct past learning and apply it when needed. In the HERI study researchers indicated that veterans coming out of the military, when taking assessments, resulted in a high percentage of them needed remediation (2016). Participants (100% of focus group members and 86% of interviewees) described perceptions of having certain feelings regarding the results of their placement tests and coping with the realization that they placed into remedial courses. A predominant number of participants said that they did well in their remedial courses. Going into remedial courses, they called upon their

“meaning perspectives” derived from the military to adapt to the remedial environment and to help them learn new information or refresh forgotten skills.

Mezirow (2009) posited that “learning means using a meaning that we have already made to guide the way we think, act or feel about what we are currently experiencing” (p. 11). These participants were using their former military skills and socialization. However, Mezirow also described what can happen when an adult learner makes meaning from a frame of reference but is unclear in their use of the interpretation. Mezirow (2009) suggested that “Normally, when we learn something, we attribute an old meaning to a new experience” (p. 11). Two participants (Dylan Gene and Bo Michaels) experienced this phenomenon. They shared being unclear on their interpretation of the meaning they created about past learning in a remedial course. Therefore, they experienced a negative result in their courses and ended up repeating them.

Reasons that Dylan Gene and Bo Michaels cited for difficulties with the courses were pace of the class, the number of times classes met per week, and the importance of the instructors to successfully completing the course. Both students discussed having trouble keeping up with the course load. For instance, Bo Michaels explained that this was an issue when his classes met once or twice per-week for two to three hours verses four times per week for 50 minutes. Both Dylan Gene and Bo Michaels shared that the slower paced classes worked better for keeping up with assignments and learning the material. Dylan Gene and Bo Michaels are repeating their remedial courses but with a revised interpretation.

In regard to Mezirow’s (2009) explanation on a misinterpreted meaning of a previous experience affecting learning, Dylan Gene thought she was ready for the next level of remedial math because of her experience in the first level. However, she did not take into consideration the pace and shorter timeframe of the course. Due to this misinterpretation, she admitted that she

did not do well in the class. She used her updated frame of reference, adjusted her “meaning perspective,” and plans to retake the remedial math in a regular semester—where the material is taught at a slower pace in a longer period—instead of a fast-paced summer semester. Bo Michaels was in the process of retaking his remedial course at the time of his interview. He discussed that he feels this second time will be better with the course material presented more slowly in smaller class increments. In the transformative learning theory, Mezirow (2009) calls this adjustment of meaning a reinterpretation of prior learning (p. 11).

Research Question Two Schlossberg (1995)

What implications do student veterans perceive placement testing had on their remediation at a community college? This research question is guided by Schlossberg’s (1995) Theory of Adult Transitions because it assists the researcher in understanding the common perspectives of the “diverse and heterogeneous group labeled adult learners” (Schlossberg, et. al., 1989). Schlossberg and her associates categorize adult learners by varying degrees of transition experienced through the academic process. She labeled these transitions “moving in,” “moving through,” and “moving out,” but defined them through the common experiences of adult learners returning to college. For the purpose of this research question, Schlossberg’s theory applied to student veterans’ perceptions of their progression through placement testing and remedial courses to college-level courses. Horn (1996) defined that student veterans were a subgroup of the adult learner or nontraditional student population. They faced challenges that threatened and influenced their academic journey but were under-represented in the research. As an under-represented subgroup, student veterans were a plausible sample population for this study.

Research question two and Schlossberg’s theory connected as a principle for explaining their shared perceptions. According to Schlossberg and colleagues (1989), each adult learner is

different in major ways but has common experiences in their return to college. Similarly, student veterans are a diverse subgroup, but by virtue of their military experience they have some commonality within their academic views on placement testing and remediation that emerged in this research study. For example, participants in both the focus group (two of four) and one-on-one interviews (eight of 14) stated or made an inference that prior to the placement tests, they believed that they would test well enough to not need remediation. After receiving their test results, they felt shocked even though the results indicated that they would need remediation. Time away from an academic setting was a key element believed to have negatively affected their performance on the placement tests.

Once in remedial courses, a large majority of research participants expressed feeling socially displaced. Schlossberg and others described this sense of displacement as the first tenant of the theory called “moving in.” In this phase, adult learners are seeing themselves differently than they would in a nonacademic environment, such as a career. They are trying to figure out how to navigate their new academic setting. For example, participants expressed feeling extremely uncomfortable with being older in college at their age with “students just out of high school or younger students.” Responses like these suggested that student veterans saw themselves as if they were too old and for most developmentally-behind because of being in classes as adult learners. Feelings like these were especially true of those in remedial courses.

However, their perceptions about remediation changed upon experiencing the actual classes. As they began to learn new material, they saw the value of it as pertinent to becoming college-ready, which outweighed their concerns about age and feelings of ambivalence. They also realized that other older students were in their classes which gave them a sense that taking classes at an older age was not abnormal. Participants went from feeling apprehensive to valuing

the material they were learning. They saw its benefits to college readiness and the prevalence of adult learners in their classes. Student veterans began to figure out how to manage their emotions in learning situations. Schlossberg argued that the adult learners who resolved “issues” with balancing their academic and personal lives had accomplished the second phase of her theory, which is “moving through” their academic setting.

A preponderance of this was explained by the participants: the instructors’ grasp of the material, the ability to convey concepts and was significant to their acquisition of core skills to remove deficiencies and becoming successful in both remedial and college-level courses. Yet, the negative impact of instructors was just as powerful as the positive effect. The participants considered this especially true when the teaching styles of the teachers did not match the learning styles of the student veterans’. For instance, one participant stated that the instructors with a military background, who utilized a military-type, step-by-step process, were more successful because the veteran student was already acquainted with this style. The major implication was that instructors played a critical role in the academic success of the student veterans at the community college.

Lastly, most participants thought that the concepts on the assessment tests were closely relatable to those concepts taught in the remedial courses. Therefore, most of the student veterans in the study agreed that their academic skills improved through remediation. Schlossberg’s theory would classify this group of students as those who “moved out” of an academic situation. According to Schlossberg, learners “moving out” can be seen as ending one series of transitions and beginning to ask what comes next. Although a small group of student veterans had failed remedial courses and remained in the “moving through” phase, they agreed their courses were helpful. Schlossberg and her associates aided in understanding the various levels of adult

learners' common experiences. The major implication here is that student veterans as adult learners experience common perspectives throughout their academic career.

Research Question Three Arnold et. al., (2012)

What perceptions do student veterans feel taking remedial courses had on their achievement of readiness for college-level courses at community college? Arnold, Lu, and Armstrong's (2012), *Ecology of College Readiness* refers to the "Ecological view of college readiness" (p. 91). This theory aids in understanding the ecology of the individual student based on aspects that are unique, that they use to achieve readiness (p. 94), in the case of this study it would be readiness for college-level courses. For Arnold and associates, "College readiness comes down to the individuals experience in his or her overlapping immediate environment" (p. 96). The immediate environments in research question three are the remedial class setting and the community college.

The theory proposed that, "College readiness refers to a student's capacity to enroll at a postsecondary institution in courses and persist to his or her educational goal" (Arnold et. al., 2012, p. 1). The educational goal, as it relates to this study and research question, was to succeed at remedial courses and become ready for college-level courses. For a student to accomplish this goal, the theorists refer to environment as an important component. The ecology (or environment) of the individual student also refers to the larger academic environment, both of which are "inseparably intertwined." Therefore, this produces a complementary effect whereby the student affects the larger academic environment and the environment conversely affects the student. This effect is considered to be the evolution of a student's understanding of his or her social and academic worldview (Arnold et. al., 2012) which is their ecology. It suggests that the student's effect on the environment is also the student's evolution of understanding within the

environment. This concept pertains to not only remediation but the larger college experience. For instance, Roscoe Jenkins spoke of experiencing a “crash course in social skills” when he began taking courses because “there was a mix of all ages” of students.

Regarding remediation from the literature and a result of this research study was that remediation was a barrier to college-level courses, thereby a barrier to college readiness. For example, following placement testing, participants’ low scores relegated them to the plan of taking remedial classes and meeting the research institution’s (i.e. community colleges) grade requirement of a “C” or better—means that the remedial student was ready for the next sequence of remediation or they were ready for actual entrance into regular college classes by virtue of that they had achieved readiness for college-level courses.

Arnold et al., and associates (2012) suggested that upon entering a new environment, the student encounters barriers. Students overcome these new barriers by the evolution of their attitude and effort. In the case of this study, the barrier for participants was remediation. Based on the analysis of the research student veterans utilized familiar military experiences/social structures to create a bridge, or means of adapting, to their new academic and campus social environments.

Table 24 is an example of the participants’ responses, both of the focus group and of the 14 one-on-one interviewees, sharing that their military experiences aided their evolution into the college environment and helped them achieve reaching college-level courses. The analysis of results provided a synthesis of participants’ perceptions of their transferable skills such as commitment to the mission, discipline and maturity, team work and following commands. From these skills participants were able to create a pathway to academic success in their remedial courses.

Table 24

Military Experience Adapted to Achieving Readiness

Military Experience	Achieving Readiness
Commitment to the Mission	College: acclimating to the academic environment and passing classes
Discipline/Maturity	Hard work: coursework requires a lot of time and commitment similar to the military which is a 24-7 job.
Teamwork	Camaraderie: seeking the help of other veterans in class to accomplish learning. Also, helping and encouraging other student veterans to succeed in class.
Commands	Follow instructions: understanding the syllabus, attending lectures, completing assignments, communicating with students and instructors for clarity on assignments.

