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Isabel Rodriguez-Dehmer

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Developmental Education: Alternative Literacy Approaches for College Students, An Ex Post Facto Study

DISSERTATION

Presented in Partial Fulfillment of the Requirements for

the Degree of Doctor of Philosophy in

Curriculum and Instruction

in the Adrian Dominican School of Education of

Barry University

By

Isabel Rodriguez-Dehmer, M.S., Ed.S,

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Barry University

2013

Area of Specialization: Reading, Literacy and Cognition

Developmental Education: Alternative Literacy Approaches for College Students,

An Ex Post Facto Study

DISSERTATION

by

Isabel Rodriguez-Dehmer

2013

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ABSTRACT

Developmental Education: Alternative Literacy Approaches for College Students, An Ex Post Facto Study

Remediation is the most common policy designed to prepare students academically and socially during their early stages of college. But despite its profound importance and its significant costs, there is very little rigorous research analyzing its effectiveness. The purpose of this study was to examine two methods of reading instruction − TSD (Traditional skills and drills) vs. CAB (Content area based/contextualized) − in terms of students' passing rates on the state exit exam and final grades (GPA) in the subsequent courses of ENC1101 (Composition I) and ENC1102 (Composition II). This quantitative study applied a causal-comparative design. The implementation of the TSD adopted in 1983 for students in remedial courses in higher education is still utilized as the main means of instruction. As a result the college under investigation does not offer other forms of curriculum instruction for remedial students unless they are funded by grants or pilot programs on a smaller scale. The three cohorts examined in this research study participated during the time of a NFS grant (2005 through the summer of 2008). The data collection instrument used was an archival data base assembled by the staff at the Office of Institutional Research for the researcher. The following analyses were conducted: To assess scores on the exit exam and the final grades between groups, the researcher conducted several chi-square tests and six ANOVAs. Results from the study found a significant difference in the passing rates between two (cohort 1 2006-1 and cohort 3 2007-2) of three contrast cohorts groups when exposed to the different instructional type (TSD vs. CAB) at the .05 level of significance in favor of the CAB

group. In the subsequent courses, the ANOVA revealed the instructional type TSD performed significantly better on the mean GPAs for all three cohorts in ENC1101 compared to the CAB group. The TSD performed better on the mean GPAs for ENC1102 for the first two cohorts but for cohort three analyses indicated they had a lower GPA than the CAB student group. Thus this study showed mixed results with the CAB students doing significantly better on the state exit exam in two of the three cohorts and the TSD group having significantly better GPAs in the three cohorts for ENC1101. This study presents a number of possible reforms and approaches to remediation.

Acknowledgments

I want to express my deepest appreciation and gratitude to my committee co-chairperson, Dr. Lauran Sandals, for his expert guidance and continuous support throughout my studies. I am grateful to Dr. Nancy Masztal, dissertation committee member, for sharing her expertise and providing valuable direction and feedback that improved this dissertation. I extend my sincere appreciation to Dr. Jill Farrell, my advisor and co-chairperson, for her advice, insights, and words of encouragement during the writing of this dissertation. The researcher is thankful for numerous colleagues at Miami Dade who provided assistance and insight to the completion of this dissertation.

Sadly, my aunt Agueda and childhood friend Baldi cannot witness this accomplishment. To my parents for the love and joy they gave me on this journey, certainly, none of this would be possible without the work ethic, passion for learning and commitment and support that Raymond and Carmen instilled within their children. To my sons, *Ricky, Joseph*, and my daughter-in-law Sarah, for their support and encouragement throughout this academic endeavor. Fundamentally their love and attention empowered this transformation of aspiration to reality.

My sincere appreciation to my extended siblings, Fernando, Evelyn, Ileana, and Duane for their support. To my siblings, Patty, Albert, Ray, Roxy & Debbie for your support during this venture. To *my spiritual partners* Dr. Jennie Ricketts-Duncan, Linda, Tio Pin, Titi Lucy, Tina, Lynn, Scarlett, Denny, Viki and Don for the many many prayers. To my colleague and friend Mark L Rosenkrantz, for the thriving hours

of discussions on statistical figures. For my colleagues, Dr. Jaime Bestard and Silvio Rodriguez, and the endless wisdom and discussions about the study-Thank you.

