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## ACCUPLACER Placement Cutoff Scores as Predictors of Freshman Performance: A Correlational Analysis

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Concordia University-Portland  
College of Education  
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ACCUPLACER Placement Cutoff Scores as Predictors of Freshman Performance: A  
Correlational Analysis

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College of Education

Dissertation submitted to the Faculty of the College of Education  
in partial fulfillment of the requirements for the degree of  
Doctor of Education in  
Higher Education

Jillian Skelton, Ed.D., Faculty Chair Dissertation Committee

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2019

## **Abstract**

There is uncertainty on how to maximize freshman performance in an English course when students have competing placement scores. Students who have scored above the cutoff score on one of the English placement tests (either reading or writing) and scored below the cutoff score on the other are not systematically placed. The purpose of this study was to determine whether ACCUPLACER placement cutoff scores in reading and writing predicted performance in first-semester English courses and first-semester cumulative GPA among incoming students at a community college in the Pacific Northwest during the 2015–2016 and 2016–2017 school years. Two research questions guided this study: How do administrators maximize freshman performance in an English course when students have competing placement scores? What are the differences between remedial and entry-level course grades for students who have competing placement scores? The sample consisting of 2,722 deidentified archival data of reading and writing placement scores, first English course grades, and first-quarter overall grade point averages. The multivariate analysis of variance (MANOVA) model was used to analyze the data. The key findings of this study showed that there were no significant differences in either remedial or entry-level English course grades that had competing placement scores. However, there was a statistically significant difference in academic performance based on a student's cutoff scores who scored above the cut-off for both reading and writing with higher cumulative GPAs than students who scored below the cutoff on both the reading and writing.

*Keywords:* placement cut scores, community college, new student, unified validity theory, assessment literacy

## **Dedication**

This accomplishment is dedicated to every single individual who has the right to be happy and be successful in this world. “A great human revolution in just a single individual will enable a change in the destiny of all humankind” Daisaku Ikeda SGI President

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I want to thank Dr. Daisaku Ikeda and Tsunesaburo Makiguchi both an educational reformist and philosophers who instilled within me in carrying on his values on humanistic (value creating ) pedagogy that focuses on context of time and place in protecting humanistic educational values and beliefs to realize the upmost happiness of the learner within the set of circumstances and conditions he or she is in. Value is therefore subject to change according to the learner, time, and environment whereas truth or fact are unchanging (Hatano, 2009; Makiguchi, 1964; Toda, 1953).

## Table of Contents

Abstract .....	ii
Dedication .....	iii
Acknowledgements .....	iv
List of Tables .....	x
List of Figures .....	xi
Chapter 1: Introduction .....	1
Introduction to the Problem .....	1
Background, Context, History, and Conceptual Framework for the Problem.....	2
Statement of Problem.....	7
Purpose of the Study .....	7
Research Questions .....	8
Rationale, Relevance, and Significance of the Study .....	8
Definition of Terms.....	10
Assumptions, Delimitations and Limitations.....	11
Summary .....	12
Chapter 2: Literature Review .....	15
Introduction to the Literature Review .....	15
Conceptual Framework.....	16
Assessment Literacy .....	16



Placement Validity.....	19
Evaluation .....	20
Testing.....	22
Measurement.....	24
Unified Validity Theory.....	26
Review of Research and Theoretical Literature.....	29
Methods of Searching .....	29
History of the Community College.....	30
Target Population.....	31
Enrollment.....	31
Basic Structure .....	32
History of English Writing and Reading .....	33
History of Standardized Testing and the Value of Placement Scores .....	34
Setting Cut Scores.....	36
College students .....	37
Faculty.....	40
Educational Attainment .....	41
Readiness .....	41
Assessment and placement .....	44
Testing New Approaches .....	44

Synthesis of Research Findings .....	45
Best Practices .....	47
Critique of Previous Research .....	48
Chapter 2 Summary .....	49
Chapter 3: Methodology .....	51
Introduction of the Study .....	51
The Purpose of the Study .....	52
Research Question 1 .....	53
Hypothesis 1.....	54
Research Question 2 .....	54
Hypothesis 2.....	54
Data Analysis Procedures .....	54
Target Population, Sampling Method (power) and Related Procedures.....	55
Sampling Method.....	56
Instrumentation and Data Collection .....	57
Operationalization of Variables .....	58
Data Analysis Procedures .....	58
Limitations and Delimitations of the Research Design .....	58
Internal and External Validity.....	59
Expected Findings.....	60

Ethical Issues in the Study and Researcher’s Position.....	60
Chapter 3 Summary .....	62
Chapter 4: Data Analysis and Results.....	63
Introduction.....	63
Description of the Sample.....	65
Data Preparation.....	65
Instrument Reliability Analysis .....	68
Descriptive Statistics.....	69
Detailed Analysis .....	72
Detailed Analysis and Results .....	77
Null Hypothesis 1: .....	77
Null Hypothesis 2: .....	77
Chapter 4 Summary .....	79
Chapter 5: Discussion and Conclusion .....	81
Introduction.....	81
Summary of the Results .....	82
Discussion of Results .....	84
Discussion of the Results in Relation to the Literature.....	85
Limitations .....	93
Implication of the Results for Practice, Policy, and Theory .....	94

Results for Education Practice .....	96
Results for Education Policy .....	99
Theoretical .....	101
Recommendations for Further Research.....	105
Conclusion .....	106
References.....	109
Appendix A: Email to Administrators .....	109
Appendix B: Institution ACCUPLACER Score Placement 2016 .....	121
Appendix C: Institution ACCUPLACER Score Placement 2018 .....	123
Appendix D: ACCUPLACER English Placement 2015-2017 .....	124

## List of Tables

Table 1. <i>Average ACT Scores, 2014-2018</i> .....	38
Table 2. <i>Average Composite ACT Scores,by Race and Ethnicity, 2017and 2018</i> .....	39
Table 3. <i>Independent Variable Reading and Writing Cut Scores</i> .....	66
Table 4. <i>Descriptive Statistics for English Course Grade</i> .....	68
Table 5. <i>Descriptive Statistics for English Course Cumulative GPA</i> .....	69
Table 6. <i>Box's Test of Equality of Covariance Matrices</i> .....	73
Table 7. <i>Levene's Test of Equality of Error Variances<sup>a</sup></i> .....	74
Table 8. <i>Multivariate Tests Pairwise Comparisons Among Estimated Marginal Means</i> .....	76
Table 9. <i>Univariate Tests</i> .....	78

## **List of Figures**

Figure 1. <i>Hubley and Zumbo revised unified view of validity and validation.</i> .....	27
Figure 2. <i>Observed English course grade 098.</i> .....	73
Figure 3. <i>Observed English course grade 098.</i> .....	74

## **Chapter 1: Introduction**

### **Introduction to the Problem**

Ninety-two percent of community colleges use standardized placement such as the ACCUPLACER and COMPASS exams (the latter no longer offered since the end of 2016) to assess students' levels of competencies in reading, writing, and math to determine placement into college-level or developmental courses (Fields & Parsad, 2018; Scott-Clayton, 2012). Other researchers, such as Barnett and Reddy (2018), strongly argued that it is crucial to have an accurate placement device to determine whether a student can enroll at college level. Barnett and Reddy (2018) shared that, in 2010, the National Assessment Governing Board reported that community colleges used standardized tests 100% of the time for math placement and 94% of the time for reading placement. Furthermore, Barnett and Reddy (2018) indicated that 4-year public institutions used standardized testing 85% of the time for math placement and 51% of the time for English placement.

Multiple researchers (Belfield & Crosta, 2012; Scott-Clayton et al., 2012) have found that student scores on entry assessments are not highly correlated with performance success for first-semester college courses when used as a sole measurement for course placement. Barnett and Reddy (2018) also argued test scores are not highly correlated with success in first-year college-level courses when used as a sole measurement for course placement. The authors strongly believed that more information is needed on which placement mechanism or additional measures would be able to predict success in first college courses (2018). Kane (2013) strongly believed that to validate an interpretation or used of test scores practitioners must evaluate what is plausible and the intent.

A majority of community colleges and universities administer these placement tests, then calculate and create their cutoff scores. Barnett and Reddy believed that having an accurate placement mechanism is vital for making placement decisions but found that placement tests are not a good predictor of course grades in remedial courses and agreed that more research is needed to highlight what many educators, students, and policy makers do not know.

### **Background, Context, History, and Conceptual Framework for the Problem**

The following conceptual framework provided the foundation for exploring relationships between students' competing cut scores in reading and writing entering into their first English course and performance and cumulative GPAs and whether placement decisions can be standardized based on quantitative data. How colleges interpret cut scores can have a significant impact on student success. Contemporary researchers (Belfield & Crosta, 2012; Scott-Clayton et al., 2012) have encouraged educators and policy administrators to use high school grade point averages (GPAs) and college GPAs as means of deciding placement for students.

This section closely examines how institutions determined cut scores on tests, the predictive validity of cut scores set by institutions in terms of first-semester student grades and degree completion, the relationship between academic knowledge and postsecondary education skills institutions view as required to qualify for entry-level credit bearing courses, the knowledge and skills represented by the cut score on the test, and the characteristics of institutions with higher and lower cut scores that use multiple alternative measures for student placement. College faculty, staff, and administrators are responsible for deciding whether students are ready to take college level coursework. However, interpretation and accuracy of placement decisions remains to be a concern, as stated by Scott-Clayton (2012). Scott-Clayton



emphasized that cut scores on entry assessment are not highly correlated with success in initial college-level courses when used as a sole measure for course placement.

Belfield and Crosta (2012) indicated the validity of placement tests depends on how and who are interpreted the results. Belfield and Crosta questioned what information are colleges using to make this determination? Both authors (2012) found that it is the use of the placement test and not the test instrument itself that is question. In fact, Belfield and Crosta found that the actual placement score is important and has a continuous relationship between scores and outcomes. Basically, students who have higher scores are more prepared for college than those who scores lower on the placement test. Belfield and Crosta (2012) claimed placement tests and performance in college are endogenous.

Professionals in student affairs contribute to these concerns with the daily ethical choices that they make. These can result in significant consequences for students, other professionals, and themselves (Kitchener, 1985). Academic administration has ethical challenges at its core. For example, a student with a low placement test score will need to take remedial courses that can slow down their progress in earning a degree. Kane (2006) argued that tests and test scores are not validated. Kane argued that it is the decisions based on the test results that are validated. According to the preamble of the ethics code of the American College Personnel Association (ACPA), advocates are enhancing “the worth, dignity, potential, and uniqueness of each individual” and, as a consequence, serving society (n.p.). Every college and university, public or private, church-related or not, is in the business of shaping human lives. Dewey and Makiguchi asserted that the purpose of education must be the lifelong happiness of learners (as cited in Ohira & Yabusaki, 2006, p. 3). Makiguchi (as cited in Ohira & Yabusaki, 2006) argued, “Humanistic education guides the process of character formation, a transcendent skill that might

best be termed an art” (p. 3). Bethel (1994) argued, “These goals to benefit students and to shape their lives are by their very nature ethical ones, since they involve making judgements of value about people and their lives” (p. 3). By educating college faculty, staff, and administrators to understand and to engage in ethical assessment practices and literacy should be an important goal for the organization.

According to Kitchener (1985), the model of ethical decision-making is designed to help practitioners understand and define the choices they face. It does not offer absolute answers. Instead, it illustrates how professionals can make reasoned and ethically defensible judgements. Kitchener’s (1985) ethical decision-making focuses on a situation and how the facts of that situation dictate the ethical rules, ethical principles, and ethical theories that have relevance for a decision, and how the process of ethical justification is hierarchically tiered (p. 18). How do administrators assess first-year incoming community college students?

First-semester college freshmen enter education with a wide range of abilities. It is necessary to assess their writing and reading skills in order to place them into college-level courses that best accommodate their abilities. According to Scott-Clayton (2012) found that in the 1980s, colleges increasingly required placement testing to determine college readiness and offered or required developmental or remedial education for students who placed below college-level requirements. Byrd and MacDonald (2005) noticed that decision making on college readiness was expedited when standardized assessments were used (p. 22). The authors indicated that placement tests and other standardized measures are often used to predict students’ readiness for college, but that standardized test-based admissions may overlook nontraditional students’ historical and cultural backgrounds that might include strengths as well as weaknesses related to readiness for college (Byrd & MacDonald, 2005, p. 22). Some institutions suggest that students

take remedial courses, while other institutions mandate their procedures through policies.

Utterback (2014) pointed out that “like most educational problems the placement of under-prepared students is more readily recognized and scrutinized than addressed and resolved” (p. 48). Studies have shown that among students recommended for remediation, as few as one-third to one-half voluntarily enroll in such courses.

However, Scott-Clayton (2012) explained that half of the students who needed but did not use remedial programs believed that the programs were not needed. Utterback (2014) found that although developmental courses do help underprepared students, questions concerning students who do not improve or who drop out of the program are debatable. However, Scott-Clayton (2012) found in a review that as many as 48% of enrolled students dropped out.

Many compelling factors determine why individuals decide to go to college. According to the American Association of Community Colleges (AACC, 2016.), students decide to attend a community college because of low tuition rates, local political support, to upgrade their skills and enter the workforce, or to take courses that will meet the requirements for pursuing a university degree. As such, community colleges provide the means to an education for a diverse population.

The AACC (2016) found that community colleges are the gateway to postsecondary education for many minorities, low-income earners, and first-generation postsecondary education students. Since 1985, more than half of all community college students have been women and/or of African American and Hispanic descent (AACC, 2016). Indeed, community colleges serve more diverse populations than they did 10 years ago. This could be a reason community college are seeing an increase in student enrollment, as reported by Juszkievicz (2016). Another reason why there may be an increase in enrollment is the open admission policy, which allows year-

round student registration. This approach can be compared to many universities that have rigorous requirements that might not meet the schedule of these nontraditional, underrepresented minority populations of potentially underprepared students.

Pusser and Levin (2009) wrote about community college students and the challenges that they bring with them to college. Many of the students are not traditional students, a term typically referring to individuals who just graduated from high school and are immediately transitioning to 4-year university. These students are nontraditional students whom for various reasons delayed their post high school education to later in life. Pusser and Levin indicated that some of these nontraditional students are veterans who served in the armed forces and individuals who are parents raising children on one income who are likely in need of financial aid to support their education. Students are also faced with a low socioeconomic status and backgrounds that make them underprepared and yet determined to achieve a better life through gaining an educational degree (Pusser & Levin, 2009).

Prior to enrolling in a program of interest, students are directed to take a standardized placement test such as COMPASS (this test has not been offered since the end of 2016) or ACCUPLACER. This untimed adaptive-computerized assessment tests a student's readiness in reading, writing, and math; the score on the assessment determines if he/she is ready for college-level courses. These scores are compared to a cutoff score matrix designed by the institution's administrative staff and faculty and the testing placement vendor(s). These standardized tests help the administrative staff and academic advisors identify whether a student must take remedial reading, writing, or math courses before enrolling in college-level courses. These placement results are an indicator that provides the testing staff, advisor faculty, and the student with course placement. For many years, community colleges have used this essential strategy to

retain students and provide the necessary support for them to be successful (Cohen, Brawer, & Kisker, 2014). The testing process, though, can be unfamiliar and tedious and require considerable time commitments spent learning reading, writing, and math.

### **Statement of Problem**

Cohen et al. (2014) acknowledged that standardized tests for incoming first-semester college students are used to effectively place them into English and math courses, yet little is known about what happens when there are two competing scores. The literature has inadequately addressed how to maximize freshman performance in an English course when students have competing placement scores. For example, some students who score above the established cutoff for both reading and writing are placed into college-level English. There are some students who score below the cutoff for both reading and writing are placed into remedial English. However, what happens to those students who score above the cutoff on one placement test and below the cutoff on the other placement test? How are these students with competing cut scores systematically placed? Are they above or below? According to Hughes and Scott-Clayton (2011) often, the decision is left to the faculty, staff, and or administrator reviewing the cut scores to be placed in a course.

### **Purpose of the Study**

The purpose of this study was to determine whether ACCUPLACER placement cutoff scores in reading and writing predicted performance in first-semester English courses and first-semester cumulative GPA among incoming freshmen at a community college in the Pacific Northwest during the 2015–2016 and 2016–2017 school years.

## **Research Questions**

RQ1: What are the differences between remedial and entry-level course grades for first-semester students who have competing placement scores? For this study, the following hypotheses are used to guide the research:

*H1<sub>0</sub>*: There are no differences in either remedial or entry-level English course grades for first-semester students who have competing placement scores.

*H1<sub>A</sub>*: Students with passing (above the cut score) writing scores, but non-passing (below the cut score) reading scores or vice versa have significantly higher grades in both remedial and entry-level English courses.

RQ2: What are the differences in first-semester GPAs for first-semester students who have competing placement scores?

*H2<sub>0</sub>*: There are no differences in first-semester GPAs for first-semester students who have competing placement scores.

*H2<sub>A</sub>*: Students with passing (above the cut score) writing scores but non-passing (below the cut score) reading scores have significantly higher first-semester GPAs.

## **Rationale, Relevance, and Significance of the Study**

The results of this study may benefit the population of community college administrators, faculty, and staff who work with first-semester students. This research is designed to look outside the mainstream to clear a new path for alternative placement assessment. O'Loughlin (2013) expressed that a new path could be found by expanding the body of knowledge concerning the degree of test score consistency, test fairness interpretation, and the validity of students being placed in English courses at community colleges by administrative personnel. O'Loughlin found that, often individuals making the placement decisions are solely basing their

decisions on the minimum test score. The author argued individuals in advisory roles should be educated on test validity, test processes, test contents, and responsible interpretation and use of test scores.

As Ghaicha (2016) expressed, assessment is a powerful lever that can either boost or undermine a student's learning. Ghaicha argued this is due to lack of assessment literacy by instructional and institutional personnel who choose not to make it part of their principled educational assessment framework, even though they work under the same umbrella. Fulcher (2012) defined assessment literacy as being familiar with test processes and having the awareness of the principles and concepts that guide practice, which would include validity, reliability, test fairness, interpretation and use of test scores, and related ethical concerns.

There is a lack of literature concerning community college administrative staff and faculty perceptions of placement validity for students when they have competing placement scores. This gap suggests that neither community college administrative staff nor students are well-represented in the larger body of educational research. Byrd and Macdonald (2005) found there is a need to uncover administrative staff and faculty perceptions, specifically those regarding decisions about competing placement scores and their effects on student success. Byrd and Macdonald emphasized that standardized test-based admissions may overlook college students' historical and cultural backgrounds, which might include strengths as well as deficits related to readiness for college. As such, they may not be well-represented in the larger body of educational research. If scores do not predict success, then scholars must consider alternative explanations for student success. The elements reflect two areas in education that are becoming more visible in the 21st century as an increasing number of diverse and underprepared students seek academic placement.

## Definition of Terms

**ACCUPLACER.** This term is defined as a suite of comprehensive tests that determines a student's skill level in writing, reading, math, and computer skills. It is used to determine proper writing, reading, and math course placement. This test is produced by the College Board (ACCUPLACER, 2016).

**COMPASS.** This term is defined as a computer adaptive course placement test used to determine proper writing skills, reading, prealgebra, algebra, college algebra, geometry, and trigonometry course placement (COMPASS, 2012).

*Community college.* This term is defined as a system of public community colleges in Washington that offer transfer, technical, remedial, and community education courses, programs, and services (Cohen et al., 2014).

**Entry-level course.** This term is defined as courses in English and Math for students with those skills necessary to perform college-level work required by the institution (NCES, 2016, p. 2).

**New student.** This term is defined as a person who enrolls in a course at a community college (Cohen et al., 2014). For this study, a new student is defined as a student who enrolled in a course in that student's first-semester at a community college in Washington and took the ACCUPLACER Placement Test before registering for classes.

**Placement cut scores.** This term is defined as a selected point on the score scale of a test to determine whether a particular test score is sufficient for its intended purpose (ACCUPLACER Manual, 2016).

**Placement validity.** This term is defined as a set of standards used to predict a student's success in a course based on that student's score on a specific test (College Board, 2018).



Remedial course. This term is defined as courses in reading, writing, and mathematics (pre-college level) for students lacking those skills necessary to perform college-level work at the level required by the institution (NCES, 2016, p. 2).