Arnold et. al., (2012) proposed a way to evaluate a student’s college readiness which she calls content knowledge that can be applied to the research question (achievement of college-readiness through remediation). According to Arnold and her associates, the college-ready student possesses a set of content knowledge (military frame of reference), academic strategies, skills (i.e. remediation courses), disposition, psychosocial skills (i.e. motivation) and tolerance (p. 94). College readiness comes down to the individual’s experience in his or her overlapping immediate environment (p. 96).

For example, Joey Costa spoke about the study and testing taking skills he learned in his remedial reading course that were in addition to improving his reading skills. Oudenhoven (2002) reviewed research studies by Adelman (1996) and McCabe (2000) and concluded that “the catalyst to successful transition out of remediation and leading to improvement of chances for completing a degree appeared to lie in students developing strong foundations in reading” (pp. 35-44).

Joey Costa stated that, “It was a reading class I remember. ...It really did ah help prepare me...it give me the materials I needed, gave me the know how I needed to do things such as take down notes, study, [and] study for tests.”

John Henry remembered that the instructor in his remedial English course seemed to understand that he and the students in that class needed to grasp the remedial concepts to be ready for the college-level English course:

John Henry explained that, “The instructor knew it was like a remedial course, so she Really tried to make sure that we understood what was going on and getting us prepared for [English 101].”

Concerning the college environment, 100% of focus group members and more than 70% of one-on-one interview participants were ambivalent about being in college. The data indicated that when students felt uncomfortable in the new college environment and remedial courses, they sought other veteran students to create a familiar social group. This familiar group helped them gain support and to integrate into the college environment. Building this bridge and developing camaraderie was best illustrated by Billy Bob:

In the military, you rely on what we call “battle buddies” to watch your back. When you're in the field, you watch his back, he watches your back. You can use that same

sense...in college because you have other veterans around and it doesn't even matter what branch of service you were in: marines, air force, army guys. And it's kind of nice to talk to them, find out, you know, where they are struggling at, compared to what we did in the service, and we can help each other out. So it's like having a battle buddy. You watch my back; I'll watch your back.

Billy Bob spoke of the familiar camaraderie he felt around other veterans. This camaraderie-bridge served as a familiar and comfortable place to gain confidence, support, and help with integration into the community college environment. Student guidance occurs when a more experienced student veteran provides new environmental information to aid a newer student veteran. Darnell Brown stated:

I started school, up here, a week after I got out of active duty, and it felt like I'd landed on another planet. So it was really kind of nice to interact with people, because...it gave me a sense of what ...was familiar... to me and ... point me in the right direction and help me understand my surroundings a little bit more.

Darnell Brown benefited from other more experienced students by gaining added confidence, familiarity, and new information that aided him in his integration and understanding of the new environment. Socially adjusting encapsulated camaraderie, advice, and guidance, but it mainly provided emotional support and social belonging to the new student veteran.

More experienced students rallied around newer students, providing them with a familiar social context as a base of operations for jumping off into an unfamiliar environment. This camaraderie provides the new student with confidence to overcome barriers and to persevere through the difficulties of social adjustment. Joey Costa illustrated this in the following comment:

For me, at first, whenever I first started coming here, I had trouble as far as like just ... talking to other people, being more social with normal everyday civilians. So whenever I'm [with] other veterans starting in my classes, start talking to them and they helped me become more social of a person and opened up as a person completely. And that actually ... started opening up the flood gates to ... absorbing more knowledge and going ahead and learning how to get these skill sets, but also learning how to be a better person and more well-rounded as a person.

Camaraderie was illustrated whereby familiar military social structures can have a profound effect on a person entering a new environment. In the case of Joey Costa and Darnell Brown, fellow veterans aided their entrance into a new educational context and overcoming barriers associated with encountering additional complexities of new experiences. Social familiarity provided the basis for the additional academic and social growth of the veteran. This new veteran reciprocity then added to the overall educational ecology, creating less complexity to the system. This transformation can be interpreted as the evolution of the new student veteran. The significance that this adds to this study is the importance of social structures through new knowledge for the success of veterans which adds additional support for the next student veteran.

Research Question Four Padilla (2009a)

Do student veterans believe placement testing and remediation work in tandem to prepare them for college-level course work at a community college? Padilla's (2009a) General Model of Student Success (GMSS) was chosen and used here with research question four for its focus on the influential dynamics of overcoming academic and college social barriers operating in a student's academic journey to college readiness (pp. 21, 22, 24, 26). Padilla's model and

research question four are used to identify skills, and attributes, of student veterans that were used successfully during placement testing and remediation.

Padilla described four assumptions for his model. Assumption one was acknowledgment that there are two types of students and for unknown reasons there are those who complete their academic studies and graduate and those who do not complete their academic studies and do not graduate (2009a, p. 21). Of the 18 participants in this study three of four focus group members were still enrolled and one graduated, and two of the 14 one-on-one interviewees dropped out of college, and one graduated. The remaining 11 were still enrolled.

Assumption two was that some students' experience barriers, which he called barriers to scale (campus size) and geography (i.e. academic and social), still other students "face background and prior experience" barriers in their matriculation process. Thus, all students experience barriers (p. 22). Concerning campus size, at some point throughout the study all focus group and 13 of the one-on-one interview participants discussed intentionally choosing the community college research site primarily because of its economic cost, class sizes and they were not ready for a four-year institution.

Assumption three was "expertise at being students." The expert student used two forms of knowledge (informal and formal), which were employed to overcome barriers to academic success. According to Padilla (2009a), informal knowledge was heuristic meaning that it was acquired or discovered by the student as they experienced college life, the campus and student body. On the other hand, formal knowledge was intentionally learned "in the classroom, library or laboratory through readings, lectures, demonstrations or exercises, etcetera" (p. 24). Concerning both types of knowledge, Padilla (2009a) posited that, Heuristic knowledge must be acquired in large volume early in the program of study. As the student progresses toward

graduation, the amount of heuristic knowledge needed tapers off while the amount of academic knowledge is needed for continued success (p. 26). For the purpose of this study, all participants were growing in heuristic knowledge through their experiences. Academic knowledge or success was their progression through remediation toward college-level courses. Therefore, all participants in study experienced both informal (heuristic) and formal (academic) knowledge to overcome barriers. The first example was that placement testing was a gatekeeper barrier for all 18 participants particularly for the two needing to register for college-level courses because they had to placement test into college-level courses before being allowed to register. The second example was that taking remedial courses was a barrier for the 16 participants, the four focus group members and the 12 one-one-one interviewees.

Assumption four was Padilla's concept of conation. It was important for research question four because it focused on the students "will or action" in their academic journey in connection to their proper application of heuristic (informal) knowledge (2009a, p. 26). Conation is the "part of mental life having to do with striving, including desire and volition" (dictionary.com). Padilla's concept of conation is important to research question four, because it relates to the student veterans first encounter with college through placement testing and remediation. Many participants (three of four focus group members and 12 of 14 one-on-one interviewees) agreed that the placement test and remediation worked well together to prepare them for college-level courses. All participants of both groups successfully completed the assessment and 11 of 14 participants finished the remediation process.

Padilla's (2009a) notion of conation (will or action) assisted the researcher in understanding why participants succeeded or failed in their remediation goals. Therefore, there were implicit and explicit inferences from the research, these were: heuristic knowledge which is

informal and experiential knowledge outside the classroom; social structures, such as the camaraderie; military character which was developed through military experience; importance of instructors who were capable of relating to military learning styles; and positive meaning that encapsulates recognizing value in the assessment and remediation process.

Consequently, Padilla's (2009a) four assumptions provides a method for understanding college readiness, overcoming barriers of scale and physical geography (social and academic) and the qualities: informal knowledge, academic knowledge, social structures, military character, instructors and positive meaning that played an important role in the student veterans' academic journey through the placement testing and remediation process.

Summary of Frameworks

As stated earlier in the introduction of this chapter, frameworks provided archetypes for understanding the research. World Culture Theory of Education and Social Historical Theory were the foundational theories and the functional theories: Arnold, Lu and Armstrong's Ecology of College Readiness, Mezirow's, Transformative Learning, Schlosberg's Adult Transitions, and Padilla's General Model of Student Success were used to draw a picture of academic life for student veterans as the subgroup of adult learners and focal sample population for this study.

The World Culture Theory of Education helps us understand that pressure to be educated and ready with the knowledge gained and technological skill to complete any where in the world. Social Historical Theory helped encapsulate the study in history to aid a deeper understanding of the college readiness topic researched while providing a reliable theory and context for building upon past research and connecting the results of this study to the literature and other related theories.

Arnold Lu and Armstrong's (2012) Ecology of College Readiness was central to gaining clarity on the reciprocal evolution of the student and academic environment. In other words, how the student and the academic environment are relevant to the student achieving academic goals. Mezirow's (1996, 2009) Transformative was how the student veterans made sense of their military frame of reference to contextualize and develop an interpretation of who they are in their new academic circumstances, which helped them as college students. Schlossberg's (1995) Theory of Adult Transitions described in this study the degree to which an adult learner (student veteran) was impacted as they moved into, through, and out of higher education. In this study, regarding moving into college through taking the placement testing, moving through remediation or becoming stuck in remediation or moving out of remediation into college-level courses.