To my sons, Ricky, Joseph, and my daughter-in-law Sarah, for their support and encouragement throughout this academic endeavor. Fundamentally their love and attention empowered this transformation of aspiration to reality. Finally, I want to thank my husband Rich for his love, understanding, and patience during the past few years. His emotional support and commitment made this dissertation possible.

Dedication

This dissertation is dedicated to family, especially . . . Rich, my patient and understanding husband, *my mother*, who instilled in me the value of education and the love of learning. For *my father*, who gave me his fullest support and was always there with a smile, a hug, and encouraging words of love, *Ricky and Joseph* for their love and support throughout this journey. To *Daniel and Meghan* thank you for the continuous encouragement and love throughout this academic endeavor, Tibel is forever grateful.

To *Tristan*, my grandson, *Emily* my niece . . . "**to thine own self be true."**

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CHAPTER 1

THE PROBLEM

Introduction (Nationally)

While most educators, legislators, and citizens want to see the total number of remedial students decline in higher education, and although K-12 and post secondary education coordination has long been prescribed, since 1983, when the report of *A Nation At Risk* called for better K-16 articulation, such coordination has not happened (Cohen, 1998). Since the report, *A Nation at Risk* (National Commission on Excellence in Education, 1983), the *impetus* for adopting standards-based reforms comes from a perception of "falling behind" our international counterparts. In response to this criticism, states implemented graduation policies and requirements that called for raised academic standards for all students, state and local district testing, development of exit exams linked to a student's eligibility for a high school diploma, and a focus on increasing student graduation rates. All of these strategies were intended to increase the student's level of learning and achievement essential to their success.

One strategy, for high-stakes accountability, has dominated the educational landscape at all the community colleges offering remedial courses. Consequently, an exit exam policy by the state was implemented in 1997 (Cobb & Johnson, 1997). However, today critics contend that such policies have been fundamentally counterproductive (Bailey, 2009). According to the 2008 National Center for Education Statistics (NCES) the needed current policies for (remedial) developmental education have not been working for the larger number of students "falling behind."

Remedial v. Developmental

The topic of DEV ED is more complicated than perhaps anyone expected. First, there is the distinction between "remedial" and "developmental" education. Breneman and Haarlow (1998) state the following, "*It's one thing to blame the K-12 system when a 19-year-old freshman can scarcely write and do math, but quite another when the student in the "remedial" course is 38 years old and enrolling in a community college in order to gain the skills needed for a better job in a changing economy. The 38-year-old may be taking the same course as the 19-year-old, but is it truly "remedial" for him? Probably not" (p. 23).* He concluded, therefore, that we need to learn more about the dimensions of this issue.

Breneman and Haarlow (1998) in a report prepared for the Brookings Institution, and published in *Brookings Papers on Education Policy* 1998, stated, "*remedial postsecondary education is under siege nationwide"* (p.23) but one issue that continually emerges is whether to use the term "*remedial"* or "*developmental*" education. In Florida, for example, what used to be known as "*remedial education*" had been renamed "*developmental education*," and more recently changed again, this time to "*college prep*" (Florida Department of Education, 2005).

Boylan (2009) stated that over time, the word "*remedial*" has largely been replaced with "*developmental*," especially in the relevant education community. Boylan & Saxon (2004) posit that for the developmental education community remediation means to re-teach, with no reference to other concerns, such as pedagogy.

Based on research by Tinto (1989, 1997, 1998), developmental education, on the other hand, means that additional assumptions have been made in terms of how to teach

students or why they need such teaching. Unlike remediation, developmental education involves student developmental theory.

Developmental education (DEV ED) is designed to provide students who enter college with weak academic skills the opportunity to strengthen those skills enough to prepare them for college-level coursework (McCabe, 2003). The concept of DEV ED states that students who arrive unprepared for college are provided instruction to bring them up to an adequate level (Bailey, 2009). But in practice, developmental education is complex and confusing. To begin with, experts do not agree on the meaning of being "*college ready*." Policies and regulations governing assessment, placement, pedagogy, staffing, completion, and eligibility for enrollment in college-level credit-bearing courses *vary* from state to state, college to college, and program to program (Levin & Calcagno, 2008).