Standardized placement. This term is defined as an untimed test is administered to new students at community colleges to determine proper placement into writing, reading, and math courses (ACCUPLACER, 2016; ACT History, 2014).

Unified validity theory. This term is defined as validity is about the construct and meaning of scores through validated by inferences, interpretations, actions, or decisions based on a test score.

### **Assumptions, Delimitations and Limitations**

Assumptions are facts presumed by the researcher to be true without actually being verified. It is assumed that all participants took both the writing and reading ACCUPLACER test. It is assumed that all colleges use the same cut scores matrix to place student in entry-level and remedial courses. It is assumed that there is a relationship between the student competing cut scores and placement decision-making. Delimitations are factors that affect the study over which the research generally does have some degree of control. The research was specifically delimited in four ways. First, it was delimited to all first-year students entering into a college in the Pacific Northwest using archival data. Second, this study was delimited to one college affiliated to the Washington State Community and Technical College. Third, this research was delimited to the ACCUPLACER test. Fourth, this research was delimited to data for first-year students without demographic backgrounds. Limitations are factors, usually beyond the researcher's control, that may affect the results of a study or how the results are interpreted. The study was limited to 2,722 first-semester college students in English classes at one college in the Pacific Northwest. A

limited factor of the study was a low response rate of two institutions out of the ten agreeing to participant in this study. However, only one of the institutions met the required data needed for this research. This sample was not representative of all incoming community and or college students and is, therefore, limited to information based on archival data provided by the college participating in this study. Because of only one institution that was used for this study, which is not representative of all school sites and only pertains to first-time students and their first English course grade and cumulative GPA. The quantitative correlation study used a limited secondary archival data from 2015-2016 and 2016-2017 school years.

Due to the large number of potential participants in the study population, this study only focused on first-time community college student population who have taken the ACCUPLACER reading and writing exams to be placed into an English course located in the Pacific Northwest. In order to assure manageability of the collected data, I used anonymized archival data from the 2015-2016 and 2016-2017 school years only. I selected this study because I was once a first-time community college student who had to take the college placement exam to pursue a certificate degree while working full-time. My reading score was average, and my writing score was above the cutoff score, yet I was placed in a developmental course. Later, I was hired to work at the very same college I attended. During my 10 years of service, 4 years were spent managing the assessment center.

## **Summary**

In this chapter, I presented the research questions within the unified validity theory framework (Hubley & Zumbo, 2011, p. 219). Standardized tests for incoming first-semester college students are used to effectively place them into college courses, yet little is known about what happens when there are two competing scores for students who take the English placement

test. The English placement test consist of a reading and writing exams. How are students who score above the cutoff on a reading test and below the cutoff on the writing test place into a English course? How are these students with competing cut scores systematically placed? Is there a relationship between these competing cuts-cores? Who is responsible for creating these placement matrixes?

How can assessment literacy and the unified validity theory impact these placement decisions?

This is a critical step on a student pathway not only entering into college, fundamentally it paves a road for them to become a valuable change agent within their families, community and society.

Although, there is a limited research examining how to maximize freshman performance in an English course when there are competing placement scores. In this study, I focused on writing and placement scores, students' first English course grades and cumulative GPAs, and placement validity. This study addressed the perceptions of how to maximize freshman performance in an English course when students have competing placement scores.

I selected this research topic because only a few studies have revealed writing to be a stronger predictor than reading. In addition, academic administration has ethical challenges that need to be addressed. This research should assist faculty and administration in better understanding how reading and writing scores may be used when placing students in English courses. Zieky and Perie (2006) emphasized that cut scores must be validated and educators should be prepared to make changes to the cut scores to meet their intended purpose. In addition, it will help determine whether placement decisions can be standardized (or at least be the source of sound advice based on data) for administrators. These goals to benefit students and to shape their lives are by their very nature ethical ones because they involve making value judgements about people and their lives.

In Chapter 2, the researcher examines literature on topics that address whether competing placement scores in reading and writing do predict performance for incoming students in English courses. Most of the literature on placement scores argued against placement cut scores predicting performance for students. Chapter 3, presents the purpose of the study, justifies research design supported by past and current literature and relevant descriptive detail, and introduces the population and sampling methods, instrumentation, data collection, identification of attributes, data analysis, limitations of designs, and validation. In Chapter 4 the multivariate analysis of variance (MANOVA) study is utilized to explore how cutoff scores in reading and writing predicted performance in first-semester English courses and first-semester cumulative GPA among incoming students at a community college in the Pacific Northwest during the 2015-2016 and 2016-2017 school years. Lastly, in Chapter 5, a discussion and conclusion of this research is described in further detail, along with the limitations and implications pertaining to current practice, policy, and theory, and finally recommendations for future research.

## **Chapter 2: Literature Review**

### **Introduction to the Literature Review**

In this chapter, the researcher examines literature on topics that address whether competing placement scores in reading and writing do predict performance for incoming students in English courses. Most of the literature on placement scores argued against placement cut scores predicting performance for students. For example, Barnett and Reddy (2018) argued test scores are not highly correlated with success in first college-level courses when used as a sole measurement for course placement. Belfield and Crosta (2012) and Scott-Clayton et al. (2012) have found that student scores on entry assessments are not highly correlated with performance success for first-time college courses when used as a sole measurement for course placement.

There is insufficient research on competing placement scores predicting performance for incoming students entering into first-semester English course. Fortunately, there is a significant amount of information on the role community colleges play in determining placement for a student, placement scores do not predict performance for students, and removing placement testing from the college admission process and community setting.

The purpose of this quantitative study was to determine whether ACCUPLACER placement assessment scores in reading and writing predicted performance in first-semester English courses and first-semester cumulative GPA among incoming freshmen at community colleges in the Pacific Northwest. Higher education administrators, faculty, and staff can use the results of this study to improve their institutions' infrastructures to equip and empower students of different levels by providing the right placement into English courses.

## **Conceptual Framework**

The study problem was a lack of research examining how to maximize freshman performance in an English placement course when they have competing placement scores. In this case, various conceptual frameworks were used to discuss different variables that were used in conducting the study. The main frameworks used in this study included assessment literacy, placement validity, testing, evaluation, and measurement. These conceptual frameworks are used interchangeably to evaluate how to maximize performance in an English placement course when there are competing placement scores.

### **Assessment Literacy**

Assessment literacy is used to refer to the concepts that are fundamentally important while making procedures and decisions that are deemed vital to influence educational choices and options (Indiana, 2018). In this case, the main focus was on individual understanding of the primary assessment concepts that are fundamental in partaking specified procedures in the education system. As indicated the main point is fundamental assessment and how it is used with other variables in the education system to evaluate placement criteria. Therefore, educational assessment literacy is important in describing the full range of methodologies and procedures that can be used to determine and evaluate the status of a student in a classroom setting.

As such, literacy is referred to as the general ability to write and read. It is more general than just specified competence and knowledge in a certain area. Therefore, assessment literacy as used in education is the basic understanding of fundamental assessment procedures and concepts used in such settings (Indiana, 2018). In this case, concepts are used to refer to the measurement aspects such as reliability, validity, and fairness. On the other hand, procedures are the methods and techniques used to evaluate tests in an educational setting.

Assessment literacy is not only centered on the fundamental procedures and concepts but also such decisions that can impact positive decisions that influence educational measurement. Educators in learning environment need to be assessment literate, they should be able to understand the fundamental concepts of education testing and the procedures used to evaluate and measure such tests. Moreover, this kind of literacy should be enhanced to every shareholder in the educational sector, which is comprised of educators, parents, students, and other educative policy makers (Fulcher, 2012). The most targeted group for assessment literacy is teachers and schools' educational administrations. Having such knowledge will enable them to share insights that are assessment based with other decision-makers in schools such as the board members, parents, and students who are mainly affected with such assessment literacy concepts and procedures.

Despite the much-needed urge for assessment literacy, educators may be found in a hard place trying to write tests, administer them, and make decisions based on the results. Therefore, teachers are motivated to acquire knowledge by completing formal courses of educational measurement in their educational time. These courses are taught by various college and university professors who are measurement specialists. In these courses, various assessment contents that are relevant to educational assessment literacy are instilled in the potential teachers. Therefore, the teachers are well equipped with relevant knowledge and practicality of measuring the progress of students in classroom (Fulcher, 2012).

Assessment literate individuals, especially educators, should use such procedures and concepts properly to make sure the instructional and sound decisions are received, thereby improving the quality of education amongst students. Additionally, becoming educational assessment literate pays off greatly for educators, whereby the more they incorporate related

notions that play a vital role in decision making in educational systems, the more likely they are to make the best choice among various decisional options. These decisions will subsequently benefit the learners who will be under such educator's care and become successful. An assessment illiterate individual is more likely to make mistakes. This may be teachers, administrators, or students. For example, the teacher may use a wrong test to evaluate learners, misuse the results from the test, or fail to employ useful tests for learners.

Essentially, assessment literacy is important to both educators and learners. Possessing such knowledge on basic assessment practice and techniques is critical in making sound decisions and choices. The main purpose of such assessments is to improve the quality of education and the learning process in general. Therefore, both the teacher and the learners should critically understand both formal and informal assessment in teaching and learning process (Marcos, n.d.). The teachers, in this case, should understand that assessment is vital to teaching and should use it at all times, always involve students in such assessments, and be aware of peer assessment for evaluation and to help students to assess themselves independently. Also, the teacher should know when the assessment tools are relevant and how to appropriately use them.

Moreover, teachers should be able to use the assessment material maximally, following outlined procedures to deliver information. Assessment literate individuals are those who have skills and ideas on how to use various assessment tools. They know about the assessment tool, believe in it, and use it correctly (Indiana, 2018). Also, student success is dependent on various essential parts of the school system. This includes the curriculum, instructions, and assessment. Through assessment, the evidence is gathered and is later used in making informed educational decisions. These decisions support the curriculum and the instructions in the learning process. Subsequently, this increases the learner's success and growth in the particular field.



## **Placement Validity**

Placement validity refers to the appropriateness and relevance of the placement procedure or decision in score evaluation and measurement. To be valid, the placement procedure should be honest and accurate. The validity of placement measures is demonstrated through the connection between what the various placement scores indicate and the factual measures they are supposed to achieve. Essentially, placement validity is a basic concept used to assess the competence of educational operations in determining merits in learning institutions. Placement scores are used to determine the validity of a placement in a certain course or area of study (Mattern & Packman, 2009). Therefore, such tests should be reliable and valid to identify the required support and needs of the students. As such, accurate and fair assessment of their ability is important to both the teacher and the student.

Placement validity has a goal of testing students to reduce the number of students who fail or face problems in their academic programs. For the placement to be valid, it should have the minimum score for a student to attain in getting placed to the associated course of study. Therefore, logistic and administrative constraints should be evaluated to assess the importance of the placement procedure, hence its validity. The validity of placement tests and scores refers to the appropriate measurement an instrument can make or what it does (ACES, 2018). Therefore, it should be as fair as possible and as open as a placement can be. Moreover, it should manifest the student's ability, whereby the tests are administered in a way conducive to fairness in the results. The placement portfolio to be valid and reliable should be able to indicate each student's skills as well as other measurements of ability.

Regarding the reliability of the placement procedure, the idea of consistency is also encouraged. For the placement process to be valid, the various testing and evaluation instruments

need to be consistent with the measurement. Though reliability is the conceptual foundation of numerical levels, it is important for such numbers to be valid and agreeable. Therefore, for a placement to be valid through various assessments of the student's ability, there must be an agreement between the various readers on which score is most appropriate. The readers, in this case, are the evaluators and should be consistent in the manner in which they produce results so they are accepted by everyone concerned.

Nevertheless, when faced with the challenge of specific individual choice, it is sometimes important to consider validity over reliability. For instance, one or some readers may try to force contention in an attempt to make everyone agree to the student's readings, thereby making the work unnatural and invalid. In contrast, there is a notion that assessment devices should be as reliable as they are valid and the personal placement scores and results should be as consistent as they are honest, so they measure what they are supposed to measure (ACES, 2018). There is much interdependence between validity and reliability, no one of them can be overlooked in preference of the other; any measure of placement must take all of them into account while doing the analysis and making decisions.

## **Evaluation**

As indicated above, the conceptual frameworks are interchangeably used throughout the study and help in evaluating and solving the main problem. Evaluation, in this case, is used to refer to the various judgments that an assessment is subjected to ("My English Pages," 2018). Evaluation is mostly a qualitative measurement tool for the prevailing issues and situations. Through specific findings and judgment, the effectiveness and desirability of a result are analyzed with recommendations stipulated based on whether they pass the outlined threshold or not. Therefore, evaluation calls for the effectiveness, goodness, and correctness of a program or

procedure. In education, evaluations are carried out in different areas of studies and development. These evaluations are carried out from time to time and determine the effectiveness of a program, subject, or output results in terms of the student's ability and skills.

Moreover, through educational evaluation, the students can make decisions based on reliable plans and ascertain the extent to which energy, time, and resources are used in particular situations. Also, teachers can identify students' weaknesses and strengths and learn how they can help them. Evaluation, in this case, is used to refer to the various judgment-based objectives that are determinant factors through which a student or learner is promoted from one level to the other. Also, it is a basis on which a course is deemed suitable for which learner and their ability and skills in such areas.

There are two main types of evaluation: the student level and program level (University of Minnesota, n.d.). In programmed evaluation, the main point is to check and determine if a program has been implemented successfully or whether it poses some shortcomings and problems. On the other hand, student evaluation is used to determine how best a student is in performing a certain program in a specific area of study. In education, evaluation can either be summative or formative. According to formative evaluation, teachers are to draw reliable inferences concerning the student, identify the various levels of the cognitive process the student is going through, select the best teaching material and technique, decide which feasibility program is best within a classroom, and predict the expected outcome and extent of summative evaluation. Essentially, the purpose of this kind of evaluation is to check whether students can do new tasks that they could not do before. Its ultimate goal is to help learners perform better at the end of learning programs.

On the other hand, summative evaluation helps to determine which objectives have been achieved within the program (University of Minnesota, n.d.). It is involved with the progress achieved as well as the outcome results in a specific area of study. Therefore, they are the basis of placement scores and measurements. Summative evaluation, which is the main focus of this study, is judgmental and in most cases carries threats to students.

In education, evaluation serves various purposes in assessing the student. Therefore, the teacher should be objective and select the best sampling techniques for the evaluation to be successful. As such, evaluation is an interchangeable variable used in comparing components of a system to its expected requirements (Marcos, n.d.). These requirements and specifications need to be tested and evaluated; hence, tests play a vital role in evaluating various designs and performances that are used as criteria for either a promotion or placement in a certain area of study. Additionally, evaluations and tests are used to evaluate general components and evaluate each component of the integrated system.

## **Testing**

Testing is a concept used to refer to the various techniques used to acquire information for the placement process in the study. Testing is critical, as it determines which information passes which merits, therefore measuring a person's ability and skills in a specific area.

Assessment literacy helps individuals make informed decisions on how and if they meet the required threshold for a particular placement. Evaluation testing, on the other hand, is concerned with the student's development and if they have acquired skills to solve a problem that earlier posed a challenge to them. However, testing is mainly focused on the procedures and way through which such evaluation and assessment are done. Tests are the determining factors of various assessments and evaluations in a learning environment (Bellal, 2016). Various factors

make it important to have tests in the educational system. For this reason, there are various types of tests, including achievement tests, progressive tests, diagnostic tests, placement tests, and proficiency tests.

Through attainment and achievement tests, a student's mastery of subject or syllabus is evaluated. This kind of test is important in assessing an individual's progress in a certain area and measures the milestones achieved throughout the year (Bellal, 2016). On the other hand, progressive tests are used to assess if a student has made progress in mastering particular material taught in the classroom. They mainly serve motivational purposes for students and make them self-reflective on current progress. Also, they are used to evaluate the student's difficulties or weaknesses to assess the success of classroom teaching.

Diagnostic tests are proficiency and achievement tests that enable teachers to identify weak students so a special program can be planned for them. They can also be used to place individuals in areas in which they may have strength. This test is usually applied during the beginning of a course, and the scores generated help in placement of students or refer them back to class for remedial work. Placement tests are used to separate and sort new students to a particular course. This helps ensure students are grouped according to their ability and at the same level as their counterparts. The placement is done to group individuals with a similar general level of ability and skills.

Proficiency tests are used to measure and determine students' proficiency in specific areas of study. The achievements are based on certain work or tasks given to perform. On the other hand, aptitude tests are used to measure probable performance among students. They assess individual ability and proficiency in language use, including both sound and grammatical structures (Bellal, 2016). Essentially, testing is a mechanism through which a person's capability

and skills can be assured. Therefore, to be most effective, testing should not only occur at the end of the study but in the beginning too and should also be addressed through the entire study cycle

## **Measurement**

Measurement, as used in this paper, refers to assigning quantitative meaning to actual tests for placement purposes. The process of measurement, therefore, is the assigning of numerical meaning to objects, events, or quantities (Kizlik, 2014). In essence, measurement goes beyond just quantitative analysis but is also a set of procedures and outlined principles that are used in educational assessment and testing. In education, such basic principles that are basis of measurement evaluation and assessment include derived scores, percentile ranking standard scores, and raw scores.

In the measurement, dimensions and attributes of physical objects are always determined. In this exception, the word measure is used to refer to the determinant of IQ of individuals. (Kizlik, 2014). During measurement, standard procedures and instruments are used to determine how big, heavy, tall, or straight something is. In this case, the standard instruments used include scales, rulers, thermometers, and other gauges of measurement. In the process of measurement, information is obtained to what is supposed to be and how it is. However, such information might lack credibility and accuracy depending on the type of instruments used during the measuring process and the acquired skills in using such tools.

In education, measures are used to determine if a student knows and can do a specific task. They are used to assess and analyze educational data and scores that have been obtained from other educational assessment procedures to test the proficiency and abilities of students. Therefore, measurement practice aims to analyze the ability and the attainment of different levels in various areas of study such as writing reading and drawing (Maheshwari, 2016). For a

measurement to be deemed accurate, its reliability and validity should be evaluated. In the educational measurement, the analysis of data or scores come from assessments and tests provided by an educator to the learners. This means that total scores of the test or assessment, whether open-ended or with multiple choices, are used as guides for making such marks.

Measurements in most cases act as labels; they provide values that are then quantified into specific units. Based on such evaluation, there are three types of measurement, including direct, indirect, and relative measurements (Maheshwari, 2016). Direct measurement is used to find the breadth or length of an object. In this case, direct measurement is always direct and accurate if the tools used during the measuring process are valid. Indirect measurements are used to determine quantitative aspects of a particular object or item using another one. On the other hand, relative measurement is used to determine the ability and proficiency of their skills. In this case, tests are used to compare people and to group them according to their intelligence and learning ability. Therefore, all educational and psychological measurements are seen as relative.

In the classroom, students' achievement can be measured and viewed on various levels; first, self-referenced measurements allow students to view their progress in relation to former scores. Secondly, criterion referenced refers to a student's progress being measured through certain criteria set by the teacher. The students' scores and performance are analyzed in terms of already set standards or criteria. Lastly, in norm-referenced measurements, students' progress is compared to their peers' progress, and individual scores are evaluated based on the scores of others (Maheshwari, 2016).

In education, these measurements are further classified into three categories: cognitive or noncognitive, locally developed measures and observations or self-reports (Maheshwari, 2016). Cognitive measures focus on mental ability whereas non-cognitive measures focus on affective

traits. Commercial measures are dependent on technical merits whereas local measures are concerned with technical characteristics. Lately self-report measures that require responses such as tests whereas observation measures only depend on others to observe analyze and record data.