Lastly, Padilla's (2009a) General Model of Student Success was integral to the analysis of benefits and limitations both internal and external and the level of will a student needed to succeed in academia. In the relationship to this study, Padilla's model was a form of SWOT analysis for the student to use to evaluate and create a plan. Also, it might be considered a way for an institution to evaluate a student veterans strengths, weakness, opportunities and threats as it is related to academic planning, which could become their academic plan of action for success in school.

Discussion of Findings

In this study, placement testing, as far as being a tool to determine if a student should be in regular college courses or in remedial courses, worked to assess college proficiency or deficiency. Also, the alignment of placement testing and remediation working together to prepare participant for college-level courses resulted in the affirmative. Therefore, an overarching conclusion of this study was that taking remediation courses was productive for student veterans'

preparation for college-level coursework. However, other issues embedded in remediation were found: the policies governing treatment of remedial course-credit calculations, non-qualifying credit toward a student's completion of a college credential and adding time to reaching college-level courses. These factors caused some participants to be discouraged and impede their ability to succeed at the community college.

Another factor implicit in the research study was that some participants shared differences in their feelings about the stigma of being in remedial courses. This stigma seemed to be due to remediation curriculum being separated from regular curriculum and having its own terminology and series of courses. Words like remedial and remediation created an impression with participants, which they shared, caused them to question whether they were college material or not. Consequently, relationships with instructors were rated important to student veterans in terms of teaching styles versus student's learning styles. A few student veterans discussed learning styles in the military and struggling to adapt that to learning from instructors with varying teaching styles. Others reported that they connected well with professors, especially when the remedial courses were not fast-paced and included a preview of some course material that prepared them for what would be taught in the college-level course.

In the 20th century, some reforms were calling for college readiness without remediation. Phipps (1998) purported that remediation is not expected to go away but rather will continue to increase with more students coming to colleges less ready for the coursework. Remediation procedures have been implemented at the community college in this study and provided valuable assistance to students' success. Removing the stigma associated with remediation might include blending it into course curriculum or revising it to be more like a tutoring-based course. Chen and Simone (2016) support remediation as a "pathway" to college-level coursework.

Based on the combined results of the Qualtrics questionnaire, interviews, and focus group, research data was reported on eighteen participants of the study. Common experiences were that all participants were engaged in the research site's placement tests, which indicated that two of the 18 student veterans tested into college-level courses and 16 of the 18 participants needed remediation.

Social context had an impact on student veterans feeling ambivalent about returning to college as an older student. For those who required remediation, they shared having been away from an academic setting for several years. The elapsed time away from school resulted in a knowledge gap, which meant that they did not remember enough of the core academic concepts to succeed in college-level courses. Eleven of the 16 participants agreed that they benefited from what they consistently called a "refresher" referring to remedial courses. Thus, their core skills were enhanced through remediation, and they were able to take college-level courses.

One student veteran withdrew from remediation, which was cited in the literature as a result of remediation. A second student veteran delayed enrollment in remediation. In both cases, researchers purported that delays can cause a student to become stuck in the remedial cycle. For those who remained in remedial courses, they discussed coming to the realization that the courses were beneficial once they adjusted to being in class with younger peers and the stigma associated with remediation. While remediation was just one course for some student veterans and two or more courses for others, the participants often shared that they felt more confident and would succeed in their regular courses and ultimately college.

A student veteran shared that he went on to continue his academic career and recently completed a doctorate. Others have decided to go on to four-year institutions. At least three participants were completing course work for their Associates' degrees during the research

study. They planned to move onto work in their chosen fields of study. Those participants who remained in remediation at the research site advanced into college-level courses. They shared that they were confident in their skills and believed that they would not have been successful in those courses. More than 80% of all participants (focus group and one-on-one interviewees) believed that placement testing and remediation worked together to prepare them for college-level courses. Fewer than 28% percent of all participants were unsure whether the placement testing and remediation worked together or not. Of those who tested into college-level courses, only one student veteran did not trust the test and used another college-level introductory course to prepare for college-level courses.

What is noteworthy to mention here is that the results of this study mirrored the data on remediation of students from Chen and Simone (2016) study cited in the review of literature. Testing was used to determine placement in college courses, and remediation for most of the participants; this combination added more time and cost to a student's educational pursuit (Adams, 2010). Placement testing had no upfront cost to participants. However, the resulting, additional coursework added to the cost of tuition, fees and effected credit mobility. Added cost was true for all participants in the study, including those who tested into college-level courses. For example, a student veteran who had a course at a four-year institution suffered a credit mobility issue when testing was required instead of the course being transferred.

The cost to those in this study added more than one hundred dollars to several hundred dollars to their cost of education including taking remediation. While the G.I. Bill covered educational expenses, the cost to them was the reduction of time, which was deducted from their G.I. Bill eligibility.

Implications of Results

There are five implications from this research study. First, 100% of the participants stated that the placement test did accurately determine their deficiencies or readiness for college-level courses. From the perspective of the participants within the framework of this study, the placement test was an effective measurement of their academic skill level. This means that educators can have confidence in the reliability of the test results and can move forward to build remediation strategies that assist students in achieving readiness for college-level courses.

Second, 100% of focus group members and 86% of one-on-one interview participants responded in the affirmative that remedial classes did address their academic deficiencies. This means that remedial courses were effective in consistently reducing participants' academic deficiencies and, conversely, strengthening core skills toward college readiness. Therefore, remediation can provide predictable outcomes that lend well to assisting higher education stakeholders and faculty with remedial curriculum development.

Third, heuristic knowledge is a form of knowledge whereby a student discovers or informally learns non-academic skills necessary for college success while being immersed in their new college environment. According to 15 of the 18 participants in this study who did not attend college before serving in the military, gaining heuristic knowledge within an academic social structure was very important to their inculturation and success in matriculating to college-level courses. This suggests that informal learning of college social skills is equally as important as formal academic learning for the participants.

Fourth, all student veterans in this study discussed that they used their military experiences to persevere or overcome obstacles in college. This implication can be important to institutions to create social structures that foster the translation of military experiences into

applicable collegial skills. An example would be a veteran student mentoring program where more experienced student veterans would model or mentor newer student veterans on how to translate military experiences into skills for academic success.

Fifth, participants (16 of 18) who placed into remediation shared having misconceptions of their level of academic attainment with their level of intelligence. Placement testing is a measure of attained academic skills rather than a measure of intelligence (IQ) or ability to learn. Remediation courses are intended to build, refresh or enhance academic skills rather than unintentionally causing a student veteran to label themselves with negative connotations, such as “slow” or “dumb”. Therefore, clarifying the placement testing and remediation purpose and process can improve students’ understanding of the institution’s goals and objectives for placement testing and remediation as well as aid student veterans in fostering positive perceptions of themselves. An institution is encouraged to assist students in navigating its systems (i.e., admissions and developmental studies) by providing clarity and adding accurate and positive meaning to the overall testing and remediation process. Concerning this process, institutions can help mitigate confusion and negative connotations concerning placement testing and remediation by ensuring that student veterans will not be misinformed.

Recommendations for Practice

Based upon the previously discussed implications, we know that placement testing and remediation are affective for reaching college-level courses, heuristic learning is integral to college readiness, prior military experience was beneficial in overcoming some academic challenges, and institutions were urged to address misconceptions concerning placement testing and remediation purpose, policies and guidelines. A recommendation for practice to address these implications can be for higher education institutions to take a holistic approach. The

approach would integrate student developmental studies with remedial academic courses. This would entail the practical application of study skills with academic learning topics that encapsulate the listed implications. It can provide an opportunity for practical application of study skills while engaged in remedial courses. Also, within this approach, there could be a focus on reversing any confusion student veterans may have regarding the institution's expectations and benchmarks for college readiness, placement testing and remediation.

Additionally, another recommendation for practice that arose from this research study was based on student veterans' view of age and their ambivalence to being in class with younger peers. Participants in both individual interviews and the focus group inferred a sense of displacement and un-comfortability in remedial courses. However, these same student veterans shared that they were more comfortable in smaller classes with students more their age, especially when other student veterans were present. Therefore, it may be more beneficial to retention and success in remedial courses to create course sections with intentionally smaller class sizes below the institutions average or normal class for student veterans and adult learners age 25 or older.

A further perception from participants in the study was the lack of consensus as to whether placement testing and remediation were mandatory or voluntary. A majority (nearly 100%) thought placement testing was mandatory. Some (more than 50%) thought remediation was mandatory, and others (just under 50%) thought it was voluntary. Since the participants were tested at the same research site, and there was a lack of consensus, these differing responses strongly suggested that the rules surrounding placement testing and remediation require clarification to minimize or eliminate confusion. A recommendation for practice is to develop and implement a more comprehensive orientation curriculum for those scheduled for placement

testing that would provide specific information on the rules and guidelines for both placement testing and remediation, so that students would be better informed, understand the options and have an opportunity to ask question concerning their choices and responsibilities prior to taking the testing or enrolling in remedial courses.

Lastly, a small number of student veterans (10%) shared that they learned better with instructors who had a military background or some military connection. These participants said that their learning style matched well with the instructors' teaching style, because they both had a military frame of reference. A recommendation for practice, when possible, would be to provide student veterans with a tutor or faculty member with military background. An alternative to a tutor or faulty member with military background would be to provide tutors and faculty with training on military culture and learning styles, facilitated by a military connected person or dependent with military cultural experience.