McCabe (2003) affirms that the developmental education process is confusing enough simply to describe, yet from the point of view of the student, especially the student with particularly weak academic skills who has not had much previous success in school, it appears as a bewildering set of unanticipated obstacles involving several assessments, classes in more than one subject area, and sequences of courses that may require two, three, or more semesters of study before a student (often a high school graduate) is judged prepared for college-level work. Discussions typically assume that the state of being "*college ready*" is well-defined, and they exclude the distinction between students who need remediation and those who actually enroll in developmental courses.

What is more, developmental education is often discussed without acknowledgement of the extensive diversity of services that bear that label.

Although remediation has high costs, clearly some provision must be made for students who enter college unprepared. According to McCabe (2003) developmental education scholars argue that it can be an effective tool to improve access to higher education, particularly for underprivileged populations; while opponents of remedial education argue that the costs of remediation, for both society and student, outweigh the benefits (McCabe, 2003). The controversy about remediation has prompted some research on the effectiveness of remedial programs in preparing students for college-level courses, but, given the size and significance of the developmental education function, that research is surprisingly sparse.

Some descriptive studies have compared different approaches to remediation (Boylan, 2009). But only a handful of studies have compared the success of students who enroll in developmental courses to the success of similar students who enroll directly in college courses. Jenkins and Boswell (2002) explained how across the nation fewer than half the states have policies regarding placement in developmental courses. In those states that do, their state-level policies are set by statute, the higher education board, or some combination of the two. However, only a small number of states have established minimum passing scores for entry into general education without referral to developmental education; more often, such decisions are left to institutional discretion.

McCabe (2003) notes that developmental education policies are at the core of efforts to help more students, particularly students from underserved populations, to

succeed in college. However, Span (2000) adds that ensuring students an "adequate opportunity to learn" (286-296) the requisite knowledge and skills before participating is at the heart of the debate over testing policies and practices, particularly for (remedial) developmental education students. Spann (2000) indicated that from 30 to 90% of all community college students need some form of remediation. Long perceived as a high-cost item, remediation efforts might actually be cost-effective if one considers that students who eventually earn bachelor's degrees potentially generate more than $74 billion in federal taxes and $13 billion in state taxes while costing only $1 billion to remediate. Students need remediation for a variety of social, economic, and psychological reasons, and if they are to succeed, accurate assessment is needed to determine what the student's actual needs are and provide appropriate services.

When students arrive to enroll in community college, almost all are asked to take skills placement tests in math, reading, and writing. Based on these placements scores, students are either categorized as "*college-ready*" and can enroll in college-level classes in the relevant subjects, or are considered "*developmental*" or "*remedial*" students and are referred to academic services designed to raise their skills to college standards. This picture is further complicated by the lack of consensus (nationally or state wide) about what constitutes being "*college-ready*." Boylan (2009) affirms that this uncertainty is reflected in the bewildering plethora of placement and cut-off points used around the country. Each state uses different placement tests, and even if they use the same placement test, they often set different cutoff scores (Jenkins & Boswell, 2009).

Many students can be referred to multiple levels of remediation up, to 3 levels in some cases. Addressing the needs of developmental students is perhaps the most difficult

and most important problem facing community colleges. Bailey (2009) notes that less than one quarter of community college students who enroll in developmental education complete a degree or certificate within eight years of enrollment in college. Fike and Fike (2008) reported that the picture of past and current developmental education appears bleak. The evaluation data concerning evidence about the effectiveness or, unfortunately, in too many cases, the ineffectiveness of remediation is suggestive but cannot reliably measure the effect of developmental education.

Simms and Knowlton (2008) reported the findings completed by the National Center for Education Statistics (2008a) on the analysis of progression of students through developmental education. The National Center for Education Statistics (2008a) found that many students do not complete their sequences of developmental courses, and a sizeable proportion of those referred did not enroll. Another 30% failed or withdrew from the developmental courses in which they enrolled. Of those completers, about half completed their sequence or progression of college-level courses.