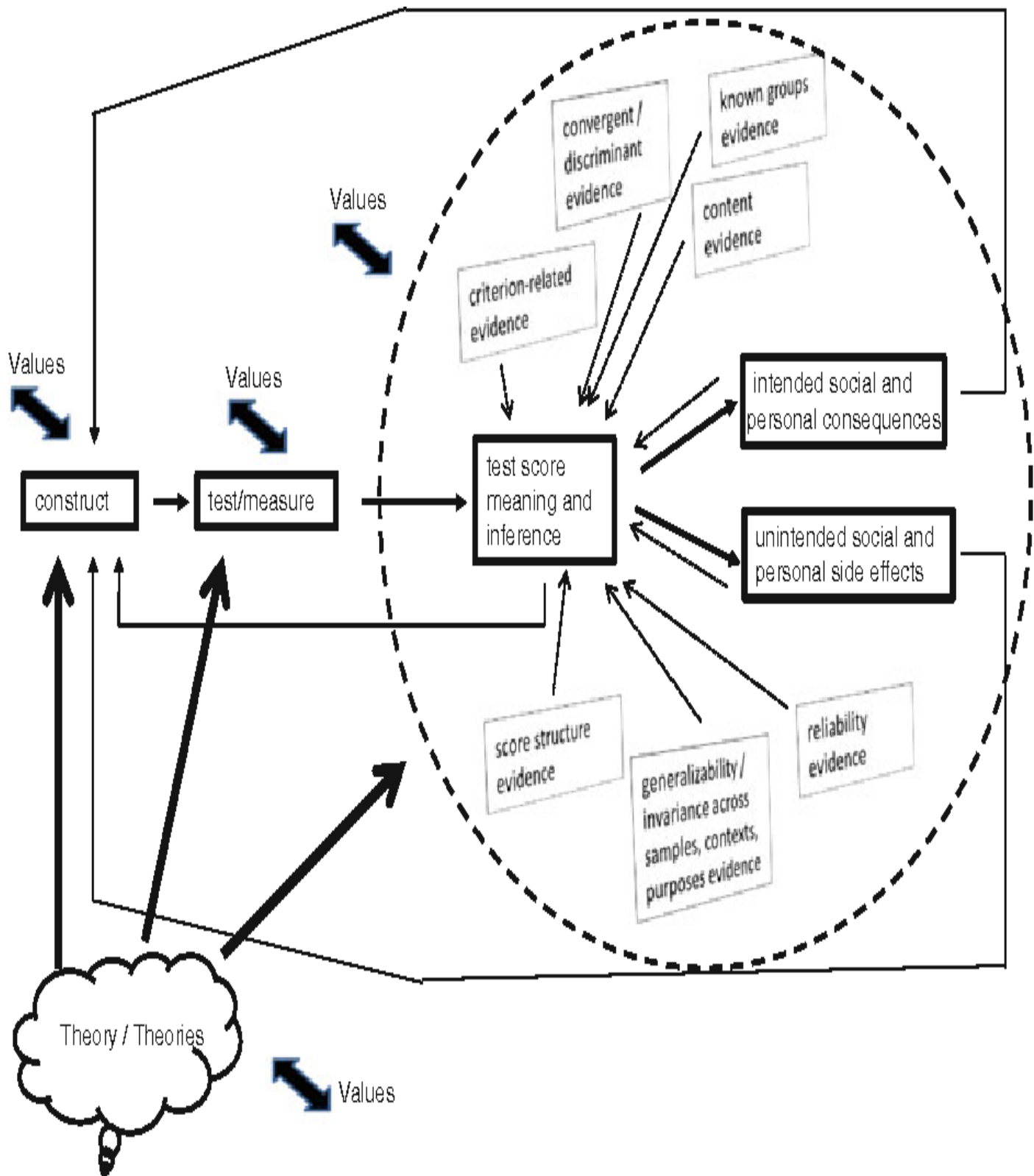
### **Unified Validity Theory**

Hubley and Zumbo (2011) believed that any measurement has an impact on personal and social change. According to Hubley and Zumbo (2011), any test developers and users must take into consideration the consequences and side effects of measurement through a validation process. Both authors argued that test developers, users, researchers, and educators lack the understanding of the consequential basis of test interpretation and use based on test scores. They found that validity evidence in the literature, including consequences, were outdated frameworks (as cited in Cizek et al., 2008). Therefore, under the unified concept, validity is the construct and meaning of scores that includes six aspects of construct validity evidence: content, processes, score structure, generalizability, external relationships, and consequences of testing.

According to Forer and Zumbo (2011) matrix model of unified validity theory is often misunderstood by test developers, researchers, and practitioners. Forer and Zumbo (2011) stressed to understand this theory; individuals need to be aware of the consequences and side effects of measurements in the validation process itself. Both authors strongly believed validity and the consequences of test interpretation and use at its core impact personal and social change. Therefore, although research implies using test scores as a sole measurement for student performance is not valid, Forer and Zumbo based on their new reframing of Messick's unified validity theory framework, it does. Forer and Zumbo emphasized that validity is an ongoing process which also changes over time and is not fixed.



Hubley and Zumbo (2011) explained in figure 1 shows based on construct, one can develop a test or measure according to content of the test score meaning and inference. The next step looking at the test score meaning and inference on both intended and unintended social and personal consequences brings forth the side effects of legitimate test use (values) creating the validation process. Both authors explained that within the circle are the criteria relationship to signify the construct validity which is the core of this unified view of validity and validation. Each concept does not act alone but is interrelated that impact one another. Similar to a interwoven mat, each string is connected in order to produce a unified product which is not an ordinary mat but a product unique to its contents. In this unified validity framework revised framework by Hubley and Zumbo (2011) it encompasses both individual differences and multilevel constructs that researchers, test developers, and educators can use to benefit their institutions.



**Figure 1.** Hubley and Zumbo revised unified view of validity and validation

## **Review of Research and Theoretical Literature**

A review of the literature in the first two sections of this chapter examines the history of English courses offered at community colleges. The third and fourth sections of this chapter review both the purpose and the history of the ACCUPLACER test and the value of placement cut scores and how they are used as an instrument to determine the English placement for first-semester college students. In addition, the data from these cut score placements provide information to college personnel who have the opportunity to identify resources for students prior to and after taking the placement exams. The fifth section will focus on incoming students who represent the heart of the educational system. The sixth section of this chapter reviews the ethical and moral responsibilities of administrators and students in the education arena. Lastly, the final section of this chapter reviews what the literature reveals about the importance of assessment on writing proficiency for students and their English courses. The final section also reviews related studies, the methods used in each study, and what the research in each has shown with respect to successful English students and the ACCUPLACER exam. The researcher delves further into the statistical, theoretical, and contingency framework that may result in stricter guidelines to for placement of underprepared freshmen students and modifications in test contents, as well as a revision of test administration procedures, assessments, and testing policies.

## **Methods of Searching**

The majority of the literature used was located via a college library peer-reviewed journal and dissertation search. Keywords used in the search consisted of: *incoming college students and placement testing, reading and writing cut scores and English performance, ACCUPLACER and COMPASS standardized test and college students, community college and standardized testing,*

and *ethical and moral responsibilities*. Additional research was conducted using various search engines as well as contacting authors who studied topics similar to this research.

### **History of the Community College**

In the United States of America, development of Community Colleges dates back in the year 1862 as a result of the Land Grant Act. The Act proposed increased access to public institutions of higher education. The of expanded access to public higher education is the inclusion of the majority of individuals, who had formally denied admission, into colleges and universities. Moreover, there was a second Act which worked to reinforce the expansion of access into institutions of higher education. That is the second Morrill Act of 1890 which ensured public funds are not provided to those institutions of higher learning which withheld inclusion of students who did not meet specific social criteria, for instance, a particular race considered minority hence could not be registered. In the year 1901, saw the development of the first community college in the United States of America. William Harper is considered to be one of the individuals who pushed for the development of that community college. The American Association of Junior Colleges (AAJC) was founded in the year 1920, which in the current time is known as the American Association of Community Colleges mandated to organize the American Community Colleges nationally. The community colleges in the United States of America continued to have an enriched heritage due to its diversity. These community institutions continue to facilitate the diverse population of American nationals to acquire various skills in contemporary society. Hence, through the development of community colleges in America, her developmental dream is fostered and improved (Brint & Karabel, 1989).

## **Target Population**

Enrollment into community colleges in the United States is open to anyone who has a high school diploma or not. The completion of high school education is not a requirement as the target individual can obtain admission based on their ability to show they will benefit from the community college; for instance, Minnesota and California. Hence, in those states, the target population for the community college inclusion is any person who has attained 18 years and above, who demonstrates the ability to benefit from college teachings (Roueche, Baker & Rose, 2014). Moreover, the target population for community colleges is dropouts from high school and other lower levels of education. The learners in community colleges comprise of high school teenagers under the policy ensuring dual enrollment to learning institutions, to working individuals undertaking part-time training for them to gain additional skills. Moreover, graduate students are also targeted so that they increase their employability chances throughout their lifetime. Also, individuals enrolled in universities can undergo inter-institution transfers, and get entered in community colleges of their choice to complete their education.

## **Enrollment**

In the early years of the creation of community colleges, the growth of the institutions was slow throughout the 20th century. In the year 1910, the junior colleges were three; the year 1914 the number increased to 14 public colleges and 32 private ones. Various factors are influencing the growth of community colleges. According to Cohen (1996), the significant forces behind the development of these colleges was the demand for trained workers who will operate the increased national industries. Moreover, the physiological growth and development of the American population is a factor, such that the adolescent stage is prolonged in the United States. The American society therefore perceived schools to be beneficial in the community

development, hence increased colleges contributed to the growth of their society. The increased development of community colleges brought a sense of pride in the community which enhances cultural development in the United States.

Moreover, the growth of colleges is attributed to religion as various church denominations began to create community colleges which are affiliated to them. The peak of enrollment in the community colleges was during the Great Depression, whereby teenage adults were unable to secure decent employment opportunities as a result of increased high school graduates across the United States. Between the year 1929 and 1939 enrollment into the colleges tripled to 150,000 students. There is a continued surge into the American Community Colleges enrollment which is now focused on specialized training in diverse disciplines. There is continued increase in the number of colleges as currently there are about 1100 community colleges in the United States which admit approximately 10 million students annually. The continued enrollment into community colleges is due to their open policy for anyone interested, the ease in accessing the institutions, and their primary focus of teaching diverse learners (American Association of Community Colleges, 2019).

### **Basic Structure**

Since the creation of the first community college, the first two years was not recognized as university-level education. For instance, in the year 1896, University of Missouri president believed a student in freshman and sophomore years are identical, and the teaching style is similar (Levinson, 2005). Moreover, the force behind the creation of the first community college, Harper, was of the same idea. Thus, the first two years in the community colleges are considered an extension of the high school. There is an organizational separation in the community colleges, whereby, the institution has two categories which include the senior and junior colleges.

Today, many students are able to gain access to education due to changes in the law about open enrollment policies. Increasing enrollment, reductions in funding for higher education, and a vast increase in diversity continue to be barriers for new incoming students entering into community colleges with hopes of earning a certificate or degree. Conley (2018) emphasized that students in the past focused more heavily with eligibility into college rather than college readiness. Conley found that the basic purpose of admission requirements decades ago was to sort and identify students as college material or not college material. The fundamental goal is to empower students to take ownership of their own learning by linking the assessment of student competency to attainment of assessment standards based on relationship among curriculum, instructions, and student services.

### **History of English Writing and Reading**

Writing proficiency can have a fundamental impact on the success of an individual's many endeavors in life. In higher education, written communication is an essential competency for both academic and career success. Administrators, staff, and students today must be able to clearly communicate the exchange of information, knowledge, and ideas. In the United States, according to the National Assessment of Educational Progress (2011), 27% of students Grades 8 through 12 scored at or above proficiency levels in writing while only 3% scored at advanced levels. Additionally, only a 32% of eighth grade students and 38% of 12th grade students scored at or above reading proficiency levels.

Allen, Snow, Crossley, Jackson, and McNamara (2014) found that reading comprehension was strongly related to both vocabulary knowledge and higher-level cognitive skills. The authors (2014) indicated that writing ability was moderately associated with vocabulary knowledge and the ability to access prior knowledge. Allen et al. argued that strong

reading comprehension and writing skills resulted from shared common knowledge sources and higher-level cognitive skills.

Woods, Park, Hu, and Jones (2017) concluded there is a powerful correlation between strong reading and writing skills and student success and that reading and writing can positively impact society. Because of this, they suggested to measure early for reading and writing skills in high school to help prepare students for college. This understanding is crucial because, from logistical regression research, the authors constructed a successful and widely used prediction model to determine underprepared students' likelihood to be successful in college-level English courses. In evaluating available data, underprepared or not, their research makes it clear that precollege intervention and academic preparation is vital for students' success in a gateway college English course. The key implication drawn from this understanding is that policy makers and administrators of education systems from K–12 through college need to be reminded of the importance of combined models for reading and writing assessments and other measures of success. These basic skills help students promote a positive view of themselves and therefore empower students to make their voices heard and further contribute to society.

### **History of Standardized Testing and the Value of Placement Scores**

Alcocer (2017) explained that standardized testing has existed since 1845, when oral exams and assessments were common. The American educational reformer Horace Mann believed that, “it is the law of our nature to desire happiness. He continued, that this law is not local, but universal; not temporary, but eternal” (Alcocer, 2017, p.1). This statement could be interpreted that all individuals desiring an education have the right to do so and education should be provided by well-trained, professional teachers free of the tenets of society and nonsectarian. This was a start of a new revolution for students and placement assessment.



Huxham, Campbell, and Westwood (2010) explained that an oral examination is where a candidate provides verbal responses to questions from one or more examiners. The authors claimed that the oral examination is a traditional practice in both education and society. This method is the oldest form of assessment. The Ph.D. defense and clinical examinations are examples of this and have been in place for decades. Huxham, Campbell, and Westwood (2010) argued that the oral assessment is more inclusive than a written assessment and is a powerful tool in helping students establish a professional identity. The authors gave five reasons for this advantage: (a) development of oral communication skills, (b) more authentic than most types of assessments, (c) more inclusive, (d) powerful tool to gauge understanding, encourage critical thinking, focus on deep understanding and critique rather than on the superficial regurgitation often found in written examinations, and lastly, (e) resistant to plagiarism as students must explain their own understanding using their own words.

Gershon (2015) indicated that standardized school tests were designed to measure students' ability and not achievement. According, to Gershon, the early 20th century intelligence tests along with assessments began to flourish with scientific objectivity. The author also found that during World War 1, the army alpha and beta tests were developed to sort soldiers by their mental abilities which later become a mechanism for schools to use to test students. This sorting mechanism continued to identify "slow kids" and kids with sharper mental abilities with the intent to not waste resources on the prior (Gershon, 2015, p.1). As years passed, testing evolved to the point where academic tracking was used to direct students on the career path deemed appropriate for them. By the 1920s, the college entrance examination board (now known as Scholastic Aptitude Test) was developed (Gershon, 2015, p. 1). Today, many colleges use the ACCUPLACER standardized test to place incoming students into courses.

The purpose of the ACCUPLACER tests is to help institutions in place students into appropriate English and Math courses. Kane (2006) indicated that validation involves the evaluation of the proposed interpretations and uses of measurements. It is not the test that is validated, and it is not the test scores that are validated. It is the claims and decisions based on the test results that are validated. For more than a century, standardized tests have been an integral part of assessing students' abilities and whether or not they are ready for college.

### **Setting Cut Scores**

According to the College Board (2015), the faculty, staff, and administrators of each institution establish their own cut scores matrix to be used for placement decisions. College Board indicated that each institution differs greatly with the respect to the composition of the student body, faculty and course content, and mission statement. College Board emphasized that placement decisions should be based on factors and data unique to their institution and does not recommend cut scores or mandate the cut scores that each institutions or state system should use for college placement decisions. However, the College Board (2015) has recommended that multiple measures be used in conjunction with the institutions' cut scores. Who is responsible in setting these cut scores for placement?

According to the College Board (2015), the faculty, testing staff, administration, and the institutional research team are responsible in setting the institution's cut scores. The faculty is responsible for focusing on any curriculum and course competencies, minimum necessary skills requirements from students, and to be familiar with the test content, description, and proficiency statement. The testing staff focuses on the student testing experience, implementing branching profile and placement rule decisions in the system (College Board, 2015, p.6). The role of the

administrator is to focus on the impact of cut score decisions on college enrollments. Lastly, the institutional research team focuses on the validation of the cut score decisions.

The College Board (2015) recommended that institutions should re-examine their cut scores every three years or as needed, especially if there are any significant changes to the student body or course placement patterns. According to the College Board, institutions should always include faculty in conducting reviews such as performing a validity study in which the ACCUPLACER scores are compared to end of course grades, faculty evaluations, student evaluations, and/or the first test grade in a course (p. 10). The College Board (2015) found that a validity study helps evaluate existing placement policies and provides insight to help with necessary changes to improve placement decisions for students. Each institution is able to reach out to the College Board, which can help conduct a campus validity study at no cost.

### **College Students**

There has been a significant increase of diverse students entering community college, which is changing the landscape for learning outcomes and placement testing. According to AACC (2018), 36% of students entering community college are first-generation, 17% are single parents, 12% are students with disabilities, 7% are students with prior bachelor's degrees, another 7% are non-U.S. citizens, and lastly, 4% are veterans. Many are first-time college students who are underprepared for the rigorous academic curriculum. Although community colleges serve a diverse student population based on data from the integrated postsecondary education data system (IPEDS), nearly 75% of faculty, 73% of management, and 63% of student services professionals are White, making faculty and staff less diverse than the student populations institutions serve (AACC Data Points, 2018).

According to Jaschik (2018), 1.9 million high school graduates took the ACT exam and the average composite score declined from 21.0 the previous year to 20.8 this year. The perfect score on any four subjects is 36. The author (2018) found in ACT's annual report on college readiness, most high school graduates are not prepared for college. Jaschik claimed that students who completed the recommended college preparatory courses do better on the ACT than others. Table 1 shows the most recent scores, with averages over the last five years in all four subjects released by ACT. There is a decline in both English and reading scores from previous years.

Table 1

*Average ACT Scores 2014 -2018*

Year	English	Mathematics	Reading	Science	Composite
2014	20.3	20.9	21.13	20.8	21.0
2015	20.4	20.8	21.14	20.9	21.0
2016	20.1	20.6	21.3	20.8	20.8
2017	20.3	20.7	21.4	21.0	21.0
2018	20.2	20.5	21.3	20.7	20.8

*Note.* Obtained from ACT.org

Jaschik (2018) found ACT reported the average composite scores by race and ethnicity for 2017–2018. This report showed a huge gap between the average scores of Asian Americans and those of other ethnicities. In fact, the scores for all ethnicities dropped from previous years except those for Asian Americans (Jaschik, 2018, p. 1). The author claimed that this could be a reason for a growing number of colleges seeking alternative measures to increase student diversity and access to education.

These alternative measures known as multiple measures such as high school grade point average (GPA), smarter-balanced scores, ACT scores, are used instead of depending on one single placement score. According to Jaschik (2019) several colleges have to go test optional in

admissions decisions where students are not required to submit a SAT or ACT test scores for college entry. The University of Michigan history department decided to dropped the GRE exam because of the high cost for students distorting demographic imbalance. In addition, as noted by professor Arthur F. Thurnau (cited in Jaschik, 2019) underrepresented minorities and international student GRE scores impose inequities and does not capture the individual assessment holistically. Jaschik shared the University of Michigan history department will focus on using qualitative assessments such as writing samples, personal statements, and recommendations alongside complete record of course and grades to make it more equitable for all students.

Table 2

*Average Composite ACT Scores by Race and Ethnicity 2017 - 2018*

Group	2017	2018
Black	17.1	16.9
Native American	17.5	17.3
White	22.4	22.2
Hispanic/Latino	18.9	18.8
Asian	24.3	24.5
Native Hawaiian/Others	18.4	18.2
Pacific Islander		
Two or more races	21.2	21.1
No response	20.3	19.8

*Note.* Obtained by ACT.org

Conley (2018) emphasized that college readiness consists of factors other than reading, writing, and mathematics skills. Being an adaptive learner with knowledge and skills can transcend core academic content. The author (2018) argued that students who are competent in the full range of readiness factors are better equipped and increase their chances to be successful in education and society.

## **Faculty**

Smith, Taricani, and Thaiisa (2018) indicated that the faculty determined what was best for overall students' learning outcomes. The authors (2018) emphasized that standardized tests should be paired with standardized credit achieved from the advanced placement (AP) and International Baccalaureate (IB) examinations taken by high school students. Smith, Taricani, and Thaiisa believed that faculty can strongly influence the success of students across various fields and that students should be their top priority. The Seattle Times Editorial Board suggested that there should be a statewide college and university standard for applying credit from the results of these tests (The Seattle Times Editorial Board, 2018). However, Washington public colleges and universities do not agree that the credit earned for passing these tests should be standardized statewide.