Recommendations for Future Research

In the interest of time and scope of this study, it did not delve deeply into certain matters—as they arose during the research study—affecting student veterans' success at the community college level. This research study unearthed potential opportunities for future research with student veterans in the areas of college readiness, placement testing, and remediation. A further study on college readiness in the form of a case study with student veterans who graduate after completing remediation is strongly encouraged because the student veteran population is underrepresented in the research and requires additional attention to provide more data and resources to veteran support agencies, policymakers, legislators and higher education organizations, boards of trustees, presidents, senior level administrators, faculty and frontline staff. Additionally, replicating this study from the perspective of higher education

faculty would add to the research as they and their colleagues work to develop policies, services and programming to adequately assist the student veteran sub-population of adult learners.

Women service members are another underrepresented segment of the military veteran population that are virtually invisible in higher education research. Conducting a gender specific case study with women veterans on the topic of college readiness would add an important set of data. In this study, only three women were interviewed and there were no women in the focus group. Therefore, it would be essential to expand on this research study with a focus that includes more women as student veterans. Separate studies could be conducted on women veterans in community college due to each woman having had vastly different stories from the other. For example, creating research studies around academic issues such as those affecting women veterans who utilized tutoring to resolve academic struggles, or a study for those women veterans who felt that their overall academic experience was positive, thus a research study might involve women student veterans who had positive remedial experiences and seek to uncover best practices.

Another area for research might focus on veterans with post-traumatic stress disorder (PTSD), traumatic brain injury (TBI), anxiety disorder or physical disabilities. A study on the student veterans' living with these trauma and injury conditions would aid higher education institutions in understanding how to write policies and develop teaching, tutoring and support services that would help student veterans struggling with the associated learning disabilities.

Further options for future research studies related to this research could be with student veterans who failed remediation courses and needed to repeat them, at least four of the 16 participants were in this category. So, studying the causes affecting those who fail and repeat remedial courses is highly recommended. Lastly, a potential study that emerged from this study

was failing college-level courses after remediation. Zeitlin and Markus (1996) in their study shared that a possible disconnect existed between basic skills and college-level content. Continuing to research why some student veterans fail college-level courses immediately after taking a remedial course would be of interest to the college readiness research field. To learn from students' perspectives on any one of the research areas would be of benefit and great value.

To further contribute to the growing body of research on the student veteran population, this researcher plans to author a book from the student veterans perspective out of this research study, author articles in professional peer reviewed journals and continue presenting on this research at conferences to keep sharing the data and research on this population with policy-makers, legislators and higher education colleagues and organizations.

Limitations

Significant limitations of this study were conducting research at a single community college site, not focusing on ethnicity (race) of participants as a factor and having the perspectives of only three female student veterans in the sample population. Therefore, a more in-depth view of ethnic and female student veterans' experiences was lacking in this research study. Additionally, the sample size of 18 participants and a single research site was small. A larger study in population size and scope would be needed to make broader generalizations about the topic of college readiness and specifically placement testing and remediation. This research study met the requirements and sample ranges for a qualitative research study according to several qualitative research experts such as Creswell (2013), Berg and Lune (2012), and Leedy and Ormron (2010).

Conclusion

Chapter Five represented a summary of the purpose, overview, and pertinent theories of this phenomenological research study. A discussion of the conclusions, along with recommendations for practice and future research, followed. The purpose of this study was to investigate the perceptions and implications of placement testing and subsequent remediation for student veterans who were enrolled in a community college in western Pennsylvania. Understanding the college-readiness needs of this underrepresented subgroup of adult learners was critical. This study provided a different perspective to the growing body of research on the topic of college readiness for this subgroup of adult learners. It is the hope of this researcher that reading this research, higher education administrators, stakeholders of community colleges and higher education organizations, as well as policy-makers, legislators and veterans administration agencies may gain a heightened awareness of this populations perspectives on learning and utilize the research to work together; providing enhanced supportive services and innovative educational initiatives and policies to help student veterans re-train and compete for knowledge-based jobs in this global economy.

A final thought on student veterans and their search for post-military education was best stated by Tinto (2008): “It is clear that our nation will not be able to close the achievement gap unless we are able to effectively address [all] students’ needs,” (p. 1) especially student veterans’ college and career readiness needs in ways that are consistent with supporting their participation in higher education and supporting their ability to compete for jobs in the local, national and global workforce.

References

- Accamando, D. (2017). *Determining the specific transition needs of military and veteran students (MVS), a qualitative/mixed methods study* (Doctoral dissertation, Duquesne University). Retrieved from <https://dsc.duq.edu/etd/117>
- Adams, C. (2010). Community colleges get creative with remedial education. Retrieved from www.edweek.org/ew/articles/2010/09/09/03remedial.h30.html
- Adams, C. (2010). Remediation demands stretching resources of community colleges. *Education Week*, 30(3). Retrieved from <https://www.edweek.org/ew/articles/2010/09/15/03remedial-2.h30.html>
- Altschuler, G., & Blumin, S. (2009). *The GI Bill: A new deal for Veterans*. New York, N.Y.: Oxford University Press.
- American College Testing Program. (2013, April 17). ACT research points to continued gaps between high school preparation and college expectations. *American College Testing*. Retrieved from <https://www.act.org/content/dam/act/unsecured/documents/CCCR13-NationalReadinessRpt.pdf>
- American Council on Education (2015). By the numbers: Undergraduate student veterans Retrieved from <https://www.acenet.edu/the.../By-the-Numbers-Undergraduate-Student-Veterans.aspx>
- Arnold, K., Lu, E., & Armstrong, K. (Eds.). (2012). The ecology of college readiness [Special issue]. *ASHE Higher Education Report*, 38(5). 7, 13, 18, 106.
- Assessing the Needs of Military Students at TMCC. (2010) Truckee Meadow Community College, Reno, NV. Retrieved from <https://studylib.net/doc/14574955/assessing-the-needs-of-military-and-veteran-students-at-tmcc>

- Bahr, P. (2012). Deconstructing remediation in community colleges: Exploring associations among course-taking patterns, course outcomes, and attrition from the remedial math and remedial writing sequence. *Research in Higher Education*, 53(6), 661-693.
doi:10.1007/s11162-011-9243-2.
- Banner, B. (2006). The impact of the G.I. Bill on developmental education. *Learning Assistance Review*, 11(1), 35-44. Retrieved from <https://web.a.ebscohost.com/abstract?site=ehost&scope=site&jrnl=10870059&AN=21956870&h=RPdJ7%2bCSBGuWGMERapFOd0te4Iglw%2fr8Xf1sm%2fk6Afu95sDKKhFWxXJ4I%2bKWn9Q79R3c6jtZGsSbnK5ytQOuA%3d%3d&crl=c&resultLocal=ErrCrlNoResults&resultNs=Ehost&crlhashurl=login.aspx%3fdirect%3dtrue%26profile%3dehost%26scope%3dsite%26authtype%3dcrawler%26jrnl%3d10870059%26AN%3d21956870>
- Barnes, W., & Slate, J. (2013, January). College-readiness is not one-size-fits-all. *Current Issues in Education*, 16(1), 1-13.
- Barrett, D. (2011). *Leadership communication* (3rd ed.). New York, N.Y.: McGraw-Hill.
- Barshay, J. (2016, December). U.S. now ranks near the bottom among 35 industrialized nations in math. *The Hechinger Report*. Columbia University. Retrieved from <https://hechingerreport.org/u-s-now-ranks-near-bottom-among-35-industrialized-nations-math/>
- Bazeley, P., & Jackson, K. (2013). *Qualitative data analysis with NVivo 12* (2nd ed). Los Angeles, CA: Sage.
- Bean, J., & Eaton, S., (2002). The psychology underlying successful retention practices. *Journal College Student Retention*, 3(1). 73-89. DOI 10.2190/6R55-4B30-28XG-L8U0
- Berg, B., & Lune, H. (2012). *Qualitative research methods: For social sciences* (8th ed). Upper Saddle River, NJ: Pearson.

- Bettinger, E., & Long, B. (2005). Remediation at the community college: Student participation and outcomes. *New Direction for Community Colleges*, 129(129), 17-26. Retrieved from <https://journals.sagepub.com/doi/10.2190/6R55-4B30-28XG-L8U0>
- Bissell, K. (2017). College and career readiness: An interview study of high school graduates and their description of postsecondary life, (Doctoral dissertation, University of Pittsburgh). Retrieved from [https://Bissell_Dissertation_final06717\(1\).pdf](https://Bissell_Dissertation_final06717(1).pdf)
- Branker, C. (2009). Deserving design: The new generation of student veterans. *Journal of Postsecondary Education and Disability*, 22(1), 59-66. Retrieved from <https://eric.ed.gov/?id=EJ844252>
- Braun, V., & Clarke, V. (2006) Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77-101. doi:10.1191/1478088706qp063oa
- Blackburn Institute. (2015, February 13). *Closing the gap between high school and college*. Retrieved from <https://www.blackboard.com/CMSPages/GetFile.aspx?guid=4fbdc169-9db4-4d5d-8ac1-70fe8c6e44e4>
- Boyd, J. (2017). Postsecondary success outcomes for veteran and nonveteran students at a public university in Georgia, (Doctoral dissertation, University of Georgia). Retrieved from <https://smartech.gatech.edu/handle/1853/59265>
- Boyington, B. (2015, May 25). *Exploring ways community colleges serve veterans*. US News and World Reports. Retrieved from <https://www.usnews.com/education/community-colleges/articles/2015/05/25/explore-ways-community-colleges-serve-veterans>
- Boser, U., & Burb, S. (2009). Bridging the gap: How to strengthen the Pk-16 pipeline to improve college readiness. Washington, D.C.: New America Foundation.