Bailey (2009) identifies several issues discussed in the current developmental education conversation nationally: intergenerational poverty transmission is at its highest. Bailey (2009) adds that the numbers have doubled in access to higher education, but half of all college students drop out before earning a credential. Likewise, Price and Wohlford (2005) present further evidence and concerns about the current policy for developmental education where billions of dollars (federal and state) are spent on activity that never leads to a credential, or worse, millions of students are trying, but experiencing significant failures that put their futures, and ours, at risk. Bailey (2009) also asserts that the ongoing debate about remediation has provided, at

minimum, a useful knowledge-base about the effectiveness of different approaches that could inform policymakers, educators, scholars, and students. Despite its profound importance and its significant costs, there is very little national consensus on the curriculum for these underprepared students.

Over the past twenty years, policy-makers and college accreditation entities have increasingly asked community colleges to provide accountability for, and assessment of, their student's success, primarily in terms of graduation rates. Six years after initial enrollment at a community college, only 36% of all students had earned a certificate or an associate or bachelors degree. Another 9% had transferred to a four-year college and were still enrolled, yet 47% were no longer enrolled and had not earned any degree or certificate and 4% of those transferred before ending their enrollment (Bailey, 2009).

In addition, the U.S. Department of Education NCES (2010) reported the annual cost to be over $1 billion at public colleges and there is a growing debate about this national crisis. Developmental education assessments are in reality a series of *high stakes* tests. Failing such tests leads to enrollment in remediation with the attendant costs and delayed progress for students. Conley (2005) stated that despite the importance of the test outcome, there is no national consensus about the level of skills needed to be college-ready or how to assess the level and match it with suitable coursework.

Developmental education programs absorb sizable public resources. More than ten years ago, Breneman and Haarlow (1998) estimated that remediation costs more than one billion dollars a year. A more recent study calculated the annual cost of

remediation at 1.9 to 2.3 billion dollars at community colleges and another $500 million at four-year colleges (Strong American Schools, 2008). State reports cite expenditures in the tens of millions of dollars (Florida Office of Program Policy Analysis and Government Accountability, 2006). According to Boylan (2002), director of the National Center for Developmental Education (NCDE), and a long-time scholar in this field, whether the total national cost is $500 million or $2 billion, remedial education (again, for both traditional age and returning adult students) *still accounts for less than two percent*, and perhaps less than one percent, of the annual national higher education budget. Equally important, notes Boylan, is that no one argues that the cost is anywhere in the range of $5 to $10 billion. With these percentages in mind, Boylan (1998) believes that legislators and others overreact to the cost of remediation.

The National Center for Education Statistics (NCES, 2003) reported that virtually every community college in the nation offers developmental courses, and a national study by Jenkins and Bosewell (2009) revealed that over half of community college students require some remedial work. Scholars have considered remedial reading to be the most pressing educational challenge facing American colleges (Macabe, 2000). Other researchers have classified low reading performances' as an epidemic (Roueche & Roueche, 1999).

In general, colleges have been enrolling underprepared students for decades, the number of students who are not academically equipped for post-secondary education has exploded in the past several years. Boylan (1999) gives details about how developmental students come from a large range of economic and social conditions. For the most part they are most likely to be first generation college students and FTIC/FG (First-Time-In-

College/First Generation) and underprepared. Even though underprepared students have been a part of higher education for many years, the number has greatly increased in recent years for several reasons. McCabe (2000) states that they are students from failing local high schools, parents of our public school children, people who fight our wars, citizens who vote in our elections, workers who pay their taxes, and recently legal and illegal immigrants.

With societal changes including an aging United States population, a growing demand for skilled workers, an increase in the number of children born into poverty, an increase in legal and illegal immigration, and a swell in the diversity of the population, remediation has become a larger issue in college education than ever before (Fike & Fike 2008). While the present study does not seek to address all aspects of this controversial issue, it does represent an effort to examine the extent of remediation nationally, but with a particular focus on curriculum for developmental education in Florida, at the largest state college (formerly community college) in the country.

Statement of the Problem (In Florida)

The state of Florida has extremely good data on remedial education, which is conducted exclusively within the community college system since 1985 (Florida Department of Education, 2001). The policy has been for the four-year institutions to contract with two-year colleges to provide whatever remedial instruction the university students need. According to Florida Department of Education, Office of Educational Effectiveness and Research (2000) the community college system has excellent information on costs, on completion rates, on transfer rates for students who took remedial courses, and on the demographics of remedial students.