Although the state legislature had passed several laws for Washington's higher-education system to reach an agreement on test credits, no agreement has been made as of now (The Seattle Times Editorial Board, 2018). According to the Seattle Times editorial board, the Washington State Council of Presidents argued that they will need to review each course before making a decision on how much credit to award. Senator Mullet, who initiated the bill requesting standardized credit for AP and IB, argued it is an issue of fairness and economics and that faculty or professors should not hold back incoming freshmen who passed these exams.

Nastal (2019) strongly believed that faculty, scholars, and practitioners can benefit from studying archival data and track student success that can help with placement decisions and progression at community colleges. Nastal found that students, administrators, and policy makers can improve teaching and learning in capturing a student's value of writing and reading.

## **Educational Attainment**

Due to rapid advancements in technology obtaining a high school diploma is not enough to be employed in today's workforce and to earn a decent wage. Torpey (2018) shared according to the U.S. Bureau of Labor Statistics median weekly earnings for those with the highest levels of doctoral and professional degrees earned three times as much income \$1,743 than those with a high school diploma, \$712. Torpey indicated that individuals with professional degrees earned \$1,836 compared to an individual with an associate degree of \$836. The author commented, "the more you learn, the more you earned." Postsecondary institutions allow for individuals to earn a certificate or degree due to the open access policy where 80% of the students are enrolled into a college. Throughout the last half century, educational pursuit for adults 25 years and older has increased from 11 million in 1950 to 68.9 million in 2015. Furthermore, there was a 33% increase in the number of individuals who earned a bachelor's degree or higher during that same timeframe as reported by the U.S. Census Bureau (AACC, 2017, p.1). Students who earned some college credit and/or an associate degree increased from 6.2 million in 1950 to 56 million in 2018. According to this report, by 2020, 65% of the U.S employers will have job openings needing some postsecondary education.

## **Readiness**

What skills are required to be college ready? Administrators and policy-makers have their own definition on this term. Traditionally, institutions and universities based their decisions on a single test score for placement.

According to the American Association of Community Colleges (2016), in a study by the Center for Community College Student Engagement, 76% of students thought that they were on track to reach their academic goals and 86% believed they were academically prepared. In

addition, 67% of students ended up taking one or more developmental education courses. Despite significant efforts to prepare both high school and incoming students into higher education only 39% end up earning a degree or certificate (AACC, 2016).

Jaggars and Stacey (2014) reported that better grades in high school do not guarantee college readiness. In fact, 63,266 responded to the SENSE 2014 survey, and 86% agreed they were academically prepared. It was reported that of 57,563 students with better grades, 41% responded that they were more likely to take placement tests in high school to assess their academic skills in reading, writing, and/or math. Of the 61,237 students with lower grades who answered the survey and self-reported their high school GPA, 92% felt that they were more likely to be required to take placement tests (p. 10).

The center for community college student engagement (2016) was alarmed at the number of students being placed into remedial educational courses. Subsequently, colleges administrators are revisiting high-stakes tests to assess readiness with other measures for assessment and placement (p.1). In March 2013, Davidson County Community College implemented a multiple measure assessment after the North Carolina State Board of Community Colleges approved a multiple measure for placement policy (Center for Community College Student Engagement, 2016, p. 5). CCCSE (2016) defined multiple measures for placement as a hierarchy of measures that colleges can use to determine students' readiness for college level (gateway) courses.

Smith (2017) indicated that many community colleges administrators are moving away from placement exams as a means of determining the skills of incoming students. According to Smith, the California State University system believed removing placement exams would increase graduation rates despite concerns from their own faculty and officials who felt students would be hurt in the long run. The author mentioned that Cal State will use students, high school



grades, course work, and SAT or ACT scores as measures to determine college readiness.

However, under the new policy, in order for students to be considered “conditionally ready” for English, they would need to meet the standard on the state’s early assessment program exam that is given to 11th grade students. Passing reading and writing scores would be considered between 510 and 540 on the SAT and between 19 and 21 on the ACT (Smith, 2017, p.1). What happens when students score the required standard cut scores or have competing cut scores?

Smith (2018) found that students who score below the benchmark are still conditionally considered and the next step is to review students’ high school coursework and grades to determine their placement. However, if any of the factors are not met, then the student is required to attend early-start courses in summer. According to the director of enrollment management services for the new system at Cal State, because the system already evaluates SAT and ACT scores and uses the state assessment given to K-2 students as a method to exempt students from taking the placement exam, this new policy will improve placement for those 480,000 students statewide, 23% of whom are placed into remedial courses (Smith, 2018, p.1). Smith (2018) stated, “What is shocking is that 52% of high school graduates are deemed college-ready for English, however, once they take the state exam (ACT, SAT, or AP) only 12% are actually considered ready for English college-level courses” (p. 1). The president for the California Faculty Association stated, “Granted the goal is to increase graduation, however, we can’t focus on how many diplomas to hand out. Our purpose is to educate people” (Smith, 2018, p. 1). There are many studies that show placement tests do not yield strong predictions of how students will perform in a college environment.

## **Assessment and placement**

Colleges utilize standardized tests such as the ACCUPLACER exam to gauge Math and English academic skill levels for course placement. Hughes and Scott-Clayton (2011) claimed that more than half of entering students at community colleges are placed into developmental education in at least one subject based on placement scores. Both authors (2011) argued that the assessment process is broken due to the lack of understanding of the role of assessment. Hughes and Scott-Clayton indicated that the placement of students into courses is determined solely on the basis of whether a score is above or below a certain cutoff. The authors (2011) believed that these assessment measurements are a high stakes determinant of students' access to college-level courses.

Belfield (2012) asserted that placement scores are weakly associated with college grade point averages (GPA). The author found that the correlation disappeared when controlling for the high school GPA. However, Belfield indicated that the placement test scores do have a relationship with college credit accumulation for students who continued coursework for three to five semesters even when the high school GPA was controlled. Are there practices in place at institutions to better assess these students?

## **Testing New Approaches**

Community colleges leaders are testing new approaches to assessment, placement, and development coursework. There are multiple measures for assessing readiness. A study by the Community College Research Center (2016) found that the high school GPA was more predicting of student success than current placement testing in one large community college system. Colleges across the country are moving away from developmental education and replacing it with corequisite education, precollegiate skill building, acceleration, and other means

as an ongoing effort to meet students' needs. However, as employment opportunities increase, enrollment rates are declining as more students are choosing to work.

Center for Community College Student Engagement (CCCSE; 2016) called on colleges to increase completion rates of students earning community college credentials (certificates and associates degrees) by 50% by 2020 while preserving access and enhancing quality. To meet this goal, colleges must increase the rate of success of incoming students. CCCSE (2016) indicated that colleges administrators are encouraged to create and refine new models of assessment, placement, and delivery of developmental education by accessing and analyzing their own data. Colleges can continuously update their processes based on this new information in order to meet the needs of their students while increasing completion rates.

According to Woods et al.,(2017) states and colleges have begun to implement new course placement strategies along with instructional approaches to increase the accuracy of initial placement. The authors indicated that instead of solely relying on a placement exam, implementing a hierarchical placement system based on high school GPA and test scores or high school transcripts and other multiple measures can be beneficial to a student's success.

### **Synthesis of Research Findings**

Sparks, Song, and Liu (2014) believed that to properly assess the next generation of students, there needs to be balanced authenticity. The authors emphasized having realistic writing tasks and desirable measurement properties along with providing administrators, faculty, and staff with actionable data that can serve as an important resource in designing a writing proficiency tool. Sparks et al (2014) required within this writing assessment four operational strands: (a) social and rhetorical knowledge, (b) domain knowledge and conceptual strategies, (c) language use and conventions, and (d) the writing process.

The Association of American Colleges and Universities (AAC & U, 2011) found that 99% of the chief academic officers from 433 higher education institutions rated writing as one of the most important intellectual skills for their students. The Educational Testing Service (ETS, 2013) found provosts and vice presidents of academic affairs from 200 institutions frequently mentioned that written communication is critical for both academic and career success (Sparks et al., 2014, p. 2). To support student success, the Assessment of Higher Education Learning Outcomes (AHELO, 2012) also included written communication as a generic skill to evaluate general learning outcomes for all college students across the nations sponsored by the Organization for Economic Co-operation and Development.

Casner-Lotto and Barrington (2006) found in a survey of various workforce industries conducted by the Conference Board that 93% of 431 employers reported that written communication was important for the workplace, yet 28% indicated that the writing skills of 4-year college graduates entering into the workforce are deficient. In addition, the Association of American Colleges and Universities (2011) surveyed 302 employers where they found that 89% indicated that colleges and universities should place more emphasis on communication and writing proficiency skills. Many employers perceive college graduates as being underprepared for writing tasks required at work. Spark, Song, and Liu (2012) indicated that these discrepancies across stakeholders underscore the need for valid, reliable assessment of written communication as a learning outcome that can provide higher education institutions, employers, and most importantly students with meaningful information about students' writing skills. Student literacy is a combination of both reading and writing measures; however, researchers have not specifically discussed what happens when students have competing cut scores and how to measure these differences for placement decisions.

Woods et al. (2017) found that the level of preparation taken by students was related to students' course enrollment and gateway English course success. The authors (2017) indicated that students who were slightly underprepared in reading or writing were more likely than severely underprepared students to enroll in the college-level English courses. Through their study, slightly underprepared students were more successful in completing an English course compared to the severely underprepared students.

### **Best Practices**

Based on recent research on assessment and placement practices colleges and college systems are seeking ways to improve entry assessments for all students while minimizing cost and administrative blockers. Barnett and Reddy (2018) found that by identifying an appropriate instrument and establishing cut scores particular to that college can improve placement decisions for students. Barnett and Reddy suggested alternative placement tests can be customized to individual colleges' standards and introductory coursework. The authors offered examples of noncognitive assessments that seek to measure students' psychosocial characteristics (motivation, learning strategies, academic tenacity, and/or a sense of belonging), such as Success Navigator, Engaged, Learning and Study Strategies, College Student Inventory, Grit Scale, or the Adult Hope Scale assessment to name a few. According to Barnett and Reddy (2018), these alternative noncognitive assessment and placement practices allow colleges to gather information about students that might lead to improved course placement and help them to seek out support services beneficial for them. Other assessment and placement tools include writing assessments.

Colleges assessed their students writing by requiring short essays in addition to taking a standardized test that is graded by faculty members of that institution. However, Rodriguez, Bowden, Belfield, and Scott-Clayton (2015) found that this method of assessment provided a

more complete evaluation to use as a placement decision tool. The authors (2015) indicated that many colleges are faced with influx of incoming students and lack the faculty and staff to evaluate their writing essays due to budget cuts.

Hubley and Zumbo (2011) believed that any measurement has an impact on personal and social change. According to Hubley and Zumbo (2011), any test developers and users must take into consideration the consequences and side effects of measurement through a validation process. Both authors argued that test developers, users, researchers, and educators lack the understanding of the consequential basis of test interpretation and use based on test scores. They found that validity evidence in the literature, including consequences, were outdated frameworks (as cited in Cizek et al., 2008). Therefore, under the unified concept, validity is the construct and meaning of scores that includes six aspects of construct validity evidence: content, processes, score structure, generalizability, external relationships, and consequences of testing.

According to Forer and Zumbo (2011) matrix model of unified validity, the theory is misunderstood by test developers, researchers, and practitioners. Forer and Zumbo stressed to understand this theory; individuals need to be aware of the consequences and side effects of measurements in the validation process itself. Both authors strongly believed validity and the consequences of test interpretation and use at its core impact personal and social change. Therefore, although research implies using test scores as a sole measurement for student performance is not valid based on the unified validity theory framework, it does. Forer and Zumbo emphasized that validity is an ongoing process which changes over time.

### **Critique of Previous Research**

According to Center for Community College Student Engagement (2016), Jaschik (2018), Smith (2017), Smith, Taricani, and Thaiisa (2018), and Woods et al.(2017), much of the

previous research discussed how alternate methods can successfully predict a student's success by way of grade point averages, interventions, and programs, while downplaying the standardized testing instruments and their perceived ineffectiveness in placing a student in appropriate courses, especially with the influx of diverse students entering into community colleges due to more open enrollment policies. These students are not typical traditional students who just graduated from high school. Many of these students are nontraditional, nonnative English speakers who desire an education to earn higher wages to support themselves and their families. The majority of the literature references the relationship between underprepared students and ineffective standardized testing. However, there is little focus on what other efforts must take place when students have competing placement scores in reading and writing (Belfield & Crosta, 2012; Scott-Clayton et al., 2012). Furthermore, there is little support for nontraditional and nonnative English speakers who desire their own pieces of the American dream so that they can contribute as valuable members of society. For example, a student who is unemployed and requesting unemployment must register to take a certificate or degree course to re-enter the workforce. Many of these individuals worked in industries for more than 15 years and may not even have high school diplomas. These individuals are under severe time constraints in meeting worker retraining requirements. Taking the required standardized tests with little or no preparation due to the rigorous guidelines of state policies is also a significant obstacle for many of them.

## **Chapter 2 Summary**

Over the past several decades, many researchers have conducted studies supporting the importance of standardized testing (Belfield & Crosta, 2012; Scott-Clayton et al., 2012). Today, many researchers agree that oral examinations, which started in 1845, support inclusivity and can

be a powerful tool in encouraging critical thinking as it forces students to explain their understanding using their own words for placement into English courses. Research has also shown the ineffectiveness of placement instruments, yet educators and policy makers still ponder how to find the right assessment tool to serve today's diverse student population (Belfield & Crosta, 2012; Scott-Clayton et al., 2012). However, with the increase of diverse students entering community college, educators had to develop another means to assess the ability of students in order to qualify them or not qualify them for the college environment.

The unified validity theory comprises a section of the literature review as theorists, researchers, test developers, users, and educators attempt to validate test scores and correlation to student's performance and overall GPA. Validity and validation are a fundamental aspect of evaluation and testing especially for high-stakes testing such as the ACCUPLACER exam used at community colleges to place students in Math and English courses.



## **Chapter 3: Methodology**

### **Introduction of the Study**

In the United States, 92% of community colleges and universities use standardized placement tests scores to determine if a student is college ready (Hughes & Scott-Clayton, 2012). There are many compelling reasons why an individual decides to go to college and here are just a few. For many individuals earning a college degree to get a higher paying job. Whether it is a certificate or a bachelor's degree, postsecondary education offers lower tuition rates compared to universities. With lower tuition rates this attracts students to upgrading one's skills to enter into the workforce or to take courses that will meet the requirements of pursuing a university degree. In addition, many students to attend a community college is an open-door policy that offers enrolling students year-round. As such, first-semester college students enter with a wide range of possibilities.

Prior to enrolling in a program of interest, a student maybe required to take an entry-level placement test. This untimed, adaptive computerized test assesses a student in reading, writing, and math to determine if the student is ready for college-level or remedial courses (Parsad, Lewis, & Greene, 2003). It is necessary to assess students' writing and reading skills in order to place them into entry-level courses that best fit their abilities. Further, colleges use various placement instruments to assess students' readiness prior to enrolling in courses.

Most colleges and universities administer these placement tests and then calculate a cutoff score. If the student scores above the cutoff, they are placed into first year English. If they score below the cutoff, then they are placed in a remedial course in order to prepare them for success in their college level courses.

It is not known how to maximize freshman performance in an English course when students have competing placement scores. Students who score above the established cutoff for both reading and writing are placed into college level English, while students who score below the cutoff for both reading and writing are placed into remedial English. Students who score above the cutoff on one placement test and below the cutoff on the other placement test are not systematically placed. Often, the decision is left to the administrator reviewing the scores, which is a process known as the *inevitability of the allocate function* or *sorting mechanism* (Hughes & Scott-Clayton, 2011).

This study used a quantitative method. A quantitative study is used by researchers to test and examine the relationship of variables, such as quantities and statistics (Morrell & Carroll, 2014). In this study, the researcher focused on relationships between the dependent variables.

### **The Purpose of the Study**

The purpose of this study was to determine if placement decisions can be standardized (or at least use sound advice based on data) for administrators at community colleges. This study was intended to examine prior reading and writing test scores for placement into English grades during the students' first-semesters as well as their overall grade point average validity from 2015 – 2016 and 2016 - 2017. Because the researcher explored and examined how cut scores are applied when placing students in appropriate level English courses, the quantitative correlation method was used for this study. This researcher determined to investigate whether competing cutoff scores in reading and writing have a correlational impact on predicting performance for incoming students and if these scores can be used as a standardized tool for individuals who make placement decisions. Multiple measures are an alternative tool used to place students in courses, and standardized testing has been around since the early 1900s. Pituch and Stevens

(2016) expressed that taking into account a set of relevant variables (multivariate approach) provides a realistic hope of reasonably accurately predicting the level or understanding of the nature of a given construct. As such, multivariate design is appropriate for this study. Is there sufficient information on the interrelationship for reading and writing tests?

Stosky (1983) found there is a lack of research about the relationships between reading and writing. Stosky indicated reading is related to listening and writing to speaking. Many theoretical and experimental researchers mainly focused on methodological problems instead of examining the influence of reading instructions and experience on developing a writing ability for students (p. 627). Other researchers have agreed that little is known about the interrelationship between reading and writing.

Ahmed, Wagner, and Lopez (2014) agreed that little is known about the relationship between reading and writing, and further the developmental nature of their interrelations at the word, sentence, and text levels. In the U.S., reading instruction is prioritized over writing instructions, though reading and writing are related. The authors (2014) found that reading and writing rely on a similar knowledge base but are separate processes. This led to the researchers to examine the differences between remedial and entry-level course grades for students who have competing placement scores. How can educators maximize freshman performance in an English course when students have competing placement scores?

### **Research Question 1**

The aim of this study was to identify whether cutoff scores in reading and writing predicted performance in first-semester English courses and first-semester cumulative GPAs among incoming freshmen.

RQ1. What are the differences between remedial and entry-level course grades for students who have competing placement scores?

## **Hypothesis 1**

*H1<sub>0</sub>*: There are no differences in either remedial or entry-level English course grades for those students who have competing placement scores.

*H1<sub>A</sub>*: Students with passing (above the cut score) writing scores but below cut score reading scores or vice versa have significantly higher grades in both remedial and entry-level English grades.

## **Research Question 2**

RQ2. What are the differences in first-semester GPAs for those students who have competing placement scores?

## **Hypothesis 2**

*H2<sub>0</sub>*: There are no differences in first-semester GPA's for those students who have competing placement scores.

*H2<sub>A</sub>*: Students with passing (above the cut score) writing scores but below cut score reading scores or vice versa have significantly higher first-semester GPA's.

## **Data Analysis Procedures**

The research design was correlational. Because the study had multiple predictor variables, the design was multiple regression in nature. Because there were two criterion dependent variables (DVs), it was a multivariate regression. This design was appropriate because the researcher sought to determine relationships between variables. The researcher also sought to determine the strongest predictor of performance in a first-semester English course. Thus, other types of designs were not as desirable based on the research questions. The researcher used a retrospective approach relying on already existing and past information to make conclusions

According to Pituch and Stevens (2016), the advantages of a multivariate research design are that many experimental treatments are likely to affect the study participants in more than one way. The authors emphasized that using multiple criterion measures can paint a more complete and detailed description of the phenomenon under investigation. This design provided the researcher the depth and breath for checking the data, assessing assumptions, interpreting, and reporting the results with the practical and conceptual understandings of statistical to conduct this study.

### **Target Population, Sampling Method (power) and Related Procedures**

The population extended to all students entering college prior to taking their first course. The target population consisted of all students at a community college in the Pacific Northwest. The sample consisted of approximately 2722 students who scored above the cutoff score on one of the English placement tests (either reading or writing) and scored below the cutoff score on the other placement test.

A power analysis was conducted to determine the number of subjects needed for this study using the G-power tool to compute the statistical test and analyses. Faul, Erdfelder, Lang, and Buchner (2007) defined a power of statistical test as the probability that its null hypothesis ( $H_0$ ) will be rejected given that it is false (p. 175). The researchers used a priori analysis to compute the required sample size. Faul et al. (2007) explained that the prior analysis is an efficient method that can be used to controlling the statistical power before a study is actually conducted. However, more analysis was needed due to the multiple dependent variables (DV) involved in the study.