- Burnard, P., Gill, P., Stewart, K., Treasure, E., & Chadwick, B. (2008, April 26). Analysis and presenting qualitative data. *British Dental Journal*, 204(8), 429-432.
doi:10.1038/sj.bdj.2008.292
- Cantrell, A. (2016). Understanding posttraumatic stress and academic achievement: Exploring attentional control, self-efficacy and coping among college students. Masters Theses & Specialist project paper 1618. Retrieved from <https://digitalcommons.wku.edu/thesis1618>
- Carnevale, A., Jayasundera, T., & Cheah, B. (2013). The college advantage: Weathering the economic storm. Georgetown University, Georgetown Public Policy Institute Center on Education and the Workforce. Retrieved from ww.ceb.georgetown.edu/collegeadvantage
- Cate, C., Lyon, J., Schmeling, J., & Bogue, B. (2017). National veterans' education success trackers a report on the academic success of student veteran's using the Post-9/11 GI Bill. Student Veterans of America. Retrieved from https://nvest.studentveterans.org/wp-content/uploads/2017/03/NVEST-Report_FINAL.pdf
- Cate, C. (2014). Million records project: Research from Student Veterans of America. Retrieved from https://studentveterans.org/images/Reingold_Materials/mrp/download-materials/mrp_Full_report.pdf
- Chao, E., DeRocco, E., & Flynn, M. (2007). Adult learners in higher education: Barriers to success and strategies to improve results. Employment and Training Administration Occasional Paper, U.S. Department of Labor. Retrieved from <https://files.eric.edu/fulltext/ED497801.pdf>
- Chen, X., & Simone, S. (2016). Remedial course taking at U.S. public 2-year and 4-year institutions: Scope, experience and outcomes, statistical analysis report. U.S. Department of Education. Retrieved from <https://nces.ed.gov/pubs2016/2016405.pdf>

- Chenail, R. (1995). Presenting qualitative data. *The Qualitative Report*, 2(3), 1-9. Retrieved from <https://nsuworks.nova.edu/tqr/vol2/iss3/5>
- Cherry, K. (2019). Alfred Binet and the history of I.Q. testing. Retrieved from <https://www.verywellmind.com/history-of-intelligence-tesing-2795581>
- Chickering, A., & Schlossberg, N. (1995). *Getting the most out of college*. Needham Heights, MA: Allyn and Bacon.
- Clayton, J., & Belfield, C. (2012). Abstract: Improving the accuracy of remedial placement. Retrieved from <https://ccrc.tc.columbia.edu/publications/improving-accuracy-remedial-placement.html>
- Clayton, J., & Belfield, C. (2014). Abstract: Improving assessment and placement at your college: A tool for institutional researchers. Retrieved from <https://ccrc.tc.columbia.edu/media/k2/attachments/improving-assessment-placement-institutional-research.pdf>
- Cleary, M. (2012, May). Anxiety and the newly returned adult student. *TETYC National Council of Teacher of English*. 2012(39), 364-376. Retrieved from <https://works.bepress.com/navarrecleary/6/download/>
- Conley, D. (2010). The four keys to college and career readiness. Retrieved from www.knowledgecenter.csg.org/kc/system/files/conleyPDF.pdf
- Conley, D. (April, 2007). The challenge of college readiness: The prepared graduate. *Educational Leadership Journal*. 64(7), 23-29. Retrieved from https://www.ascd.org/ASCD/pdf/journals/ed_lead/el200704_conley.pdf
- Creswell, J. (2007). *Qualitative inquiry & research design: Choosing among five approaches* (2nd ed). Los Angeles, C.A.: Sage.

- Creswell, J. (2008). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research* (3rd. ed). Columbus, O.H.: Pearson.
- Creswell, J. (2013). *Qualitative inquiry & research design: Choosing among five approaches*. Thousand Oaks, CA: Sage.
- Cohen, A., & Brawer, F. (2003) *The American community college* (4th ed). San Francisco, C.A.: Jossey-Bass. p. 13-14.
- Community College. (2014). College annual report. Retrieved from https://www.xxxx.edu/uploadedFiles/Smartform_Content/Captioned_Callouts/About_XXXX_Callouts/Annual%20Report%20201314%20pg%2011_FINAL.pdf
- Community College. (2015). Veterans services marketing report. Pittsburgh, P.A.: Office of Institutional Research.
- Community College. (2014). *Community college history*. Retrieved from <http://www.xxxx.edu/default.aspx?id=13>
- Community College. (2005). Community college 40th anniversary video. Retrieved from <http://www.xxxx.edu/default.aspx?id=1487847115>
- Cooper, M. (2010, August 22). *Student support services at community colleges: a strategy for increasing student persistence and attainment*. Retrieved from <http://www2.ed.gov/PDFDocs/college-completion/04-student-support-services-at-community-colleges.pdf>
- Cross, M. (2018). Faculty members' perceptions on college transition of student veterans, (Doctoral Dissertation), Northcentral University. Retrieved from <https://search.proquest.com/openview/91d9f6545bc6ea51abf6992c57636217/1?pq-origsite=gscholar&cbl=18750&diss=y>

- Cummins, E., & Iazzio, C. (2018). Can you pass the U.S. Army's World War I era intelligence test? Retrieved from <https://www.popsci.com/us-army-world-war-i-era-intelligence-test/>
- Davis, S. (2018). Academic success, first-year retention, four-year graduation, and summer bridge program participation, (Doctoral Dissertation), Florida Gulf Coast University. Retrieved from <http://proxy-iup.klnpa.org/login?url=https://search-proquest-com.proxy-iup.klnpa.org/docview/2176039923?accountid=11652>
- Department of Defense (2017). Dictionary of military and associated terms. Retrieved from <http://www.jcs.mil/Portals/36/Documents/Doctrine/pubs/dictionary.pdf>
- De La Garza, T. (2016). Factors leading to student veteran achievement in community college: A qualitative study utilizing the community college survey of men. (Doctoral Dissertation). Retrieved from https://sdsu-dspace.calstat.edu/bitstream/handle/10211.3/187735/DeLaGarza_sdsu_0220D_11622.pdf?sequence=1
- Department of Veterans Affairs, National Center for Veterans Analysis and Statistics (2010). National Survey of Veterans (NVS). Retrieved 2016 from [ww.va.gov/vetdata/surveys.asp](http://www.va.gov/vetdata/surveys.asp)
- Delbanco, A. (2012). *College: What it was, is, and should be*. Princeton, NJ: Princeton.
- DeSilver, D. (2017, February). U.S. students' academic achievement still lags that of their peers in many other countries. Retrieved From <https://www.pewresearch.org/fact-tank/2017/02/15/u-s-students-internationally-math-science/>
- DiBenedetto, C., & Myers, B. (2006). A conceptual model for the study of student readiness in the 21st century. *North American Colleges & Teachers of Agriculture Journal*, 60(1a), 28-35. Retrieved from https://www.nactateacher.org/attachments/article/2390/9%20DiBenedetto_NACTA%20Journal%20Special%20May%202016.pdf

- Dillard, R., & Yu, H. (2018) Best Practices in Student Veteran Education: Faculty Professional Development and Student Veteran Success, *The Journal of Continuing Higher Education*, 66(2), 122-128. doi:10.1080/07377363.2018.1469072
- Eagan, M., Stolzenberg, E., Ramirez, J., Aragon, M., Suchard, M., & Rios-Aguilar, C. (2016). The American freshman: Fifty-year trends 1966-2015. Retrieved from <https://www.heri.ucla.edu/monographs/50YearTrendsMonograph2016.pdf>
- Eakman, A., Schelly, C., & Henry, L. (2015). Protective and vulnerability factors contributing to resilience in Post-9/11 veterans with service-related injuries. *American Journal of Occupational Therapy*. 70(1), 1-10. doi:10.5141ajot.2016.01619
- Education Quest Foundation (2013, April) Adult learners: Key to increasing degree attainment in Nebraska. Retrieved from https://www.educationquest.org/pdfs/AdultLearner/White_Paper.pdf
- Egri, L. (1946). *The art of dramatic writing: Its basis in the creative interpretation of human motives*. New York, N.Y.: Simon and Schuster.
- Everett, M. (2017). The persistence of military veteran students in a southeastern community college: A narrative study. North Carolina State University, Retrieved from <http://proxy-iup.klnpa.org/login?url=https://search-proquest-com.proxy-iup.klnpa.org/docview/1914674050?accountid=11652>
- Fain, P. (2012). Colleges fail to track performance of student veterans, survey finds. *Inside Higher Ed*. Retrieved from <https://www.insidehighered.com/print/news/2012/12/04/Colleges-fail-track-performance-student-veterans>