Bashford and Mannchen (2007) indicated that in 1995-96, out of 237,055 FTEs enrolled in community colleges, 14,487 FTEs were enrolled in remedial courses, or 6.1%. The total budget for the two-year system in that year was $918 million, of which $57.4 million went for remedial instruction (called "preparatory" in Florida), or 6.2% of total community college outlays. According to Bashford (2002) the total community college and public university budget in Florida in that year was $2.5 billion, so the $57.4 million spent on remediation amounted to 2.3% of the total expense. Florida Department of Education, Office of Educational Effectiveness and Research (2000) reported this figure is actually an overestimate of the cost to the taxpayer, however, because Florida includes tuition and fees in the total cost computations.

Of the $57.4 million spent on remediation, $22.5 million (39 percent) was paid by students as tuition. Actual taxpayer pay out would therefore be $34.9 million for Florida in 1995-96. Former Miami Dade College president Robert McCabe (2003) reported that developmental students tend to be more female than male, about half are at least 24 years old, a high ratio are poor and, at institutions serving urban communities, the percentage of remedial students rises to 75%. Data also indicated that 64% of those who complete remedial courses either have graduated four years later or are still enrolled. These are the most complete data found, and they clearly indicate that any further study of this topic should certainly include Florida as a major point of departure.

The Florida College Basic Skills Exit Test (BSET) implemented through the 1997 Legislature made passing an exit test a condition for meeting basic college computation and communication skills requirements. As a service to the institutions offering college preparatory programs, the Florida Department of Education developed

test forms and related materials to meet the requirements of the legislation. The Florida College Basic Skills Exit Test comprises subtests in writing, reading, and mathematics. This study examined the subtest of reading. Students who do not achieve passing scores on the Florida College Entrance-Level Placement Test (CPT) must pass the appropriate remedial course(s), as well as the Florida College Basic Skills Exit Test.

Institutions are responsible for the administration of the exit test. This includes maintaining test security and setting test dates, length of administration time, and passing requirements (Florida Department of Education, 2008a). Bettinger and Long (2009) expand on the problems with accurate assessment and placement tests in Florida. In the researcher's state, 55% of college students in remedial courses attend state community colleges (Florida Legislature, Office of Program Policy Analysis and Government Accountability, 2007). Additionally, 78% of all state community college students and 10% of all public state university learners enroll in remedial courses, costing the taxpayers $118.3 million (Florida Legislature, Office of Program Policy Analysis and Government Accountability, 2006, 2008).

By state law, students seeking the associate of arts degree who fail the adaptive college placement test (CPT) must successfully complete all required remedial classes and score at least 61% on the state-mandated Florida College Basic Skills Exit Test (BSET) before enrolling in college-level courses (Florida Department of Education, 2008a 2008b). During the 2006 academic year, no less than 14 colleges produced passing rates of at least 70% on the reading exit test (Florida Department of Education, 2008). Consequently in Florida, a lack of clear college-ready standards, poor

assessment practices, and the cost in time and money are enormous (Florida legislature, Office of Program Policy and Government Accountability, 2006).

Historically, Florida's community colleges have operated under an admissions process that is best described as an "*open door*" policy (Florida Legislative, Office of Educational Effectiveness and Research, 2000). McCabe (2000) explains the policy guarantees access to postsecondary education to all citizens through the Community College System. Because access is "*open*," students arrive with a wide variety of skill levels. As part of an ongoing effort nationally to enhance the quality and accountability of remedial education, the 1997 Florida State Legislature passed the legislation of the Postsecondary Education Act amending Section 240.117 (4) (a), F.S., (Florida legislature, Office of Educational Effectiveness and Research, State Board of Community Colleges, 2000). According to the OPPGA (2006) report, Miami Dade College (MDC) has a higher proportion of students needing remediation and in multiple subject areas than the community college system overall (Florida legislature, Office of Program Policy and Government Accountability, 2006).