**F tests.** Linear multiple regression: fixed model,  $R^2$  increase. The Analysis: A priori: compute required sample size. Therefore;

<b>Input</b>	Effect size $f^2$	$\alpha$ err prob	Power (1- $\beta$ err prob)	Number of tested predictors	Total number of predictors
	= 0.15	= 0.05	= .80	= 2	= 2
<b>Output</b>	<i>Non-centrality parameter <math>\lambda</math></i>	<i>Critical F</i>	<i>Numerator df</i>	<i>Denominator df</i>	<i>Total sample size</i>
	= 10.2000000	= 3.1381419	= 2	= 65	= 68
<b>Actual power</b>	= 0.8044183				

Because the G-Power software is unable to account for multiple dependent variables or a multivariate regression analysis, a univariate power analysis was conducted. This meant the study needed 68 subjects for each regression analysis. Because there were two dependent variables, that number was doubled to 136. The researcher's focus was on reading and writing placement scores to examine the validity of how the scores are applied in placing students in a proper level English course.

### Sampling Method

The sample consisted of approximately 2,722 students who have scored above the cutoff score on one of the English placement tests (either reading or writing) and scored below the cutoff score on the other placement test. The sample of deidentified archival data was comprised of five years of data for first-year students who first enrolled in the 2015-2016 and 2016-2017 school years at the community college. The background of the students varied from traditional to nontraditional students, ranging from 16 to 62 years old. Thirty-six percent were students of color and eight percent were students with disabilities. Twenty-three percent were students under 20 years of age, 42% were students between the ages of 20-29, 19% were students between the ages of 30-39, and 17% were students over the age of 40. The median age was 27.3. The

postsecondary institution is made up of 51% female and 49% male. The student population is 13,000 annually.

### **Instrumentation and Data Collection**

The researcher used instrumentation to provide a valid means to collect data for later analysis, interpretation, and discussion (Creswell, 2014). For the purpose of this study, the researcher used archival data that consisted of students' placement scores for English as the predictors. The criterion measures, or dependent variables (DV), were graded in the first English course (either remedial or college level) and overall first-semester GPA.

The anonymized archival data for this study were provided by primary providers from a postsecondary education in the areas of instruction, student services, and assessment and testing. The researcher was a formal manager of a postsecondary testing center with over five years of experience in this department. Moreover, the researcher sent an email to the respective providers explaining the purpose of the study and requesting authorization to obtain the necessary data for this study. Once the study was approved by the college review board, the vice president of instructions and institutional effectiveness director provided the archival data formatted in an excel sheet via email. The anonymized archival data were collected and analyzed via the IMB SPSS version 25 system. Multivariate analysis of variance (MANOVA) was used as the framework for this research and the data collected provided multiple predictor variables. The MANOVA has ten assumptions that need to be tested in order to determine the quality of the data analysis and to avoid running into the risk of a Type 1 error before running the actual testing analysis of the study. Chapter 4 expands more in depth on the actual testing analysis of this study.

## **Operationalization of Variables**

Creswell (2014) explained that operationalization is a specific way a variable is defined, measured, or used in research. For this study, the operational variables were the incoming student college placement reading and writing scores, first English grade point average, and semester overall grade point average. The researcher's goal is to determine if there are any relationships and or association between the independent and dependent variables. Is there a difference between these variables? Do these variables predict higher grades and performance for students?

## **Data Analysis Procedures**

This research employed a quantitative data analysis procedure, where descriptive statistic multivariate regression analysis and a univariate power analysis were used to analyze the data. These include data coding, which is a process of assigning numerals or other symbols in this case to ensure the student's personal information will be protected. The data collected were freshmen college students' reading and placement scores, first English course grade, and overall grade point average for the semester. Tables and figures were used to summarize data to determine if placement decisions can be standardized and to explore whether cutoff scores in reading and writing predicted performance among these students at a community college in Washington.

## **Limitations and Delimitations of the Research Design**

The study was limited to a sample consisting of 2,722 freshmen college students' reading and writing test scores, which cannot represent all individuals within the population and cannot indicate causation. Because the study used a single site, the findings do not represent all postsecondary and universities in the Pacific Northwest. Further limiting the generalizability, every community college and university's situation is unique, and each employs its own unique



combination of theories and methods for administering placement exams, data collection, and developmental and common core courses. The manner in which deidentified archival data were collected and analyzed also presented a limitation, as this study was conducted at a novice level. The scope of this quantitative study did not generate any type of large-scale findings, as the participant group only consisted of 2,722 individuals.

This marks an additional delimitation of the research design however, my hope in utilizing the unified validity theory framework for this study, as stated by Hubley and Zumbo (2011) it is critical to consider consequences and side effects of measurements in validation process and basic consequential test interpretation and use (p. 219). Zumbo (2009), as cited in Hubley and Zumbo, 2011 shared, *“It is rare that anyone measures for the sheer delight one experiences from the act itself. Instead, all measurements are, in essence, something you do so that you can use the outcomes”* (p.219). According to Hubley and Zumbo all measures at its fundamental core have an intended purpose of personal, social change and impact such as in testing, assessment and evaluation are applied for ranking, intervention, feedback, decision-making, and policy purposes. Both authors strongly emphasized researcher must evaluate the intended consequences and unintended side effects of measurement when validating the inferences and uses made from tests and measures. As a novice researcher, exploring and peeling off the layers through the lenses of unified validity theory framework will bring forth new knowledge for college administrators, faculty, and staff.

### **Internal and External Validity**

The internal validity is a crucial measure in quantitative studies. Morrell and Carroll (2014) described that the validity informs the researcher if the tool actually measures what it is intended. Further, a manual published by the College Board in 2016 provided psychometric

evidence of test reliability and validity descriptions on the different score ranges for the ACCUPLACER placement exam. These descriptors will assist educators in creating score ranges according to the institution needs and culture.

### **Expected Findings**

Findings and results of this study may result in stricter guidelines to prevent inaccurate placement for underprepared freshmen students and modifications in the test contents, as well as a revision of test administration procedures, assessments, and testing policies. Expected findings may include a greater community beyond the assessment and testing department walls, as educators, students, educational researchers, policies makers, and other stakeholders may gain important insights on how the validity of consistency in placing a student in the appropriate English level course impacts the global society as a whole. This information may strengthen existing relationships within this community college, the community, and beyond.

### **Ethical Issues in the Study and Researcher's Position**

My own position within the context of this study is that of an active advocate educator. I am a nontraditional female academic who is deeply influenced by postcolonial feminist scholarship. Thus, in order to subvert oppressive systems and to empower those individuals who are the casualties of these systems, I will not take a privileged position and speak for these individuals. Rather, my work is aimed at consciousness-raising by providing alternate explanations of a society that exposes hidden ideologies so that the oppressed can become "beings for themselves" instead of "beings for others" (Freire, 2011, p. 74). I was the manager of a testing center, have over five years of experience in this department, and have nothing personal to gain in conducting this study. Secondly, I do not believe in neutrality or a one-size-fits-all mentality, and thus, I provided an alternate understanding of standardized placement testing

through multiple measure assessments when analyzing the data. Moreover, my own experiences as a nontraditional female student and a manager of a testing center were at the forefront of my analysis. What this means is that I was cognizant of the ways in which my experience focuses in and out of the mainstream to clear a new path for alternative placement assessment. Thus, my dissertation was written from the perspective of an educated individual who has learned how to negotiate the tension under and inside the structure in which I work through my transformational leadership education, but also within the body in which I experience the system and the world: a woman of color, a nontraditional student, a mother, and an Asian Pacific-Islander.

My motivation was strictly that of scholarly interest. I actively engaged with the data collection and analysis procedures with the aid of a researcher's journal and one-to-one dialogue with my dissertation chairperson and committee. To confront and address my own bias, I wrote constructively in the researcher's journal and noted my own thoughts throughout the data collection and data analysis procedures. Through this practice with reflexivity, I made an effort to gain insights related to my own bias through recording impressions, thoughts, insights, reactions, and ideas within this journal. The practice can illuminate biased tendencies and provide a further opportunity to explore and better address any bias.

Potential conflicts of interest in relation to this study relate to situations and interactions that may cause or increase bias within the internal and external assessment and testing arena. Data will not be shared or distributed for any type of personal gain other than for the sake of scholarship. The findings will be later shared in Chapter 4 and interpreted in Chapter 5 to contribute to an expanding body of knowledge concerning the degree of consistency validity on student test scores being placed in English courses at a community college by administrative personnel.

Ethical issues could arise in the context of the site and the data involved in the research design. The site did not reflect every aspect or member of the population of interest, and findings only illustrated information obtained from this singular research study. Thus, the information cannot be generalized, and the site administrators were informed of their specific role prior to any steps of data collection. The IRB's approval was granted before any steps of data collection occurred. An email provided informed consent documentation (see Appendix A) to prepare participants prior to conducting data collection and analysis.

### **Chapter 3 Summary**

In summary, Chapter 3 presented the purpose of the study, justified the research design as supported by past and current literature and relevant descriptive detail, and introduced the population and sampling methods, instrumentation, data collection, identification of attributes, data analysis, limitations of designs, and validation. Chapter 3 concluded with a discussion of the expected findings and ethical issues followed by a chapter summary. The quantitative correlation method was defined and reported as appropriate for answering the research questions and purpose of this study. Creswell (2018) argued that a correlation study is used to determine if there is a relationship between two or more quantitative variables from the same group.

The rationale of the research design was articulated to better inform the reader about the process of data collection and analysis. The research instruments were examined in detail, as was the method of data analysis. How potential ethical issues were addressed was also reported in this chapter.

## **Chapter 4: Data Analysis and Results**

### **Introduction**

The purpose of this multivariate analysis of variance (MANOVA) study was to explore whether cutoff scores in reading and writing predicted performance in first quarter English courses and first quarter cumulative GPA among incoming students at a community college in the Pacific Northwest during the 2015–2016 and 2016–2017 school years. Previous studies by Bailey et al. (2015), Belfield and Crosta (2012), and Scott-Clayton et al. (2012), indicated that placement scores are not highly correlated with success in initial college level courses when used as the sole measure for course placement. There is a lack of information in the literature on how to maximize first-year students' performance in English courses when they have competing placement scores. As such, this prompted me to investigate this question during her employment as an administrator at a higher education institution. I worked in the Washington State Board of Community and Technical College system for over 10 years. I spent 6 years in the assessment and testing center as a program specialist and later as a manager and chief examiner administrator.

The first question that led to this research was whether placement decisions could be standardized or at least provide data for incoming students with competing cut scores when taking their first English course. This prompted the researcher to investigate the question further. Several community colleges received an email along with an approved IRB letter detailing the purpose of the study, which requested anonymized archival data on incoming freshmen students taking their first English courses. Course grades, cumulative grade point averages, and their ACCUPLACER reading and writing scores, along with the college's cut scores placement matrix, were used for placement decisions that were requested (see Appendix A).

Several colleges declined participation because they were transitioning to the ACCUPLACER platform or searching for other assessment and testing instruments to replace the COMPASS testing platform, which ended in December 2016. Further, they did not have any data readily available. Other factors that impacted retrieving the data included new management, lack of bandwidth, and budget cuts. The researcher had to re-evaluate the change from the COMPASS testing instrument to the ACCUPLACER platform by looking at institutions that had been using this platform for at least a few years to provide the necessary data needed for this study.

Although several colleges actively used the ACCUPLACER platform, they had no internal review board in place to approve the release of the data from these institutions. Due to these barriers, the researcher reached out to other authors who published articles on similar topics in this research field. One of the authors who made an impact on me was Dr. Judith Scott-Clayton, Associate Professor of Economics and Education at Teachers College, Columbia University, who has published on placement testing and college success. She understood my struggles as a new researcher and advised me not to give up. She shared her experiences as a new researcher and encouraged me to forge ahead and to recharge my determination. Eventually, two colleges agreed to participate in the study; however, only one of the colleges met the data requirements. At that point, the researcher filled out the institution's expedited review form and sent in her institution's IRB approved form, as requested by the community college (see Appendix B and C).

After obtaining permission from the institution's IRB committee, the anonymized archival data were collected and analyzed via the IBM SPSS version 25 system. Multivariate analysis of variance (MANOVA) was used as the framework for this research and the data

collected provided multiple predictor variables. The MANOVA method allowed me to investigate and determine relationships between these variables in order to identify the strongest predictor of performance in a freshmen English course. Thus, Chapter 4 is organized by a discussion of the data preparation, instrument reliability analysis, descriptive statistics, description of the sample, summary of the results, detailed analysis, and a chapter summary.

### **Description of the Sample**

The sample consisted of approximately 2,722 students who have scored about the cutoff score on one of the English placement tests (either reading or writing) and scored below the cutoff score on the other placement test. The sample of de-identified archival data was comprised of two years of data for first-year students who first enrolled in the 2015-2016 and 2016-2017 school years at the community college. The background of the students varied from traditional to nontraditional students, ranging from 16 to 62 years of age. Thirty-six percent were students of color and 8% were students with disabilities. Twenty-three percent were students under 20 years of age, 42% were students between the ages of 20-29, 19% were students between the ages of 30-39, and 17% were students over the age of 40. The median age was 27.3. The postsecondary institution is made up of 51% female and 49% male. The student population is 13,000 annually.

### **Data Preparation**

The MANOVA is an extension of the one-way ANOVA method that incorporates two or more dependent variables. MANOVA tests for the linear vector of the means between the independent variable groups and combines two or more dependent variables to maximize the differences between the groups of independent variables to test the null hypothesis of the study. The MANOVA has 10 assumptions that need to be tested in order to determine the quality of the data analysis and to avoid running into the risk of a Type 1 error before running the actual testing

analysis of the study. These assumptions include one categorical, independent variable, two or more continuous, dependent variables that are related, sample size, normality, outliers, linearity, homogeneity of regression, multicollinearity and singularity, as well as homogeneity of variance-covariance matrices.

The first step was to check for one categorical, independent variable in this study. These independent variables were the students' reading and writing scores. Next, this study required at least two or more continuous dependent variables that were related. These dependent variables were the students' first English course grades and cumulative GPAs. By using the community college cut score placement decision matrix for the English courses, the researcher created four levels of independent variable groups.

I set up a structure for the data file in IBM SPSS version 25 to check and modify, where necessary, the options that IBM SPSS uses to display the data and the output that was produced. Secondly, I set up a structure of the data file to define both independent variables and dependent variables. Lastly, I entered the values obtained from each participant for each variable. Before I could start analyzing the data, it was essential to screen the data file for errors or outliers by checking each variable for scores that were out of range and to find out where in the data file this error occurred. Pallant (2013) defined outliers as values that are well below or well above the other scores and not within the range of possible scores (p.44). In Table 3, the independent variable in this study are reading and writing cut scores used to place students into college English courses. There were four dependent variables groups that identified students based on their reading and writing scores to be placed in an English college course.



Table 3

*Independent Variable and Reading and Writing Cut Scores*

Independent Variable	Reading and Writing Cut Scores
Group 1	Low in reading and low in writing
Group 2	High in reading and high in writing
Group 3	High in reading and low in writing
Group 4	High in writing and low in reading

This study had a unique problem in that some students dropped out and received an English score of zero and sometimes a corresponding GPA score of zero. When either of these variables were zero, the data were not used because they created outliers. Once there were no other outliers found in the file data, my next step was to explore the data using the descriptive statistics for both categorical and continuous variables, allowing me to do a preliminary analysis to address my research questions. Because I used the MANOVA method, it was extremely important to check that I was not violating any of the 10 assumptions generated by the individual tests.

The first three assumptions were met because the study consisted of two or more continuous dependent variables. The independent variables were categorical with two or more independent groups, while the design had independent observations. The other seven assumptions were tested using SPSS statistical analysis before performing a one-way MANOVA to explore whether cutoff scores in reading and writing predicted performance in first-quarter English courses and first quarter cumulative GPA among incoming students. This was done by using the anonymized archival data. Once all of the 10 assumptions were met, the researcher performed a MANOVA and found that the results did not support the first null hypothesis. However, the second null hypothesis was partially supported by the analysis.

## **Instrument Reliability Analysis**

The participants in this study took the ACCUPLACER reading and writing test to determine readiness for college-level English or developmental English coursework by generating a score for each category. Any student who scored above the cutoff scores of reading 84+ and writing 92+ was placed in college-level English. Students who scored between 618-3 in reading and 92+ in writing were placed into level English 99. Students who scored between 61+ in reading and scored between 67-91 were placed into level English 98, and any students who scored 61+ and scored between 52-66 in writing were placed into level English 91. Any students who scored between 0-60 in reading and 0-51 in writing were required to see a Basic Studies advisor to take a CASAS test for placement into adult basics education.

The College Board (2018) strongly argued that the ACCUPLACER test is both a reliable predictor of college success and valid because it measures a student's knowledge in both reading and writing. The author (2018) said that if test scores are used to make inferences about an examinee's ability, the test must be both reliable and valid. Further, the College Board (2018) reported that the ACCUPLACER had a .80 test reliability. The test validity is how the test scores are used and if that use (test scores) is appropriate for a particular purpose.

In addition, the student's English grades and cumulative GPA were used to determine if these test scores predict student's performance. In this study, the multivariate analysis of variance (MANOVA) method was used to compare the groups to evaluate if the mean differences between the groups on the combination of dependent variables were likely to have occurred by chance. Thus, the MANOVA method can provide univariate results for each dependent variable separately. Further, the one-way MANOVA tests for the linear composite or vector of the means between the groups of independent variables.

In fact, this instrument combined the two or more dependent variables to form a new dependent variable in such a way as to maximize the differences between groups of the independent variable. Therefore, the MANOVA performed an analysis of variance using this new combined dependent variable to inform the researcher if there was a significant difference between groups based on this composite dependent variable. According to Pituch and Stevens (2016), the advantages of a multivariate research design are that many experimental treatments are likely to affect the study participants in more than one way. The authors emphasized that using multiple criterion measures can paint a more complete and detailed description of the phenomenon under investigation.

### **Descriptive Statistics**

One of the key aspects of the output generated by MANOVA is descriptive statistics. The descriptive statistics associated with incoming student's first English course grades and cumulative GPAs across four conditions of the student's cutoff scores are reported in Table 4. These four conditions show the possible ways how a student's cutoff scores vary and how placement decisions are impacted by them.

The sample was comprised of 2,722 students from a community college in the Pacific Northwest who took the ACCUPLACER test in writing and reading and provided anonymized archival data for the years 2015-2016 and 2016-2017. The English course Grade condition 1 was associated with the numerically smallest mean level of students' cutoff scores in low reading and low writing ( $M = 3.0$ ,  $SD .90$ ). The high first English course Grade condition 2 was associated with the numerically highest mean level of student's cutoff scores in high reading and high writing ( $M = 3.29$ ,  $SD .78$ ). Cumulative GPA condition 1 was associated with the numerically smallest mean of students' cutoff scores in low reading and low writing ( $M = 2.71$ ,  $SD .79$ ),

while the high cumulative GPA condition 2 was associated with the numerically highest mean level of students' cutoff scores in high reading and high writing ( $M = 3.06$ ,  $SD .74$ ; see Table 4).