- Fain, P. (2012, December 21). Placement test still rule: Colleges rely heavily on popular remedial placement test. *Inside Higher Ed*. Retrieved from <https://www.insidehighered.com/news/2012/12/21/colleges-rely-heavily-popular-remedial-placement-tests>
- Friedman, T., & Mandelbaum, M. (2012). Homework x 2 = the American dream. *That used to be us: How America fell behind in the world it invented and how we can come back*. New York, NY: Picador.
- Friedman, T., & Mandelbaum, M. (2012), *That used to be us: How America fell behind in the world it invented and how we can come back*. New York, NY: Picador
- Fitzpatrick, J., Sanders, J., & Worthen, B. (2004). *Program evaluation: Alternative approaches and practical guidelines* (3rd ed). Boston, MA: Pearson.
- Flory, M., & Sun, C. (2017). *Measuring college readiness under essa: Admissions and placement testing*. Arlington, V.A.: CAN Analysis & Solutions
- Gann, S. (2012). Modern military veterans and the challenge of effective transition from soldier to student. *The Journal of Military Experience*, 2(1), 211-228. Retrieved from <https://encompass.eku.edu/cgi/viewcontent.cgi?article=1042&context=jme>
- Garcia, E. (2017). Who's got my six? Understanding the experiences and transitional challenges of California community college student veterans and their pursuit of a bachelor's degree. California State University. Retrieved from <http://proxy-iup.klnpa.org/login?url=https://search-proquest-com.proxy-iup.klnpa.org/docview/1912379204?accountid=11652>
- Grabowski, C. (2016). Today's non-traditional student: Challenges to academic success and degree completion. *Inquiries Journal/Student Pulse*, 8(3), 1-2. Retrieved from <http://www.inquiriesjournal.com/articles/1377/todays-non-traditional-student-challenges-to-academic-success-and-degree-completion>

- Granger, P., "Student Veteran Success: A Grounded Theory Study" (2016). *Education Doctoral*. Paper 271. Fisher Digital Publications. Retrieved from https://fisherpub.sjfc.edu/education_etd/271
- Griffin, K., & Gilbert, C. (2012). Easing the transition from combat to classroom: Preserving America's investment in higher education for military veterans through institutional assessment. Retrieved from https://www.americanprogress.org/wp-content/uploads/issues/2012/04/pdf/student_veterans.pdf
- Goldrick-Rab, S. (2010). Challenges and opportunities for improving community college student success. *Review of Educational Research*, 80(3), 437-469.
doi: 10.3102/0034654310370163
- Goldwasser, M., Martin, K., & Harris, E. (Winter, 2017). A framework for assessing developmental education programs. *Journal of Developmental Education*, 40(2), 10-33. Retrieved from <https://files.eric.ed.gov/fulltext/EJ1168750.pdf>
- Gonzalez, C. (2016). Faculty attitudes and behaviors toward student veterans. *Journal of Postsecondary Education and Disability*, 29(1), 35-46. Retrieved from <https://eric.ed.gov/?id=EJ1107471>
- Gulley, N. (2016). Defining students as nontraditional is inaccurate and damaging. *Inside Higher Ed*. Retrieved from <https://www.insidehighered.com/views/2016/08/05/defining-students-nontraditional-inaccurate-and-damaging-essay>
- Hodara, M., Jaggars, S., & Karp, M., (2016, December). TYCA White Paper on Placement Reform. Retrieved from http://www.ncte.org/library/NCTEFils/Groups/TYCA/PlacementReform_Revised.pdf

- Hodara, M., Jaggars, S., & Karp, M. (2012). *Abstract: Improving developmental education Assessment and placement: Lessons from community colleges across the country*. CCRC Working Paper No. 51. Retrieved from <https://ccrc.tc.columbia.edu/media/k2/attachments/developmental-education-assessment-placement-scan.pdf>
- Howell, C. (2001). Facilitating responsibility for learning in adult community college students. *Eric Digest*, Retrieved From <https://eric.ed.gov/?id=ED451841>
- Intelligence Theory Online. (2019). Human, intelligence: Historical influences, current controversies and teaching resources; biographical profiles – Alfred Binet (1857-1911). Retrieved from <https://www.intelltheory.com/binet.shtml>
- Ingala, A., Softas-Nall, L., & Peters, A. (2013). The role of social support in veterans' college Adjustment. *International Journal of Humanities and Social Science*, 3(11), 14-21.
- Integrated Postsecondary Education Data System (IPEDS) (2017-18). Glossary of post-secondary related terms. Retrieved form <https://survey.nces.ed.gov/ipeds/VisGlossaryAll.aspx>
- Jenkins, L. (2005). *Permission to forget: And nine other root causes of America's frustration with education*. Milwaukee, W.C.: American Society for Quality.
- Kallison, J. (2017). The effects of an intensive postsecondary transition program on college readiness for adult learners. *Adult Education Quarterly*, 67(4), 302-321.
- Kamens, D., & McNeely, C. (2010). Globalization and the Growth of International Education Testing and National Assessment. *Comparative and International Education Society*, 54(1), 5-25. doi:10.1086/648471
- Kerlinger, F. (1973). *Foundations of Behavioral Research* (2nd ed.). New York, NY: Holt Rinehart and Winston.

- Kirst, M., & Venezia, A. (2006). *Improving college readiness and success for all students: A joint responsibility between K-12 and postsecondary education*. [Issue Brief] Institute for Educational Leadership, the National Center for Public Policy and Higher Education, and the Stanford Institute for Higher Education Research. Retrieved from <https://www2.ed.gov/about/bdscomm/list/hiedfuture/reports/kirst-venezia.pdf>
- Knowles, M. (1973). The adult learner: A neglected species. *Eric Digest*, Retrieved From <https://files.eric.ed.gov/fulltext/ED084368.pdf>
- Kuh, G., Kinzie, J., Buckley, J., Bridges, B., & Hayek, J. (2006). What matters to student success: A review of the literature [Commissioned report]. National Postsecondary Education Cooperative. Retrieved from https://nces.edu.gov/npec/pdf/Kuh_Team_Report.pdf
- Lane, P., Michelau, D., & Palmer, I. (2012). Going the distance in adult college completion: Lessons from the “non-traditional no more project.” *Eric Digest*. Retrieved From <https://eric.ed.gov/?id=ED539562>
- Lawrence, I., Rigol, G., Van Essen, T., & Jackson, C. (2002). Research report: A historical perspective on the SAT 1926-2001. New York, N.Y.: College Entrance Examination Board. Report No. 2002-7, 1-20.
- Lederman, D. (2014). Data on student veterans’ college outcomes under new G.I. Bill. *Inside Higher Ed*. Retrieved From <https://www.insidehighered.com/quicktakes/2014/03/24/data-student-veterans-college-outcomes-under-new-gi-bill>
- Leinhardt, G., Sidek, H., & Fisch, E. (Eds.). (2010). Challenges and Opportunities for Improving Community College Student Success [Special section]. *Review of Educational Research*, 80(3), 437-459. doi:10.3102/0034654310370163

- Leedy, P., & Ormrod, J. (2010). *Practical research: Planning and design* (9th ed). Upper Saddle River, NJ: Pearson.
- Levin, H. (2008). Remediation in the Community College. *Community College Review*, 35(3), 81-207.
- Levitt, K. (2003). Anthropology and world culture theory. *Globalisation, Societies a Education*, 3(2), 229-237. Retrieved from <http://www.mofet.macam.acil/amitim/KathrynAndersonLevitt/Documents/A-L-Ch-1-World-culture.pdf>
- Levitt, K. (2003). *A world culture of schooling*. New York, NY: Palgrave Macmillian.
- Loveless, T. (2017). How well are American students learning: With sections on the latest international test scores, foreign exchange students, and school suspensions. Washington, D.C.: *The Brookings Institute*. 3(6), 1-11.
- Marcus, J. (2017, April). Community colleges rarely graduate the veterans they recruit: The amount of G.I. Bill money may be large, but student success is small. *The Atlantic*.
- Marcus, J. (2017, February). Despite family and work commitments, student veterans outpace classmates. *The Hechinger Report*. Columbia University. Retrieved from <https://hechingerreport.org/despite-family-work-commitments-student-veterans-outpace-classmates/>
- Markle, G. (2015). Factors influencing persistence among nontraditional university students. *Adult Education Quarterly*, 65(3), 267-285. doi:10.1177/0741713615583085
- Medley, J., Cheney, A., Abraham, T., Grubbs, K., Hunt, J., Lu, L., Fortney, J.C., & Curran, G. (2017). The impact of the psychological sequela of trauma on veterans seeking higher education. *Journal of Postsecondary Education and Disability*, 30(1), 83-96.