Students who are admitted to MDC are required to take the college placement test (CPT) in order to establish eligibility for placement into certain courses. Students who have not satisfied college preparatory reading requirements may not enroll in college-level English (ENC 1101) even if their writing test score is higher than the cut off score. Students who have not satisfied college preparatory reading and writing requirements may not enroll in any Gordon Rule course (Gen Ed), except mathematics. Students may select from a list of courses maintained by the Academic Advisement office and approved by the pertinent academic department, for enrollment with college

prep courses. Students have no knowledge of which faculty are teaching the CAB contextualized (content-area) or traditional skill and drill -based instructions (TSD).

The college where this study was conducted opened its classroom in 1960 to an incoming class totaling 1,428 students (Miami Dade College, 2008a). Currently home to over 174,000 learners, the college is the largest institution of higher education in the United States (NCES, 2010). Today, the college serves learners on eight campuses and various learning hubs located around the county (Miami Dade College, 2009).

Statement of Purpose

The purpose of this study was to examine two methods of reading instruction (TSD-traditional skill and drill vs. CAB-contextualized/content area based) for college students passing rates on the state exit exam and final grades (GPA) in the subsequent courses of ENC1101 (Composition I) and ENC1102 (Composition II). More specifically, this study contrasts the passing rates and final grades (GPA) of remedial reading students who had successfully completed their reading course. The curriculum *traditional skills* and *drill* instruction (TSD) or one-size-fits-all (Cross, 1976) approach was adopted in 1983 for students in remedial courses in higher education (National Commission on Excellence in Education, 1983) and is still utilized as the main approach. The college in which this study was conducted does not offer other approaches for remedial students unless it is funded by grants or pilot program on a smaller scale. Campbell (1997) gives an account of how the CAB (Content area base) instruction has its roots in constructivism; and its implications for the theory of instruction lays emphasis on the ways knowledge is created or constructed. The CAB approach (indirect instruction) includes a number of applications that base teaching and learning on the theory of

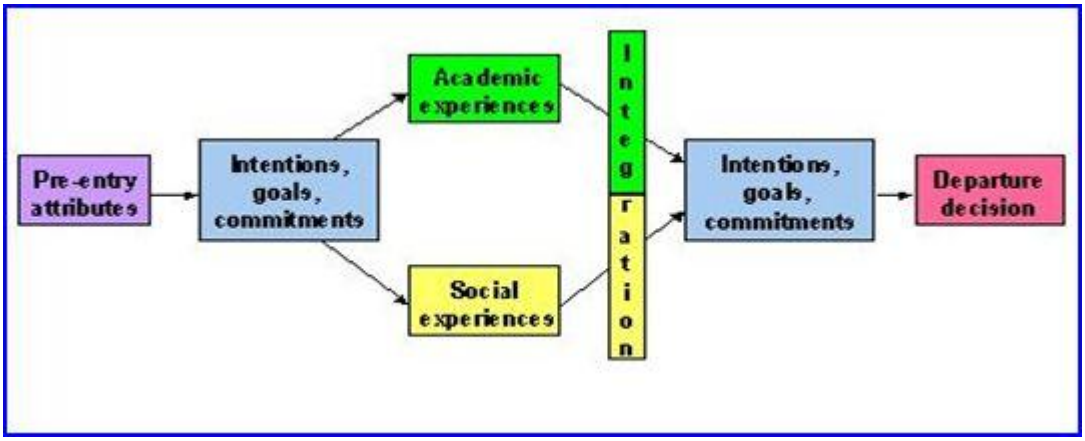
constructivism such as *discovery learning*, *hands-on*, *experiential*, *collaboration*, *project-based*, and *tasked-based* (Kolb, 1984).

Theoretical Framework

The study was based on Tinto's social learning and constructivist theory (Tinto, 1993). If it is determined that one method may bring better results in the reading comprehension of developmental education reading students, a recommendation to retain and expand that method throughout the researcher's institution, specifically the College Prep Reading Discipline may be warranted. National and local policy makers, students, educators, and scholars equally are faced with the challenges and threats posed by large numbers of learners who are underprepared for the rigors of college-level work and may also benefit from this study.

Tinto (1993) identifies three major sources of student departure which are: academic difficulties, the inability of individuals to resolve their educational and occupational goals, and their failure to become or remain incorporated in the intellectual and social life of the institution. Tinto's "Model of Institutional Departure" states that, to persist, students need integration into formal (academic performance) and informal (faculty/staff interactions) academic systems and formal (extracurricular activities) and informal (peer-group interactions) social systems.