Table 4

*Descriptive Statistics for English Course Grade (ECG)*

Cutoff	Condition	N	Mean	Std.	Std Error	95% CI Lower	95% CI Upper	Skew	Kurtosis
Low Reading and Writing	1	364	3.00	.90	0.04	2.92	3.09	-.49	-.56
High Reading and Writing	2	1982	3.29	.78	0.02	3.25	3.32	-1.21	.66
High Reading and low writing	3	278	3.07	.84	0.05	2.97	3.16	-.90	-.21
High Writing and low Reading	4	98	3.04	.87	0.08	2.98	3.20	-9.97	.07
Total		2,722	3.22	.82					

Table 5

*Descriptive Statistics for English Course Cumulative Grade Point Average (CGPA)*

Cutoff	Condition	N	Mean	Std.	95% CI Lower	95% CI Upper	Skew	Kurtosis
Low Reading and Writing	1	364	2.71	.79	2.64	2.79	-.46	-.33
High Reading and Writing	2	1982	3.06	.74	3.03	3.09	-1.06	.83
High Reading and low writing	3	278	2.90	.77	2.81	2.99	-.86	-.24
High Writing and low Reading	4	98	2.89	.73	2.74	3.03	-1.04	1.16
Total		2,722	0.76					

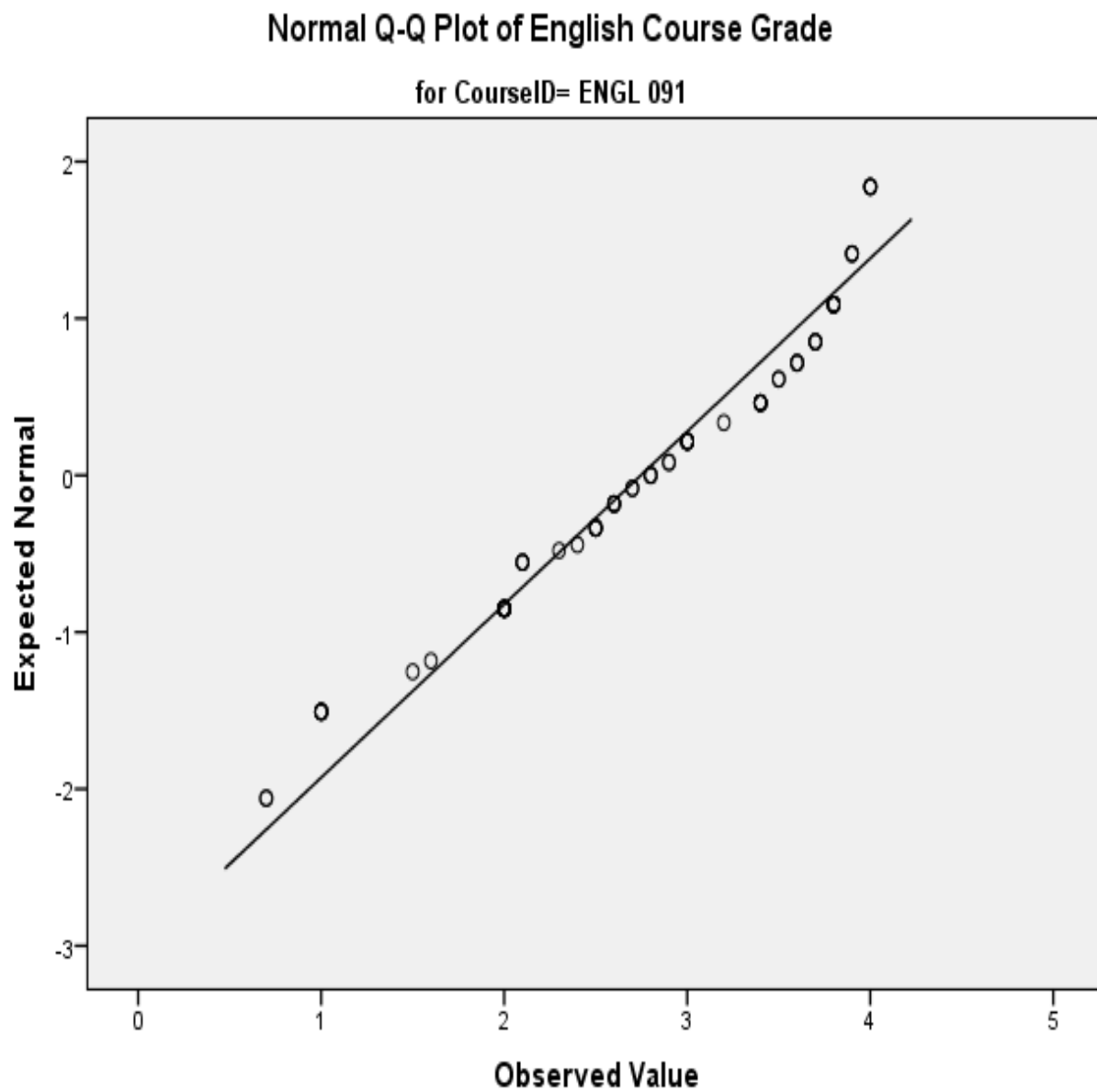
**Detailed Analysis**

In order to test the hypothesis that students' reading and writing scores (LR/LW, HR/HW, HR/LW, HW/LR) influenced English course grade and cumulative GPA student performance, a between-groups MANOVA was performed. Prior to conducting the MANOVA, a series of Pearson correlations was performed between all of the dependent variables in order to test the MANOVA assumption. This indicated that the dependent variables would be correlated with each other in the moderate range, as the assumption of normality was evaluated and determined to be satisfied because all four groups' distributions were associated with skew and kurtosis less than 2.0 and 9.0, respectively (Schmider, Ziegler, Sanay, Beyer, & Buhner, 2010). Furthermore, the assumption of homogeneity of variances was tested on Levene's (English Course Grade,  $.000 < .05$ , and Cumulative GPA,  $.361 > .05$ ) or  $F(2, 2718) = 8.075, p = .000$

(violation of assumption) and  $F(2, 2718) = 1.069, p = .361$ . Because the MANOVA was not significant to the English course grade, it violated the assumption of homogeneity of variances and several data transformations were attempted to normalize the variances without success. In turn, all outliers were removed. However, one of the key aspects of generated MANOVA is making sure that the  $N$  values are over 30, while in this study the  $N$  value was 2722. Pallant (2013) stated, “If you have over 30, then any violations of normality or equality of variance that may or may not exist are not going to matter too much” (p. 303). As a result, the MANOVA outcomes are interpretable even without homogeneity of variances.

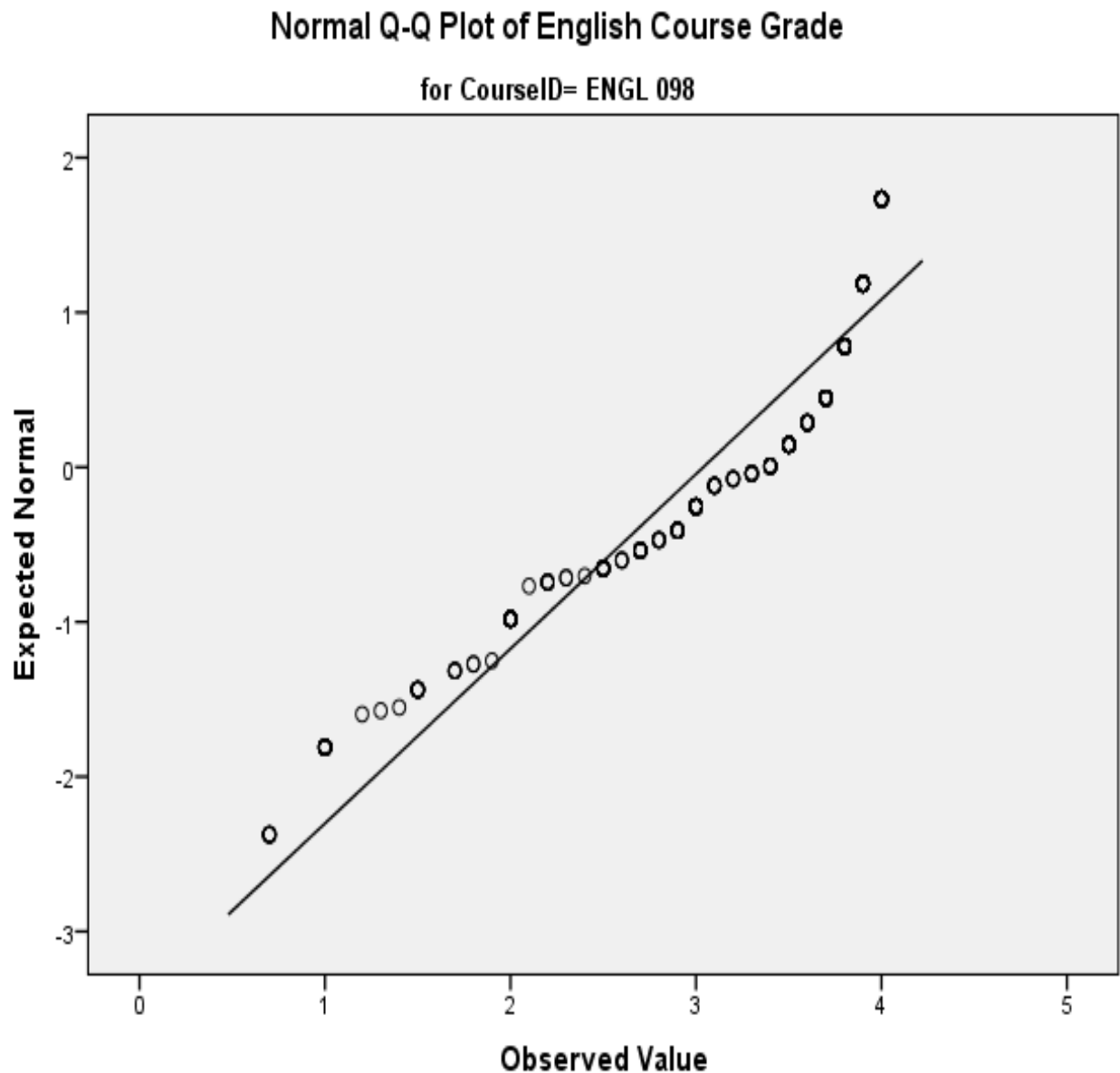
### **Summary of Results**

Through evaluating the descriptive statistics mean, standard deviation, and range of scores, I was able to assess the normality of the distribution scores on the dependent variables, which is the reading and writing scores, using graphs and charts generated by the IBM SPSS version 25 system. In this study, the Q-Q plots were used for each English course placement that shows that cut-scores. If the plotted values were in a straight line, then the distribution was normal. As such, it is important to explore the relationship between two continuous variables using the SPSS system. Other testing outputs generated were a scatterplot and a correlations matrix, which were used to analyze these relationships more closely (see Figures 1 and 2).



*Figure 2.* Observed English course grade 091.





*Figure 3.* Observed English course grade 098.

According to Pallant (2013), only linear relationships are acceptable for correlation analyses (p. 77). In this study, the scatterplot indicated if the variables were positively related. For example, high scores on one variable were associated with high scores on the other or high scores on one were associated with low scores on the other. I did not run a homogeneity of

regression because it was not needed in the study. To check if any multicollinearity existed among the dependent variables, a Pearson correlation was generated, and no multicollinearity was found among the dependent variables.

The final step involved checking for the homogeneity of variance-covariance matrices. Two tests were generated, the Box's test of equality of covariance matrices (See Table 5) and Levene's test of equality of error variances (see Table 5). The assumption for multivariate approach is that the vector of dependent variables follows a multivariate normal distribution, whereas, the variance-covariance matrices are equal across the cells formed by the between subjects' effects. The Box's M can detect even a small departure from homogeneity in large numbers and departures from the assumption of normality. Here, the Box's M test statistic is transformed to an  $F$  statistic with df1 and df2 degrees of freedom. The significant value of the test is 0.05, suggesting that the assumptions was met.

Table 6

*Box's Test of Equality of Covariances Matrices*

Source	Box M	$F$	Df1	Df2	Sig.
	20.446	2.263	9	928417.468	.016

*Note.* Tests the null hypothesis that observed covariance matrices of the independent variables are equal across groups. Design: Intercept and Cutoff

The Box's test met and did not violate the equality of covariance matrices assumption; however, the Levene's test violated the test of quality of error variances assumption because the four levels of independent variables are not necessarily homogenous with respect to the English grades. As a result of this violation, several data transformations were attempted to normalize the variances without success.

Table 7

*Levene's Test of Equality of Error Variances in English Course Grade and Cumulative GPA*

Source	<i>F</i>	df1	df2	Sig.
English Course Grade	8.075	3	2718	.000
Cumulative GPA	1.069	3	2718	.361

*Note.* Tests the null hypothesis that the error variance of the dependent variable is equal across groups. Design: Intercept and Cutoffs.

This assumption test of quality of error variances was a study limitation, and all outliers were found and removed. This is because the data sample size is large and MANOVA results are interpretable even without homogeneity of variance. A Games-Howell and Turkey's post hoc test was conducted to compare differences among cut scores and academic outcomes. By completing these assumption tests, the researcher could run the MANOVA to test the null hypothesis and alternative hypothesis that will be explained in the detailed analysis section.

### **Detailed Analysis and Results**

#### **Null Hypothesis 1:**

H<sub>10</sub>: There are no differences in either remedial or entry-level English course grades for those students who have competing placement scores.

H<sub>1A</sub>: Students with passing (above the cutoff score) writing scores (IV) but below the cutoff reading scores (IV) have significantly higher grades in both first-semester remedial and entry-level English course.

#### **Null Hypothesis 2:**

H<sub>20</sub>: There are no differences in first-semester GPA (DV) for those students who have competing placement scores.

H2A: Students with passing (above the cutoff score) writing scores but below the cutoff reading scores have significantly higher first-semester GPAs. (DV)

The following is the MANOVA using the Wilk's Lambda test. Using the alpha level of .05, we see that the test is significant,  $F(6, 5434) = 14.15, p < .005$ ; Wilk's  $\Lambda = 0.969$ , partial  $\eta^2 = .02$ . This significant  $F$  indicates that there was a statistically significant differences in academic performance based on a student's cut off scores in reading and writing on a linear combination of the two dependent variables. The multivariate  $\eta^2 = .015$  indicates that approximately 2% of multivariate variance of the dependent variables is associated with the group factor. Thus, there was a statistically significant difference in academic performance based on a student's cut off scores in reading and writing  $F(6, 5434) = 14.15, p < .0005$ ; Wilk's  $\Lambda = 0.969$ , partial  $\eta^2 = .02$ .

Table 8

*Pairwise Comparisons Among Estimated Marginal Means*

	<i>Value</i>	<i>F</i>	<i>df</i>	<i>Error df</i>	<i>Sig.</i>	<i>Partial Eta Square</i>
Pillai's trace	.031	14.07	6.00	5436	.00	.015
Wilk's lambda	.969	14.15	6.00	5434	.00	.015
Hotelling trace	.031	14.22	6.00	5432	.00	.015
Roy's largest root	.029	26.47	3.00	2718	.00	.028

*Note.* Each  $F$  tests the multivariate effect of cutoffs. These tests are based on the linearly independent pairwise comparisons among the estimated marginal means.

- a. Exact statistic    b. The statistic is an upper bound on  $F$  that yields a lower bound on the significant level.

Below the cutoff scores have a significant impact on both English and cumulative GPA. The univariate test for English is  $\eta^2 = .019$  indicates that approximately 2% of the univariate variance of the dependent variables are associated with the group factor. For the univariate test on cumulative GPA is  $\eta^2 = .026$  indicates that approximately 3% of the dependent variables are associated with the group factor. As a result, I could test the cutoff scores to see what impact they have on academic outcomes (See Table 9).

Table 9

*Univariate Tests*

Dependent Variable		Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
English Course Grade	Contrast	35.374	3	11.791	17.986	.000	.019
	Error	1781.835	2718	.656			
Cumulative GPA	Contrast	41.247	3	13.749	24.608	.000	.026
	Error	1518.600	2718	.559			

*Note.* The *F* tests the effect of Cutoffs. This test is based on the linearly independent pairwise comparisons among the estimated marginal means.

Since the test violated assumption 10, I conducted a Games-Howell test in addition to a Tukey's post hoc test. The Games-Howell post-hoc test is a nonparametric approach to compare combinations of groups or treatments that does not assume normality and equal variances. Although, both the Games Howell and Turkey post hoc tests seem closely similar, the Turkey post hoc test provides a tighter confidence interval.

## Chapter 4 Summary

For the past century, as stated by Pituch and Stevens (2016), the use of multivariate research designs has grown in the behavior and social sciences. The use of the multivariate method is due to ever-growing technology and systems of the IBM SPSS version 25, Stata, SAS, and social media. In addition, the multivariate method has a holistic approach, so as a new

researcher, I chose the multivariate research design to determine and to analyze the data used if students' reading and writing ACCUPLACER scores predicted performance. According to Pituch and Stevens (2016), the advantages of multivariate research designed are that many experimental treatments are likely to affect the study participants in more than one way. Both authors emphasized that using multiple criterion measures can paint a more complete and detailed description of the phenomenon under investigation.

Today, many researchers in the field have found a consensus that individuals generate many behaviors and respond in many different although related ways to the situations that they encounter in their lives. Pituch and Stevens (2016) expressed when people take into account a set of relevant variables (multivariate approach), it provides a realistic hope of reasonably accurately predicting the level or understanding of the nature of a given construct. As such, the realm of multivariate design is appropriate for this study.

The researcher did not find direct support for either of the hypotheses in this study. Although there were multiple significance differences between groups, these were not hypothesized. However, students who scored high in reading and high in writing had a higher mean of 3.28 and a standard deviation of 0.78. Thus, there was a statistical difference in academic performance based on a student's cut off scores in reading and writing.

## **Chapter 5: Discussion and Conclusion**

### **Introduction**

The purpose of this study was to explore whether cutoff scores in reading and writing were able to predict performance in first-semester English courses and first-semester cumulative GPA among incoming freshmen at one community college in Washington between 2015–2016 and 2016–2017.

In Chapter 1, the researcher provided a background and the context for the study. Chapter 2 discussed current literature that pointed to the important role of standardized test scores in college admissions placement decisions, as placement scores are an effective predictor for college achievement in all English first-year college GPA levels, along with the students' perceptions of the standardized testing process in general and the impact of placement decision on students' lives. In regard to the ethicality of making placement decisions based on varied measures.

There are no simple, absolute rules in deciding whether a particular testing instrument, practice, or method can be deemed ethical. Karavas (2013) argued that what is regarded as ethical in one society or culture may not be always regarded as so in another. He further noted that morality can never be complete or absolute, and ethical principles cannot be applied across the board, concluding that different cultures have different concepts of morality and ethics. In relation to placement decisions, this would include respecting the students' autonomy by allowing them to decide their college readiness through multiple-measure placements (Barnett & Reddy, 2018, p. 87).

However, the literature review cited limited research in cases where there are two competing placement scores, and the need for additional research dissecting the placement

impact decisions would have on a student's trajectory. Chapter 3 discussed the methodology that was used for the research study, while Chapter 4 detailed the results obtained from the research study. Chapter 5 will have focused on these results in further detail, along with discussing the limitations and implications pertaining to current practice, policy, and theory, as well as provide recommendations for future research in this area.

### **Summary of the Results**

A quantitative study using a correlational design was implemented for the collection and provision of information to identify a relationship between the variables in the study. The variables were defined using the placement levels of four dependent variables: low in reading/low in writing, high in reading/high in writing, high in reading/low in writing, and high in writing/low in reading. The independent variables were the students' English grades in the first-semester and first-semester's cumulative GPA. Throughout this research, utilizing the unified validity theory framework helped to uncover and brought forth critical awareness in understanding the value, social, and personal consequences and side effects stemming from legitimate test interpretation and uses of placement scores.

The results suggested that four conditions created to test these scenarios: condition 1, scored low in reading and low in writing; condition 2, scored high in reading and high in writing; condition 3, scored high in reading and low in writing; and condition 4, scored high in writing and low in reading. Student's cut scores did influence and impact performance and overall GPA. Students who scored high on reading and high on writing were placed in college English courses and had higher GPA in compared to students who scored low in reading and low in writing. However, interpretation and accuracy of placement decisions remains to be a concern, as stated by Scott-Clayton (2012). Placement accuracy is vital when it comes to this application because



decisions are made whether a student will be successful or not in an academic environment. Moreso, this impact a student's motivation, self-esteem, and projectory socially and economically. Scott-Clayton emphasized that cut scores on entry assessment are not highly correlated with success in initial college-level courses when used as a sole measure for course placement. We assess the resilience of approach based on the unified validity theory and assessment literacy and the results suggested that there were multiple significance differences between groups there were not hypothesized. For example, students who scored high in reading and high in writing had a higher mean of 3.28 and a standard deviation of 0.78 performed better than students who scored lower in reading and writing. It is something that should be taken into account when assessing data.

Furthermore, a series of Pearson correlations were performed between all of the dependent variables in this study, the student's first English course grades, and cumulative grade point averages in order to test the MANOVA assumption that the dependent variables would be correlated with each other in a moderate range (Meyer, Gampst, & Guarino, 2017).