- Mezirow, J. (1991). *Transformative dimensions of adult learning*. San Francisco, CA: Jossey-Bass.
- Mitchell, J. (2017). Program evaluation of veterans upward bound: An academic support program for student veterans, (Doctoral Dissertation), University of West Georgia. Retrieved from <http://proxy-iup.klnpa.org/login?url=https://search-proquest-com.proxy-iup.klnpa.org/docview/1909928653?accountid=11652>
- Morris, B. (2013). *A bridge program's effect non-college ready student veterans*. Eastern Kentucky University Encompass: Online Theses and Dissertations. Retrieved from <https://encompass.eku.edu/cgi/viewcontent.cgi?referer=https://www.google.com/&httpsredir=1&article=1193&context=etd>
- Moltz, D. (2009, April 14). Shopping for 'cut scores', *Inside Higher Ed*. Retrieved from <https://www.insidehighered.com/news/2009/04/14/shopping>
- Mullins, D. (2013). *Veteran role salience: A study of student veteran reintegration in the city university of New York* (Order No. 3601716). Available from ProQuest Dissertations & Theses Global. (1467478687). Retrieved from <http://proxy-iup.klnpa.org/login?url=https://search-proquest-com.proxy-iup.klnpa.org/docview/1467478687?accountid=11652>
- National Center for Public Policy and Higher Education, (2010). Beyond the rhetoric-improving college readiness, Retrieved from http://www.highereducation.org/reports/college_readiness/CollegeReadiness.pdf
- National Center for Public Policy and Higher Education, (2015). Beyond the rhetoric-improving college readiness: The gap between enrolling in college and being ready for college. Retrieved from http://www.highereducation.org/reports/college_readiness/gap.shtml

National Center for Public Policy and Higher Education, (2010). Behind the rhetoric. *Improving College Readiness*. Retrieved from https://www.highereducation.org/reports/college_readiness/readiness_gap.shtml

National Conference of State Legislators, (2014, May 30). Veterans and College. Retrieved from <http://www.ncsl.org/research/education/veterans-and-college.aspx>

National Research Council, (1995). History and overview of the land grant college system: colleges of agriculture at land grant universities. *The National Academies Press*. doi:10.17226/4980. Retrieved from <https://www.nap.edu/read/4980/chapter/2>

National School Boards Association (NSBA), Center for Public Education (2014). Center for public education finds the path to career readiness. Retrieved from <https://www.nsba.org/tags/center-public-education>

National Student Clearing House: Snapshot report (2012). Resent enrollment growth of students age 25 and over. Retrieved from <http://researchstudentsclearinghouse.org/adultlearners>

Northouse, P. G. (2013). *Leadership: Theory and practice* (6th ed.). Los Angeles, CA: Sage.

NASPA Student Affairs Administrators in Higher Education. (2013). *Measuring the Success of Student Veterans and Active Duty Military Students*. NASPA Research & Policy Institute: Retrieved from https://www.naspa.org/images/uploads/main/NASPA_vets_13%281%29.pdf

National Student Clearing House: Snapshot report (2012). *Resent enrollment growth of students age 25 and over*. Retrieved from <http://researchstudentclearinghouse.org/adultlearners>

Office of Veteran's Affairs Student Veteran Survey (2009), Retrieved from <https://www.ohiohighered.org/sites/ohiohighered.org/files/uploads/military/Toolkit/Student%20Veteran%20Survey%20-%20OCC.pdf>

- Office of Postsecondary Access, Support & Success, Collegiate Development Programs Unit,
New York State Education Department, (2013). Collegiate Development. Retrieved from
<http://www.highered.nysed.gov/kiap/collddev/VTEA/>
- O'Herrin, E. (2011). Enhancing veteran success in higher education. *Association of American
College & Universities*.13(1), 15-18. Retrieved from [https://www.aacu.org/publications-
research/periodicals/enhancing-veteran-success-higher-education](https://www.aacu.org/publications-research/periodicals/enhancing-veteran-success-higher-education)
- Oliver, S., Metzger, I., Bass, J., McCann, C., & English, J. (2017). Challenges and strategies for
reform. U.S. Department of Education, Retrieved from [https://www2ed.gov/about/
offices/list/oeped/education-strategies.pdf](https://www2ed.gov/about/offices/list/oeped/education-strategies.pdf)
- Oudenhoven, B. (2002). Remediation at the Community College: Pressing issues, uncertain
solutions. *New Directions for Community Colleges*, 2002(117), 35-44.
doi:10.1002/cc.51
- Padilla, R. (2009a). Searching for theory and method. In R.V. Padilla (Ed.), *Student success
modeling: Elementary school to college* (pp. 21-27). Sterling, VA: Stylus Publishing.
- Papalia, D., Sterns, H., Feldman, R., & Camp, C. (2007). *Adult development and aging* (3rd ed).
New York, NY: McGraw-Hill.
- Pelletier, S. (2010, Fall). Success for adult students. American association of state colleges and
universities: Retrieved from [https://www.aascu.org/uploadFiles/AASCU/Content/Root/
MediaAndPublications/PublicPurposeMagazines/Issue/10fall_adultstudents.pdf](https://www.aascu.org/uploadFiles/AASCU/Content/Root/MediaAndPublications/PublicPurposeMagazines/Issue/10fall_adultstudents.pdf)
- Pew Research Center. (2014). Five facts about today's college graduates. Retrieved from
[http://www.pewresearch.org/fact-tank/2014/05/30/5-facts-about-todays-college-
graduates](http://www.pewresearch.org/fact-tank/2014/05/30/5-facts-about-todays-college-graduates)

- Phipps, R. (1998). *College remediation: What it is, what it costs, what's at stake*. Washington, D.C.: The Institute for Higher Education Policy.
- Piland, K. (2018). *Exploring retention from the perceptions of student veterans enrolled in community college*, (Doctoral Dissertation), Northcentral University. Retrieved from <http://proxy-iup.klnpa.org/login?url=https://search-proquest-com.proxy-iup.klnpa.org/docview/10743495?accountid=11652>
- Porter, A., & Polikoff, S. (2012). Measuring academic readiness for college. *Educational Policy*, 26(3), 394-417. doi:10.1177/0895904811400410
- Queen, B. & Lewis, L. (2014). *Services and support programs for military service members and veterans at postsecondary institutions (2012-13, NCES 2014-017)*. U.S. Department of Education. Washington, D.C.: National Center for Education Statistics.
- Radford, A., Cominole, M., & Skomsvold, P. (2015). *Demographic and enrollment characteristics of nontraditional undergraduates: 2011-12*. Web Tables. NCES 2015-025 Retrieved from <https://eric.ed.gov/?id=ED581707>.
- Rafael, H., Wolfe, R., & Steinberg, A. (2017). *Rethinking readiness: Deeper learning for college work and life*. Cambridge, MA: Harvard Education Press
- Ravitch, D. (1995). *National standards in American education: A citizen's guide*. Washington, D. C.: The Brookings Institution.
- Ritt, E. (2008). Redefining tradition: Adult learners and higher education. *Sage Journals*. 19(1-2), 12-16. doi:10.1177/104515950801900103
- Roost, A. & Roost, N. (2014). Supporting veterans in the classroom. *Academe American Association of University Professors*, 100(3), 31-34.

- Ryan, S., Carlstrom, A., Hughey, K., & Harris, B. (2011). From boots to books: Applying Schlossberg's model to transitioning American veterans. *NACADA Journal* 31(1), 1-9, doi:10.12930/0271-9517-31.1.55
- Salvant, A. (2016). Identifying barriers to graduation for nontraditional students. Walden University: Online Theses and Dissertations. Retrieved from <https://scholarworks.waldenu.edu/cgi/viewcontent.cgi?referer=https://www.google.com/&httpsredir=1&article=3034&context=dissertations>
- Saxon, P., Martirosyan, N., Wentworth, R., & Boylan, H. (2015). Developmental education research agenda: Survey of field professionals, Part I. *Journal of Developmental Education*, 38(2), 32-34. Retrieved from <https://www.questia.com/library/journal/1P3-3717205751/developmental-education-research-agenda-survey-of>
- Saxon, P., Martirosyan, N., Wentworth, R., & Boylan, H. (2015). Developmental education research agenda: Survey of field professionals, Part 2. *Journal of Developmental Education*. 38(3), 32-34. Retrieved from <https://files.eric.ed.gov/fulltext/EJ1092653.pdf>
- Schlossberg, N. (1981). A model for analyzing human adaptation to transition. *The Counseling Psychologist*. 9(2), 2-18. doi:10.1177/001100008100900202
- Schlossberg, N., Waters, E., & Goodman, J. (1995). *Consulting adults in transition: Linking practice with theory*. New York, NY: Springer.
- Scott, L., & Lewis, C. (2012). Nontraditional college students: Assumptions, perceptions, and directions for a meaningful academic experience. *The International Journal of Interdisciplinary Social Sciences*, 6(4), 1-10.

- Scott, L., & Clayton, J. (2015). High stakes placement exams, Retrieved from <http://67.205.94.128/publications/high-stakes-placement-exams-predict.html?UID=1026>
- Scott-Clayton, J. (2018). Evidence-based reforms in college remediation are gaining steam—and so far living up to the hype. *The Brookings Report*. Retrieved from <https://www.brookings.edu/research/evidence-based-reforms-in-college-remediation-are-gaining-steam-and-so-far-living-up-to-the-hype/>
- Simon, S., Howe, L., & Kirschenbaum, H. (2009). *Values Clarification: A practical, action-directed workbook*. New York, NY: Warner Books.
- Siskin, L. (2013). College and career readiness in context. Education Funders Research Initiative. New York, N.Y.: Steinhardt School of Culture, Education & Human Development. Retrieved from <https://files.eric.ed.gov/fulltext/ED562071.pdf>
- Smith, B. (2017). *A qualitative study of veteran students' perspectives of their academic experiences*. Graduate Theses and Dissertations. Retrieved from <https://pdfs.semantic scholar.org/d930/c1be1b115a7de24238432ec397dfb5ec3626.pdf>
- Stewart, V. (2012). *A world-class education: Learning from international models of excellence and innovation*. Alexandria, VA: ASCD.
- Sheehy, K. (2012, August 22). *High School Students Do Not Prepare for College*. High School, Notes: US News and World Reports. Retrieved from www.usnews.com/education/blogs
- Solomon, J. (2010). The state of college placement assessment with accuplacer at the Massachusetts Public Community College. Cambridge, MA: Lesley University. Retrieved from <https://www.connectsemass.org/writing/documents/CollegePlacementAssessmentatCommunityCollegebyJibrilSolomon.pdf>