It was thus determined that there were no significant differences in either remedial or entry-level English course grades that had competing placement scores, and the multicollinearity correlation coefficient for the English course grade and cumulative GPA was 0.622. The P value for this correlation, which would be 0.01 level 2-tailed, as  $p < 0.01$  rejected the null of no relationship and concluded that the relationship is statistically significant. However, I conducted a one-way multivariate analysis of variance (MANOVA) to test the hypothesis, and there was a statistically significant difference in academic performance based on the students' cutoff scores in reading and writing:  $F(6, 5434) = 14.15, p < .0005$ ; Wilk's  $\Lambda = 0.969$ , partial  $\eta^2 = .02$ . The multivariate effect size was estimated at .015, which implied that 15.0% of the variance in the

canonically derived dependent variable was accounted for by both the reading and writing cut-off scores. Given that the two dependent variables were both measured academic performance, there was an expectation of a somewhat high correlation between English grades and overall GPAs.

## **Discussion of Results**

The conceptual framework generated of unified validity theory and assessment literacy provided the foundation for exploring the relationships between student's competing cut scores in reading and writing entering into their first English course and performance and cumulative GPAs.

The findings from this study suggested that competing for cutoff scores are associated with academic performance and overall GPA and demonstrate a correlation, as shown in the observation scatter plot in figure 5. Students who scored above their reading and writing and the college's cutoff range performed better than students who scored low in the other three areas. This is in contrast with the findings of Clayton-Scott research, however, unlike data from previous studies, the study showed that placement scores are associated with performance and GPA. It fits naturally into the framework due to its holistic design based on the unified validity theory and assessment literacy.

Students who scored high in reading and high in writing had a higher mean of 3.28 and a standard deviation of 0.78. Thus, there was a statistical difference in academic performance based on a student's cut off scores in reading and writing. Therefore, students with higher cutoff scores in reading and writing were placed into college level English&101courses in compared to students who scored low both in reading and writing on the ACCUPLACER exam. The fact that competing cutoff scores are associated with academic performance and overall GPA and do

show a correlation relationship as shown in the observed scatter plot. These mean scores can be used as part of as a unified validity theory framework alongside with the assessment literacy and educational leadership concepts in improving measures and placement decisions from a holistic approach. All of the students ACCUPLACER cutoff scores influence the mean scores, placement, performance, and overall GPA. Whereas multiple researchers (Belfield & Crosta, 2012; Scott-Clayton, Crosta, & Belfield, 2012) have found that student scores on entry assessments are not highly correlated with performance success for first-semester college courses when used as a sole measurement for course placement. Barnett and Reddy (2018) also argued test scores are not highly correlated with success in first-year college-level courses when used as a sole measurement for course placement.

### **Discussion of the Results in Relation to the Literature**

The aim of this research study was to identify whether cutoff scores in reading and writing predicted performance in first-semester English courses and first-semester cumulative GPAs among incoming freshmen. The hypotheses that led this study were H1: There are no differences in either remedial or entry-level English course grades for those students who have competing placement scores; and H2: There are no differences in first-semester GPAs for those students who have competing placement scores.

The findings of this study showed that students who scored above the cut-off for both reading and writing (condition 2) outperformed every other condition with respect to English course performances. That is to say that their performance was significantly higher than the other three conditions. With respect to the cumulative GPAs, students who scored above the cutoff had significantly higher GPAs than those who scored below the cutoff on both the reading and writing (condition 1;  $p < .01$ ), and students who scored above the cut-off for reading, and below

the cut-off of writing (condition 3;  $p < .01$ ). However, conditions 2 and 4 were not significantly different with respect to GPAs. This meant that those students who scored above the cut-off in both reading and writing were not distinguishable from those who scored above the cut-off in writing and below the cut-off in reading. It is apparent from the results that the flexibility of the student to read and write are essential components for student success in first-year English courses.

Within the literature review, Allen et al(2014) found that reading comprehension was strongly associated with both vocabulary knowledge and higher-level cognitive skills. These authors indicated that writing ability was moderately related to vocabulary knowledge and the ability to access prior experience. Allen et al. argued that strong reading comprehension and writing skills resulted from shared familiar knowledge sources and higher-level cognitive skills. Woods et al. (2017) concluded there is a strong correlation between active reading and writing skills and student success. Which reading and writing can positively impact society. Thanks to this, they suggested measuring early for reading and writing skills in high school to assist prepare students for their coursework and college success

This understanding is crucial because, from logistical regression research, the authors constructed a successful and widely used prediction model fully committed to achieving a goal for underprepared students' likelihood to be successful in college-level English courses. In evaluating available data, underprepared or not, their research makes it clear that pre-college intervention and academic preparation is important for students' success in a gateway college English courses.

Researcher such as Woods et al.2017 found that the extend of preparation of students was association with their course enrollment and success in gateway English course. The authors

indicated that students who were slightly underprepared in reading or writing were more likely than severely underprepared students to enroll in college-level English courses. Throughout their study, slightly underprepared students proved more successful in completing an English course compared to their severely underprepared counterparts.

Colleges assessed their students' writing skills by requiring short essays of them, additionally to taking a placement test that was graded by members of that respective department within the college. However, Rodriguez, Bowden, Belfield, and Scott-Clayton (2015) found that this method of assessment provided a whole evaluation to use as a placement decision tool. The authors indicated that several colleges are faced with an influx of incoming students and lack the resources to evaluate their writing skills because of budget cuts.

Other researchers such as Hubley and Zumbo (2011) believed that any measurement has a control on personal and social change. In step with them, any test developers and users must take into consideration the implications and side effects of the measurement through a validation process. The authors argued that test developers, users, researchers, and educators lack an understanding of the consequential basis of test interpretation and use based on test scores. They found that the validity evidence in the literature, including that on consequences, used outdated frameworks (as cited in Cizek et al., 2008). Therefore, under the unified concept, validity is that the construct and meaning of scores that include six aspects of construct validity evidence: content, processes, score structure, generalizability, external relationships, and consequences of testing.

According to Forer and Zumbo's (2011) matrix model of unified validity, the theory is misunderstood by test developers, researchers, and practitioners. Forer and Zumbo stressed that to grasp this theory, individuals must bear in mind of the results and side effects of

measurements during the validation process itself. The authors strongly believed that validity and also the consequences of test interpretation and use impact personal and social change.

Therefore, although research implies that using test scores because the sole measurement for student performance is not valid. However, with the unified validity theory framework implies that it is valid because of the holistic approach. Forer and Zumbo emphasized that validity is an ongoing process that changes over time, thus offering faculty and administration a far better understanding of how reading and writing scores will be used when placing students in English courses. Assessment, evaluation, validation influence individuals test interpretation when placing students in English level courses.

Zieky and Perie (2006) emphasized that cut scores must be validated, and educators should be prepared to make changes to the cut scores to meet their intended purpose. To support faculty, administration, and staff, we need to understand these placement scores better and make ethical placement decisions regarding assessment literacy. Assessment literacy is used to refer to concepts that are fundamentally important while making procedures and decisions that are deemed vital to influence educational choices and options (Indiana, 2018). These goals that benefit students and shape their lives are by their very nature ethical because they involve making value judgments about people and their lives. For example, students who scored above the cut-off for both reading and writing (condition 2) outperformed every other condition with respect to English course performance. That is to say that their performance was significantly higher than the other three conditions. Presenting these data to faculty, staff, and administrators using the unified validity theory and assessment literacy models can improve processes in student preparedness, the development of supporting English courses, and help make better placement decision matrixes to equip all student populations in college.

Within the findings, conditions 2 and 4 were not significantly different with respect to GPAs. This meant that those students who scored above the cut-off in both reading and writing were not distinguishable from those who scored above the cut-off in writing and below the cut-off in reading. These findings impact student success in areas of student efforts and time spent on academic work, retention and graduation rates, institutional and policy makers, and test developers.

The Association of American Colleges and Universities (AAC & U, 2011) found that 99% of the chief academic officers from 433 higher education institutions rated writing as one of the most important intellectual skills for their students. The Educational Testing Service (ETS, 2013) found that provosts and vice presidents of academic affairs from 200 institutions frequently mentioned that written communication is critical for both academic and career success (Sparks et al., 2014, p. 2). To support student success, the Assessment of Higher Education Learning Outcomes (AHELO, 2012) also included written communication as a generic skill to evaluate general learning outcomes for all college students across the nations sponsored by the Organization for Economic Co-operation and Development. The Association of American Colleges and Universities (2011) surveyed 302 employers where they found that 89% indicated that colleges and universities should place more emphasis on communication and writing proficiency skills. Many employers perceive college graduates as being underprepared for writing tasks required at work. Spark, Song, and Liu (2012) indicated that these discrepancies across stakeholders underscore the need for valid, reliable assessment of written communication as a learning outcome that can provide higher education institutions, employers, and, most importantly, students with meaningful information about writing skills.

Teachers, faculty, educators, and policymakers can benefit by understanding the use of assessment literacy in reference to the concepts that are fundamentally important while making procedures and decisions that are deemed vital to influence educational choices and options (Indiana, 2018). As such, literacy is referred to as the general ability to write and read. It is more general than just specified competence and knowledge in a certain area; therefore, assessment literacy, as used in education, is the basic understanding of fundamental assessment procedures and concepts used in such settings (Indiana, 2018). In this case, concepts are used to refer to the measurement aspects, such as reliability, validity, and fairness. On the other hand, procedures are the methods and techniques used to evaluate tests in an educational setting. Assessment literacy is not only centered on the fundamental procedures and concepts but also on such decisions that can impact positive decisions that influence educational measurement. Educators in the learning environment need to be assessment literate; they should be able to understand the fundamental concepts of education testing and the procedures used to evaluate and measure such tests.

Moreover, this kind of literacy should be enhanced to every shareholder in the educational sector, which is comprised of educators, parents, students, and other educative policymakers (Fulcher, 2012). The most targeted group for assessment literacy is teachers and schools' educational administrations. Having such knowledge will enable them to share insights that are assessment-based with other decision-makers in schools such as the board members, parents, and students who are affected by such assessment literacy concepts and procedures. Despite the much-needed urge for assessment literacy, educators may be found in a hard place trying to write tests, administer them, and make decisions based on the results. Therefore, teachers are motivated to acquire knowledge by completing formal courses of educational measurement in their educational time. These courses are taught by various college and



university professors who are measurement specialists. In these courses, various assessment contents that are relevant to educational assessment literacy are instilled in the potential teachers. Therefore, the teachers are well equipped with relevant knowledge and practicality of measuring the progress of students in the classroom (Fulcher, 2012).

Essentially, assessment literacy is important to both educators and learners. Possessing such knowledge on basic assessment practice and techniques is critical in making sound decisions and choices. The main purpose of such assessments is to improve the quality of education and the learning process in general. Therefore, both the teacher and the learners should critically understand both formal and informal assessment in the teaching and learning process (Marcos, n.d.). Student success is also reliant on various integrated parts of the school system that includes financial aid services, faculty and curriculum, advising, tutoring, instructional services, resources centers. Student success is reliant on various essential parts of the school system. This includes the curriculum, instructions, assessment, advising, financial aid, tutoring, and resource centers.

Through assessment, the evidence is gathered and is later employed in making informed educational decisions. These decisions support the curriculum and also the instructions in the learning process. Subsequently, this increases the learner's success and growth in a very particular field. In education, evaluation serves various purposes in assessing the student. Therefore, the teacher should be objective and choose the most effective sampling techniques for the evaluation to achieve success. As such, evaluation is an interchangeable variable used in comparing the components of a system to its expected requirements (Marcos, n.d.).

These requirements and specifications must be tested and evaluated; hence, tests play an important role in evaluating various designs and performances that are used as criteria for either

a promotion or placement in an exceedingly certain area of study. Additionally, evaluations and tests are wont to evaluate general components and evaluate each component of the integrated system. In keeping with Bellal (2016), testing is critical because it determines which information passes which merits, thus, measuring a person's ability and skills in an exceedingly specific area. Assessment literacy helps individuals make informed decisions on how and if they meet the specified threshold for a specific placement. In education, measures are wont to determine if a student knows and might do a particular task. they're wont to assess and analyze educational data and scores that are obtained from other educational assessment procedures to check the proficiency and skills of scholars. Therefore, measurement practice aims to research the power and therefore the attainment of various levels in various areas of study, like writing, reading, and drawing (Maheshwari, 2016). For a measurement to be deemed accurate, its reliability and validity should be evaluated. within the educational measurement, the analysis of information or scores come from assessments and tests provided by a coach to the learners. This means that total immeasurable the test or assessment, whether open-ended or with multiple choices, are used as guides for creating such marks.

Hubley and Zumbo (2011) believed that any measurement has a control on personal and social change to keep with Hubley and Zumbo (2011), any test developers and users must take into consideration the results and side effects of measurement through a validation process. Both authors argued that test developers, users, researchers, and educators lack the understanding of the consequential basis of test interpretation and use supported test scores. Although research implies using test scores as a sole measurement for student performance isn't valid, Forer and Zumbo supported their new reframing of Messick's unified validity theory framework argued it does. Forer and Zumbo emphasized that validity is an ongoing process that changes over

time and is not fixed. They strongly emphasized that the new framing of Messick's unified validity theory encompasses both individual differences and multilevel constructs that researchers, test developers, and educators can use within their institutions.

## **Limitations**

Although the research was able to achieve its intended aims, there were some unavoidable limitations. Firstly, this came from the discontinuation of the COMPASS placement instrument in many community colleges, as they were transitioning to other placement instruments and methods. Furthermore, they were new at using the ACCUPLACER placement instrument. Consequently, data availability was scarce, and only one community college was able to provide data from the 2015-2016 and 2016-2017 school years. Therefore, to generalize the results, the study should have involved more institutions that included students' demographics of sex, age, and ethnicity.

The second limitation was found prior to the conducting of the quantitative MANOVA analysis. A series of Pearson correlations were performed between all of the dependent variables in order to test the MANOVA, with the assumption that the dependent variables would be correlated with each other in the moderate range. While analyzing the 10 assumptions and checking for homogeneity of variance using the Levene's test, a violation occurred as the four levels of the independent variables were not necessarily homogenous with respect to the English grades =  $p < .000$  compared to the cumulative GPAs =  $p < .361$ . This meant that there was an equal variance across all groups, except for the English course. However, the overall sample size was adequate, and all outliers were removed to move forward and allow the MANOVA results to be interpretable, even without homogeneity of variances. Rahman (2016) found that the quantitative method overlooked the test takers' and testers' experiences.

Thirdly, the student population that was selected for the correlation included all first-semester students who were enrolled in their first English course and had provided a cumulative GPA. Only students who had received an English grade and cumulative GPA were used in this quantitative correlational study. Students who audited, withdrew, or had incomplete grades when the pool of students was created were eliminated from this study.

Fourthly, if a student was found to be present in the data more than once, such as if they had taken an English course during the designated timeframe, only the initial entry from their academic grade in the course and cumulative GPA were used for the correlation. Fifthly, this study examined all the reading and writing past cut scores placement of incoming community college students and predicted the performance in the first-semester English courses and first-semester cumulative GPA validity during the school years of 2015 to 2016 and 2016 to 2017. Although the data population met the required guideline for the MANOVA analysis, a longer duration of years of data and additional data from other community colleges would have helped in generalizing the results and providing more information.

### **Implication of the Results for Practice, Policy, and Theory**

The implications for theory include that writing plays an important role in the overall performance of a first-year student. It appears that scoring above the cut-off for writing is a predictor of overall performance, not just performance in the English course.

1. How do you maximize freshman performance in an English course when students have competing placement scores?
2. What are the differences between remedial and entry-level course grades for students who have competing placement scores?
3. Can the information from these data be used to standardized placement decisions?

Practically speaking, this may have to do with the fact that writing is such a pervasive means of analyzing a student's ability in any course, as a student must write in philosophy, engineering, psychology, and business courses.

Bouwer, Beguin, Sanders, and Bergh (2015) measured the effect of the writing score involving various types of variance, such as a person, genre, person by genre, person by task genre, and so forth. However, the authors did not explain the reasons for the effect and the underlying meanings behind the writing score. In addition, the researchers only investigated and estimated that language skills, proficiency, and scoring would not give a true picture of a student's experience and perspective in a highly controlled environment. Future research should determine why the cutoff writing score predicts overall performance, as well as high scores in both reading and writing, such as whether there a reason why the student can account for reading but not the writing score.

According to Fulcher (2010), educational assessments and language testing count as a complex social phenomenon. Fulcher found that the placement testing and assessment used by institutions and the decisions based on these results affected the students' lives. For example, this would affect areas such as what level of coursework to take (remedial or college-level), promotion, employment, competing for admission, citizenship, and financial aid support.

Another question would be why are the reading cut-off scores lower than the writing cutoff scores in the matrix to place students? Should these matrix scores be reversed where writing has a lower matrix cutoff score and the reading cutoff score should be lower or equal to it? The logic behind this would be that for centuries, men and women have used writing as a form of communication to express their ideas. Carroll and Bailey (2015) questioned the extent to which students are classified as nonproficient under different models and rules and the effect of

these differences on their eligibility for re-designation. The authors (2015) did a study on English language proficiency assessments test performers on English language learners and native English-speaking students and found significant differences in nonproficient classifications and observed differences in re-designation eligibility in all groups. They surmised that the choice of model and decision rule can extend the length of time that students, even high performing ones, spend in English language services.

This study had several strengths and weaknesses. The weaknesses included a significant group of students who scored a “0” for their English grade and had to be removed from the study. It would have helped to have known what their grades were prior to dropping out. Perhaps assigning them the smallest score for the English course would have allowed for a more complete picture. Also, students were assigned to different courses based on their cut-off scores. A purer form of analysis would have been to compare all students to just one English course, rather than three different courses. In contrast, there were several strengths to this study, including the sample size and the fact that all students applied to the same school, took the same placement tests, and were placed according to the same standards.

The results of this dissertation on educational leadership, assessment literacy, and unified validity theory will have several implications for educational policies, practices, and reforms. This is because the study will contribute significantly to new knowledge in the already existing body of literature. The findings of this dissertation on education leadership have a direct impact on education policy and practice as it will ensure that there is sufficient information on the topic.

### **Results for Education Practice**

During the needs of assessment and creating the placement cut scores, it must involve all stakeholders for a comprehensive representation on how to best assess and serve all students.

Which would require a longitudinal student level data analysis and assessment literacy training for faculty, teachers, staff, and the community. These longitudinal researches can involve panel study, cohort study, and historical experiences. Administrators, faculty, and staff should examine the current literature on placement validity, assessment literacy, multiple measures, and placement cut scores and evaluate cut scores against the literature to help make informed decisions.

The findings of the dissertation on educational leadership will contribute significantly toward making reliable education practices. According to Karami-Akkary et al (2019), education leadership is found to have a positive correlation with students' performance. This is because the information gained from this study will help in improving the output of students through the adoption of certain educational practices such as the transformation of school culture, coordination, and assessing education systems (Alsaleh, 2019). It is imperative to note that educational leadership is one of the most crucial concepts related to learning practices.

According to Schechter et al. (2018), educational leadership focuses primarily on enhancing students' achievement through the adoption of strategies that are in line with educational practices. In this regard, the findings of this study will aid in improving education practice by suggesting various ways of enhancing education practices that have been examined and explored by multiple scholars. Teachers are best known for the role of instilling knowledge in the learners placed under their care. This means that teachers play vital roles in the lives of students when in the classroom. Beyond the role of educating learners, teachers have other roles in the school. They are mentors who nurture the students, they are role models, providing information and resources, and they serve as monitors.

Faculty, teachers, administrators, and parents are role models for learners. Students spend most of their early years in school with the teacher as their instructor (Schechter et al., 2018). Faculty, teachers, administrators, and parents are highly respected by society, and therefore the students look at the teacher as the role model. A teacher is seen as an example of a professional adult. Because students have more contact with the teacher than with the parent, it is the role of the teacher to project a good image (LaBoskey, 2016). The teacher should also teach learners values like responsibility, trust, and respect. A teacher can teach these values through actions and words. The teacher has the role of being a guide without letting their values affect how they treat children.

In addition, although there is little connection between research and education practice, the findings of this research study on education leadership will play an essential role in aiding theoretical understanding of sociological, physiological, as well as behavioral scientific phenomena that are of relevance to educational thinking and practice, which likely have significant effects on educational practices (Fensham, 2014).

Also, the findings of this particular study will play an essential role in bridging the gap between the education research and practice, as it provides a wide range of summaries on conceptual models ranging from those where practitioner are consumers of research to those where practitioner are the owners of the research process. Additionally, the study will help research practitioners, including teachers, administrators, and other stakeholders, to improve their strategies for teaching and learning (Green, 2015). Furthermore, the research used similar quantitative studies, and therefore, it will aid in providing more considerable statistical data that will help the practitioner to improve on their education practices.



There is a growing awareness of the need for assessment in community colleges. Especially, for students enrolling in community colleges having an accurate means of making placement decisions when there are competing placement cut-scores. Roueche and Archer (1979) argued that it is vital to have a practical, entry-level assessment for students to be successful in a college environment. Both authors stated, "Unless we can determine the readiness of students who enter our community colleges (for college learning, we cannot continue to claim to be open door institutions. Programmed failure for high risks students makes open- door a cruel irony" (p. 26). As it stands, the variation in cut scores used to determine college readiness across the college system makes it challenging for students who enroll in more than one college throughout their academic career.

Hughes and Nelson (1991) argued, "Educators are aware of how significance student assessment and placement for incoming students are at community colleges. However, not all educators understand the limitations of placement instruments." There is a wealth of research that exists that documents the importance of making placement decisions utilizing reliable and valid tools for the student to be successful. Gillespie (1993) concur that community colleges must utilize reliable and valid tools for offering placement advice to students to ensure these assessments are accurate and not harmful.

### **Results for Education Policy**

The results of this study touch on many leadership educational and assessment literacy issues, and therefore, it will aid in developing and formulating effective education policies that can be used to address some of the challenges facing the education sector when it comes to educational leadership and assessment literacy. The information gathered in this particular study will help in the development and formulation of education policies which are created at local,

state and federal levels of government (Walker, Hughes, & Farquhar, 2018). These educational policies are mostly an aid in guiding institutions to teach learners effectively and also in ensuring that adequate learning resources are provided to ensure that the learning process takes place smoothly without any interruption.

The results of this study will be useful to educational leadership because it provides trustworthy information regarding some of the educational challenges and their possible solutions. Through this information, education and development test stakeholders will be able to develop the most appropriate policies to address some of these educational issues that are related to leadership (Rodela & Bertrand, 2018). The information that will be obtained from the research findings of this study will help in adding to existing knowledge by providing insights and facts that are related to education policy and practice. In this case, this study on educational leadership, assessment literacy based on first-semester student ACCUPLACER reading and writing cut score will help in adding our knowledge of education policy. The gap is that student's cut scores does and is associated with performance and overall GPA. The results of this research also aid in implementing education policy which is essential in enhancing the standards of education and achievement among the learners. This is because the study evaluated some education policies that are essential for improving the quality of education.

The study results will also contribute significantly toward educational reforms because the findings of the study focus on the inputs and outputs of an education system. In this regard, the findings will help education stakeholders in establishing necessary and appropriate reforms that will aid in enhancing the quality of education system and achievement because the research related to problems in educational leadership, student achievement, and community or college improvement. Further, the findings of this research study indicate that reforms are based on

bridging education system with societal values. According to Gunter et al. (2016), any reforms that are likely to alter social values can connect unconventional educational leadership initiatives with other institutions.

### **Theoretical**

Although there is little connection between research and education practice, the further research study should focus on examining the role of educational leadership in aiding theoretical understanding of sociological, physiological, as well as behavioral scientific phenomena that are of relevance to educational thinking and practice, which likely have significant effects on educational practices.

Also, quantitative studies that are similar to this study should consider expanding their population of study to obtain larger samples of study that can be generalized. This may help in providing a considerable amount of data. Also, this might also assist the practitioner to develop readily applicable conclusions across the same population. Qualitative research is a significant concept that explores individual experience from the perspective of own situation; provision of education services is more an ethical practice requiring resilient professionals to create new ideas that need knowledgeable intervention.

Qualitative inquiry in the education sector contributes to the final expression of a systematic phenomenon to a student that creates a vital understanding of why a specific intervention is suggested (Grove, Gray, & Burns, 2015). The process of acknowledging academic debates on qualitative research in education benefits patients with little knowledge of the several educational measures. The subjectivity of the inquiry helps teachers to explain educational facts using a common language and developing well-versed interventions.

Future studies should seek to provide a significant impact by focusing on specific institutions with a more in-depth investigation of the learner's performance data. This study can be made possible by focusing on students from different schools with different resources. Grove, Gray, and Burns (2015) added that the philosophical orientation of the inquiry directs the attention of educational staff to situations surrounding the student's learning environment and conduct analysis from that point. However, little bias experienced in qualitative research on a similar educational phenomenon contributes differently to own understanding in the context of experiences.

Another main point is fundamental assessment and how it is used with other variables in the education system to evaluate placement criteria. Therefore, educational assessment literacy is important in describing the full range of methodologies and procedures that can be used to determine and evaluate the status of a student in a classroom setting and testing centers. Assessment literacy isn't only centered on the elemental procedures and ideas but also such decisions that may impact positive decisions that influence educational measurement. Educators in learning environment have to be assessment literate, they must be ready to understand the elemental concepts of education testing and also the procedures accustomed evaluate and measure such tests.

Additionally, this sort of proficiency ought to be improved to each part in the academic domain, which is contained instructors, administrators, policy stakeholders, test vendors and other educative strategy creators (Fulcher, 2012). The most targeted group for assessment literacy is teachers, parents, and schools' educational administrations. Having such knowledge will enable them to share insights that are assessment based with other decision-makers in

schools such as the board members, parents, and students who are mainly affected with such assessment literacy concepts and procedures.

Basically, writing and reading proficiency is essential tool used by administrators, faculty, staff and students and all members of society for decades. Having such information on fundamental on assessment literacy practice and the advantages it adds to systems is basic in settling on dependable choices and decisions. The main purpose of such assessments is to improve the quality of education and the learning process in general. Therefore, both the teacher and the learners should critically understand both formal and informal assessment in teaching and learning process (Marcos, n.d.). The teachers, in this case, should understand that assessment is vital to teaching and should use it at all times, always involve students in such assessments, and be aware of peer assessment for evaluation and to help students to assess themselves independently.

Therefore, the teachers are well equipped with relevant knowledge and practicality of measuring the progress of students in classroom (Fulcher, 2012). Assessment literate individuals, especially educators, should use such procedures and concepts properly to make sure the instructional and sound decisions are received, thereby improving the quality of education amongst students. Additionally, becoming educational assessment literate pays off greatly for educators, whereby the more they incorporate related notions that play a vital role in decision making in educational systems, the more likely they are to make the best choice among various decisional options

Furthermore, future studies on school leadership and education system reforms should consider some of the ways in which education leadership and practice have changed and responded to the rapidly changing and dynamic educational reforms for the last few decades in

an attempt to meet the growing and changing needs of students, policymakers, and other stakeholders who consider future education developments and reforms. Future studies should, therefore, consider exploring more information concerning education leadership, educational practice, student achievement, and scholar-practitioner and college improvement.

Theoretically and conceptually this research study allows different contributors to draw some of the conclusions from recent studies on education leadership, educational practice, student achievement, and scholar-practitioner and college improvement, learning, and other system reforms (Allan, Smith, & Lorentzon, 2018). The findings of this research study also suggest that there is a greater need to develop capability and capacity in the sector of education research if the education system change is to be informed and generated through enhancing educational policies and reforms.

Also, future research should focus on adding knowledge to the existing body of literature by providing insights and facts that are related to education policy and practice. This study on educational leadership will help in adding to knowledge of education policy (Glatter & Kydd, 2013). In this case, the study will add information to the existing studies by ensuring that there is sufficient information on the topic. Further, future research should focus on bridging the gap between the education research and practice as it will provide a wide range of summaries on conceptual models ranging from those where practitioner are consumers of research to those where practitioner are the owners of the research process.

Moreover, further research study should focus on providing trustworthy information regarding some of the educational challenges and their possible solutions. Through this information, education stakeholders will be able to develop the most appropriate policies to address some of these educational issues that are related to leadership.

Also, further studies should focus on generating a knowledge that is applicable, and that may contribute significantly towards an understanding of various education policies, practices, and reforms. Administrators, faculty, and staff are key players in shaping the lives of the learners as well as their potential. Teaching is a selfless profession in which central focus is on the learners and their individual growth. Technology and social development cannot change this fact. The educators are the only individual who plants trees for others to sit under them. Changing the role of the teacher outside and inside the classroom can result in better schools and well-educated children.

### **Recommendations for Further Research**

Based on the literature and the findings from this research, the following recommendations are suggested: Implement broader use of ACCUPLACER or multiple writing assessment entrance testing components for placement. Bracco et al. (2014) indicated that the choice to broaden placement policy by including multiple measures beyond a single standardized test scores involved tradeoffs, such as tradeoffs between precision and cost, test validity and face validity, and local policy variation and uniform statewide implementation. Barnett and Reddy (2018) agreed that institutions would benefit from high quality evaluations of varied assessment and placement approaches that would permit insights into their efficacy, implementation requirements, costs and benefits, along with having a differential impact on varied student populations.

Another recommendation would be to provide students a list of various genres that would require proficiency in writing, along with competencies that are required in order to be successful in English courses within an assessment test. For example, Bouwer et al. (2014), found that aspects of the measurement of writing were disentangled in order to investigate the

validity of inferences made on the basis of writing performance and its implications for the writing assessment. Four writing scores of 12 texts in four different genres for each student were collected. The authors found that only 10% in the variance of writing scores could be related to individual writing skills. Bouwer et al. (2014) concluded that for the students to be proficient in writing there should be at least three different texts in each of the four genres rated by at least two individuals and not by one.

In order for colleges to be able to provide the necessary assessment and testing that are aligned to each individual student, McClarty, Loomis, and Pioniak (2017) believed that providing colleges with more resources, such as funding, to implement an empirical standardized data setting is necessary to allow a focus to be on content-based methods that support incoming students to be successful in a college environment. In my research, I found that passing both reading and writing predicts stronger performance success for students, and both policy makers and institution administrators should take this into close consideration. Although previous researchers have used other quantitative research methods, the use of multivariate research designs would be more beneficial as they have a holistic approach, and the use of a multiple criterion measures can paint a more complete, detailed description of the phenomenon under investigation (Pituch & Stevens, 2016). This design analysis can be used to accurately predict the level of understanding of the nature of a given construct, something that only a multivariate design can discover, when compared to traditional designs.

## **Conclusion**

In conclusion, the use of the ACCUPLACER placement scores in reading and writing are associated with predicting performance for student's first-semester English course grade and cumulative GPA. It has been determined by current literature the importance of utilizing



standardized test scores in college admissions placement decisions, as placement scores have been shown to be an effective predictor for college achievement in all English first-year college GPA levels. In particular, the used of the ACCUPLACER placement scores assessment in reading and writing were strongly associated with predicting student's first-semester English course grade and cumulative GPA. Moreover, respecting students' autonomy by also allowing them to decide their college readiness through multiple-measure placements instead would be prudent.

This dissertation has addressed a gap in practice in which the conceptual framework of unified validity theory and assessment literacy was not fully embedded to study the true meaning of test scores as indicated by Hubley and Zumbo (2011). Both authors strongly emphasized that test developers and test users must think deeply and peel of the layers of validity and its effect when it comes to legitimate test interpretations and test scores true meaning. Hubley and Zumbo argued that often other researchers believe that social consequences focused on test misuse rather than the validity of test interpretation and use.

According to Forer and Zumbo (2011) matrix model of unified validity theory has been misunderstood by test developers, researchers, and practitioners. Forer and Zumbo stressed to understand this theory individuals need to be aware of the consequences and side effects of measurements in the validation process itself. Why is this important in placement decisions? Administrators, faculty, staff, and students who lack assessment literacy and understanding on the unified validity theory can place students in the wrong level of English course. Which can lead to increase dropout rates and make a dent in a way a student view themselves as less valuable among their peers, family, and society. Therefore, although research implies using test scores as a sole measurement for student performance is not valid, based on the unified validity

theory framework it does because of its holistic approach on the validity of test interpretation.

The methodology of this quantitative study was designed to learn more about interpretation of test scores in predicting performance and overall GPA for first-semester English students.

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## **Appendix A: Email to Administrators**

Dear Administrator/s,

My name is LuLani Tomaszewski and I am a doctoral student currently working on a research study through Concordia University–Portland. I am working on a study in which I would like to learn more about the past reading and writing cut-score placement validity by community college administrative staff and faculty in state redacted]. The purpose of this study is to determine if placement decisions can be standardized (or at least sound advice based on data) for administrators. My study will be based on archival data for a period of five years consisting of reading and writing placement scores, first English course grade, and first quarter grade point average. The target population consists of all students at a small university in the Pacific Northwest. The sample will consist of approximately 200+ students who have scored above the cutoff score on one of the English placement tests (either reading or writing) and scored below the cutoff score on the other placement test. All information provided will be kept confidential.

Respectfully,

Doctoral Candidate

## **Appendix B: ACCUPLACER Score Placement 2016**

<b>Assessment</b>	<b>Score Achieved</b>	<b>Course Placement</b>
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## MATH COURSE PLACEMENTS

College Level Math (CLM)	CLM 104≥	<b>Math&amp; 151</b>
	CLM 81≥	<b>Math&amp; 142</b>
	CLM 57≥	<b>Math-143</b>
College Level Math (CLM)	CLM 57≥	<b>Math-147</b>
Elementary Algebra (EA)	EA 98≥	
Elementary Algebra (EA)	EA 82≥	<b>Math&amp; 146</b>
	EA 65≥	<b>Math&amp; 131</b>
	EA 55≥	<b>Math&amp; 121</b>
Elementary Algebra (EA)	EA 47≥	<b>Math&amp; 107</b>
Arithmetic (ART)	or ART 71≥	
Arithmetic (ART)	ART 30≥	<b>Math 90B</b> <b>Math BMT 138</b>
	ART 0-29	<b>Math 90A</b>

## ENGLISH COURSE PLACEMENTS

Sentence Skills (SS)	SS 92≥	<b>ENGL&amp; 101</b> <b>English-BSTEC 150</b>
Reading Comprehension (RC)	RC 84≥	
Sentence Skills (SS)	SS 92≥	<b>English 99</b>
Reading Comprehension (RC)	RC 61-83	
Sentence Skills (SS)	SS 78-91	<b>English 99</b>
Reading Comprehension (RC)	RC 84≥	
Sentence Skills (SS)	SS 67-91	<b>English 98</b> <b>English-BSTEC 145</b>
Reading Comprehension (RC)	RC 61≥	
Sentence Skills (SS)	SS 52-66	<b>English 91</b>
Reading Comprehension (RC)	RC 61≥	
Sentence Skills (SS)	SS 0-51	<b>ENGLISH-ABE/ESOL</b>
Reading Comprehension (RC)	RC 0-60	



**Appendix C: ACCUPLACER Score Placement 2018**

<b>ACCUPLACER SCORE PLACEMENT</b>		
<b>Assessment</b>	<b>Score</b>	<b>Course Placement</b>

<b>ENGLISH COURSE PLACEMENTS</b>		
Sentence Skills (SS) & Reading Skills (RC)	SS 20–51 RC 20–60	ABE/ESOL
	SS 67–91 RC 61≥	ENGL BSTEC 145
	SS 52–71 RC 61–83	ENGL 091
	SS 72–91 RC 84≥	ENGL 099
	SS 92≥ RC 84≥	ENGL&101 ENGL BSTEC 150
<b>MATH COURSE PLACEMENTS</b>		
Arithmetic (ART)	ART 20–29	MATH 090A
	ART 30≥	MATH 090B MATH BMGT 138
Arithmetic (ART) Elementary Algebra (EA)	ART 71≥ EA 47≥	MATH 094 MATH BMGT 140 MATH TECD 145 MATH WELD 145
Elementary Algebra (EA)	EA 55≥	MATH 098i   Math&107
	EA 65≥	MATH 099
	EA 82≥	MATH 099i   Math&141
Elementary Algebra (EA) or College Level Math (CLM)	EA 98≥ or CLM 57 ≥	MATH&107 MATH&131 MATH&141 MATH&146 MATH 147 CHEM&121 CHEM&139
College Level Math (CLM)	CLM 57≥	MATH 143
	CLM 81≥	MATH&142
	CLM 104≥	MATH&151

#### Appendix D: ACCUPLACER English Placement 2015-2017

Course ID	Sentence Skills	Reading Comprehension	# of Students	2.5 to 4.0 (A, B)	1.5 to 2.4 (C, P)	Less than 1.5 (D, F)	Avg. Grade
ENGL 091	52–66	61–83	65	58%	28%	14%	2.52
		84+	17	71%	12%	18%	2.72
ENGL 098	67–77	61–83	145	69%	19%	12%	2.78
		84+	99	66%	23%	11%	2.76
ENGL 099	78–91	61–83	189	72%	16%	12%	2.90
	78–91	84+	224	62%	11%	27%	2.36
	92+	61–83	120	59%	18%	23%	2.48
ENGL&101	92+	84+	2,179	76%	13%	11%	3.01

**Data Source and Notes:**

- Data Source: SQL Server [ODS].[dbo].[Transcript] and [ODS].[dbo].[TestScore]
- Data includes students that took BOTH Accuplacer Sentence Skills and Reading Comprehension in 2015, 2016, or 2017 AND took the English class that he or she tested into (transcript record exists for that class) AND the student stayed in that class (accelerated English students are NOT counted here)
- Students with grades 'W', 'N', '\*', 'I', 'NC' in the class he/she placed in are NOT counted
- A passing grade of P or WP (earned credit) is counted as 2.0 for the sake of calculating average GPA
- Students for which the placement course was undetermined, were NOT included. These were students that fell into the following ranges:

Sentence Skills Range	Reading Comprehension Range
52 - 66	0 - 60
67 - 77	0 - 60
78 - 91	0 - 60
92+	0 - 60
0 - 51	61 - 83

**Appendix E: Statement of Original Work**

The Concordia University Doctorate of Education Program is a collaborative community of scholar-practitioners, who seek to transform society by pursuing ethically-informed, rigorously researched, inquiry-based projects that benefit professional, institutional, and local educational contexts. Each member of the community affirms throughout their program of study, adherence to the principles and standards outlined in the Concordia University Academic Integrity Policy. This policy states the following:

**Statement of academic integrity.**

As a member of the Concordia University community, I will neither engage in fraudulent or unauthorized behaviors in the presentation and completion of my work, nor will I provide unauthorized assistance to others.

**Explanations:**

***What does "fraudulent" mean?***

"Fraudulent" work is any material submitted for evaluation that is falsely or improperly presented as one's own. This includes, but is not limited to texts, graphics and other multi-media files appropriated from any source, including another individual, that are intentionally presented as all or part of a candidate's final work without full and complete documentation.

***What is "unauthorized" assistance?***

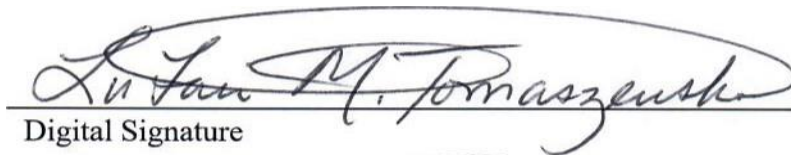
"Unauthorized assistance" refers to any support candidates solicit in the completion of their work, that has not been either explicitly specified as appropriate by the instructor, or any assistance that is understood in the class context as inappropriate. This can include, but is not limited to:

- Use of unauthorized notes or another's work during an online test
- Use of unauthorized notes or personal assistance in an online exam setting
- Inappropriate collaboration in preparation and/or completion of a project
- Unauthorized solicitation of professional resources for the completion of the work.

### Statement of Original Work (Continued)

I attest that:

1. I have read, understood, and complied with all aspects of the Concordia University–Portland Academic Integrity Policy during the development and writing of this dissertation.
2. Where information and/or materials from outside sources has been used in the production of this dissertation, all information and/or materials from outside sources has been properly referenced and all permissions required for use of the information and/or materials have been obtained, in accordance with research standards outlined in the *Publication Manual of The American Psychological Association*.



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Digital Signature



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Print: LuLani M. Tomaszewski

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Date: April 14, 2019

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