- Tighe, E., Barnes, A., Connor, C., & Steadman, S. (2013). Defining success in adult basic education settings: Multiple stakeholders, multiple stakeholders, multiple perspectives. *Read Res Q.* 48(4), 415-435, doi:10.1002/rrq.57.
- Tillman, T. (2018). Student veterans' sense of validation and its effects on intent to persist: A qualitative study using structural equation modeling. (Doctoral Dissertations), University of California. Retrieved from DAI-A 79/09(E). Ann Arbor, MI: Dissertation Abstracts International. Retrieved from <https://escholarship.org/uc/item/2xt0t1n8>
- Tinto, V. (2016). How to improve persistence and completion (essay). Retrieved from *Inside Higher Ed.* <https://www.insidehighered.com/views/2016/09/26/how-improve-student-persistence-and-completion-essay>
- Tinto, V. (2008). Access without support is not opportunity. *Inside Higher Ed.* Retrieved from <https://www.insidehighered.com/views/2008/06/09/access-without-support-not-opportunity>
- The Source on Community Colleges Issues, Trends and Sources. (2011). Eight Important Questions for Eleven Community college Leaders: An Exploration of Community College Issues, Trends & Strategies. Lorenzo Associates: Western Governors University
- Tyler, R. (2008). Tyler, Ralph W., Papers, [Abstract], Special Collections Research Center. Chicago, IL.: University of Chicago Library
- U.S. Department of Education, The National Commission on Excellence in Education. (1983). A nation at risk: The imperative for educational reform. Retrieved from https://www.edreform.com/wp-content/uploads/2013/02/A_Nation_At_Risk_1983.pdf

- U.S. Department of Education*, National Center for Education Statistics. (1986). Nontraditional undergraduates: Definitions and data. Retrieved from <https://nces.ed.gov/pubs/web/97578e.asp>
- U.S. Department of Education*, National Center for Educational Statistics, Nontraditional Undergraduates, NCES 2002-2012, by Susan Choy. Washington, D.C.: 2002.
- U.S. Department of Education*, National Center for Education Statistics. (2013). The adult training and education survey (ATES) Pilot study: Technical report, NCES 2013-190, by Sharon Boivin. Washington, D.C.: 2013.
- U.S. Department of Education*, National Center for Education Statistics. (1993). National Postsecondary Student Aid Study: 1986-87 (NPAS: 87, 1989-90 (NPSAS:90), 1992-93 (NPSAS:93), Data Analysis Systems.
- U.S. Department of Education: eligibility*. (2009, November 3). Retrieved from <http://www2.ed.gov/programs/triostudsupp/eligibility.html>
- U.S. Department of Education: centers of excellence, office of postsecondary education for veteran student success*. Retrieved from www.rccd.edu/.../grants/.../OPE%20Center%20of%20Excellence%20for
- U.S. Department of Education*. Office of Postsecondary Education; overview information centers of excellence for veteran student success; FY 2010 Awards, available at: <http://www2.ed.gov/programs/cevss/cevssabstracts2010.pdf>
- U.S. Department of Veterans' Affairs*, Office of public and intergovernmental affairs. (2009). *VA and the post 9/11 GI bill*. Retrieved from http://www.va.gov/opa/issues/post_911_gibill.asp.

- U.S. Department of Education. Web tables: Demographic and enrollment characteristics of nontraditional undergraduates: 2011-12. (2015). Retrieved from <http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2015025>
- UTSA Student Veterans Needs Assessment (2011), Retrieved from <https://www.utsa.edu/va/files/Student-Veterans-Needs-Assessment.pdf>
- United States Presidential Commission on Higher Education's Report. Retrieved from www.presidents.ucsb.edu/ws/?pid=12802
- U.S. News and World Report, (2012, August, 22). High School Students Not Prepared for College, Career. Retrieved from www.usnews.com/education/blogs/high-school-notes/2012/08/22/high-school-not-prepared-for-college-career
- VandenBos, G., Gasque, A., & Jackson, P. (2010). *Publication Manual* (6th ed). Washington, D. C.: American Psychological Association (APA).
- Van Dusen, R. (2011). *A quantitative study of student veterans' intent to persist*. Texas Tech University: Online Theses and Dissertations. Retrieved from <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.918.7468&rep=rep1&type=pdf>
- Vaughan, G. (2006). *The community college story* (3rd ed.). Washington, D.C.: American Association of Community Colleges.
- Wagner, A. (2006). *Measuring Up Internationally: Developing skills and knowledge for the global knowledge economy*. National Center for Public Policy and Education. National Center Report #06-7. Retrieved from www.highereducation.org.

- Walburn, H. (2017). *The act of becoming a college student: A case study of student veterans' experiences pre-during-post military service*, (Doctoral dissertation), Texas A&M University. Retrieved from <http://proxy-iup.klnpa.org/login?url=https://search-proquest-com.proxy-iup.klnpa.org/docview/1889186905?accountid=11652>
- Wall, J., & Walz, G. (2004). *Measuring Up: Assessment Issues for Teachers, Counselors and Administrators*. Retrieved from eric.ed.gov/?id=ED480379
- Wallaert, K. (2018). *College readiness as perceived by first-year community college students taking remedial courses*, (Doctoral dissertation), Walden University. Retrieved from <http://proxy-iup.klnpa.org/login?url=https://search-proquest-com.proxy-iup.klnpa.org/docview/2047520467?accountid=11652>
- Waters, T. (2015). *Motivation of community college faculty and administrators to pursue the doctorate: A qualitative interview study* (Doctoral dissertation). Retrieved from <https://pdfs.semanticscholar.org/b85d/982d6f74329ed27cb54dd1983641a6d28f92.pdf>
- Wheeler, H. (2012). Veterans' transition to community college: A case study. *Community College Journal of Research and Practice*, 36(10), 775-792.
doi:10.1080/10668926.2012.679457
- Wilson, B. (2006). Adults must be college-ready too: ABE-to-College transition project inspires lives. *Connection*, 20(4), 25-26. Retrieved from <https://files.eric.ed.gov/fulltext/EJ792637.pdf>
- Zeitlin, A. and Markus, T. (1996). Should remediation be mandatory in community college. *Community Review*, 14(27), 13. Retrieved from <https://www.pcc.edu/resources/academic/prerequisite-implementation/articles/remediation.pdf>

Zoli, C. Maury, R. & Fay, D. (2015). Missing perspectives: Service-members' transition from service to civilian life – Data driven research to enact the promise of the Post-9/11 GI Bill
Syracuse University: Institute for Veterans & Military Families

Appendix A

Research Questions

Research questions and supporting interview questions were developed to gain understanding of the implications of these barriers (placement testing and remediation) as experienced by student veterans enrolled at a community college in western Pennsylvania. The Research questions that drove this study were as follows:

1. What context or situations do student veterans believe have typically impacted or influenced their experiences with placement testing and remediation at a community college?
2. What implications did student veterans perceive placement testing had on their remediation at a community college?
3. What perceptions do student veterans feel taking remedial courses had on their achievement of readiness for college-level courses at a community college?
4. Do student veterans believe placement testing and remediation work in tandem to prepare them for college-level course work at a community college?

Appendix B

Qualtrics Questionnaire Questions

The questionnaire was administered through Qualtrics and used to ascertain the demographic characteristics of student veterans taking one or more remedial courses at a community college. The questions for the questionnaire provided here are modified from Solomon (2010) The state of college placement: Assessment with Accuplacer at the Massachusetts public community colleges. The researcher has obtained permission to modify of use the questions from his survey questionnaire.

- 1) What is current your age?
- 2) When did you join the military?
- 3) What branch did you choose?
- 4) When did you separate from the military?
- 5) What degree are or did you pursue?
- 6) Did you take a placement test?
- 7) Which placement test did you take?
- 8) How long was the test?
- 9) How long has it been since you took the placement test?
- 10) Have you taken placement tests at more than one institution?
- 11) Was remediation mandatory or voluntary?
- 12) How many remedial courses did you take?
- 13) Which remedial courses did you take?
- 14) Did you complete the remedial courses?
- 15) Where there any other veterans in remedial courses with you?

- 16) Did you feel the concepts on the placement test lined up well with actual remedial courses?
- 17) Do you believe that the placement test accurately assessed your readiness for college?
- 18) Do you believe that you were placed in the correct remedial course or courses after they have taken the placement test?

Appendix C

Interview and Focus Group Questions

The following research questions were administered by researcher in the interview sessions and with the focus group sessions.

- 1) How did you view college before you enlisted?
- 2) Did serving in the military make you feel more or less ready for college? Explain.
- 3) What was it like to experience placement testing and remediation?
- 4) What situations have typically influenced or affected your experiences with placement testing and remediation?
- 5) Do you believe that placement testing and remediation work in tandem to prepare you for college-level course work?
- 6) How do you view your over-all experience with taking remedial courses?
- 7) How do you view paying for remedial courses that don't count toward your degree (graduation)?
- 8) Do/Did you feel that deficiencies shown on the placement test were fixed/improved when you took your remedial courses?
- 9) On a scale of 1-10, how important is social integration with other veterans' to influence your desire or ability to persist in college? 1 is least important 10 is most important?
- 10) Were there any other veterans in your remedial class or classes? And if so, how did you view that experience?