Figure 1. Tinto's (1993) Model of Student Departure



Tinto's (1993) "Model of Institutional Departure" has influenced a growing number of institutions that have begun to reform educational practice and restructure classrooms to more actively involve students in learning. Tinto's (1997) theory focuses on the impact of expanding different methods to deliver curricula to students and forge closer bonds between students, among students and faculty, and between students and the institution.

The primary theoretical perspective in Tinto's (1993) model underpins the advancement of the shift in classroom dynamics; towards a view of the student as the key agent in the learning process. Moreover, Tinto (1993) draws on a rich scholarship informed by the philosophical, structural, and pedagogical writings of John Dewey (1920). Tinto (2006) explains how Dewey's scholarship emphasized the diverse aspirations and experiences of students, and he called for educators to be experimental and intentional in their efforts to meet students where they are at. This is especially true for under-prepared college students in urban two and four-year colleges.

Tinto's (1993) theoretical framework promotes a rich line of inquiry of the linkage between learning and persistence. Consequently, studies pronounce that

promoting social and academic integration between students and the institution fosters a sense of belonging and positively correlates with retention (Bahr, 2007; Bailey, 2008; Bedard-Voorhees, 2008; Hagedorn & Lester 2006).

Research Questions and Hypotheses

The following research questions and corresponding null and research hypotheses guided this study. An alpha level of .05 was used for all statistical tests.

Research Questions

1. Are there differences between the passing rates of students who took the CAB vs. TSD for cohort 1 2006-1, cohort 2 2007-1 and cohort 3 2007-2?
2. Are there differences in selected variables (age, gender, ethnicity and enrollment status) between distributions of student characteristics who took CAB from those who took the TSD instruction course on the passing rates?
3. Are there differences between the final grades (GPA) for cohort 1 2006-1, cohort 2 2007-1 and cohort 3 2007-2 in the subsequent course of ENC1101 for students who took the CAB vs. TSD?
4. Are there differences between the final grades (GPA) for cohort 1 2006-1, cohort 2 2007-1 and cohort 3 2007-2 in the subsequent course of ENC1102 for students who took the CAB vs. TSD?

Null Hypotheses

($H_0$1): A comparison of archival cohort 2006-1, 2007-1 and 2007-2 (reading completers) revealed that students who took the CAB course do not differ significantly from those who took the TSD instruction course on passing rates.

($H_0$2): A comparison of selected variables (age, gender, ethnicity and enrollment status) of the archival cohorts revealed no differences between distributions of students' characteristics who took a CAB course from those who took the TSD instruction course on the passing rates.

($H_0$3): A comparison of three years of archival cohorts (reading completers) final grades GPA (grade point average) in the subsequent course of ENC 1101 revealed that students who took the CAB course do not differ significantly from those who took the TSD course.

($H_0$4): A comparison of three years of archival cohorts (reading completers) final grades GPA (grade point average) in the course of ENC 1102 revealed that students who took the CAB course do not differ significantly from those who took the TSD course.

Research Hypotheses

(H_a1): A comparison of archival cohort 2006-1, 2007-1 and 2007-2 (reading completer) revealed that students who took the CAB (content-area based) do differ significantly from those who took the TSD (traditional skills-based) instruction course on the passing rates.

(H_a2): A comparison of selected variables (age, gender, ethnicity and enrollment status) of the archival cohorts revealed differences between students characteristics

distribution who took a CAB course from those who took the TSD instruction course on the passing rates.

(H_a3): A comparison of three years of archival cohorts (reading completers) final grades GPA (grade point average) in the subsequent course of ENC 1101 revealed that students who took the CAB course do differ significantly from those who took the TSD course.

(Ha4): A comparison of three years of archival cohorts (reading completers) final grades GPA (grade point average) in the course of ENC 1102 revealed that students who took the CAB course do differ significantly from those who took the TSD course.

Significance of the Study

The audience who may be impacted by or benefit from this research includes community college prep students, instructors, and administration. Others who may benefit from this study include (a) persons and organizations measuring the effectiveness of remedial reading and retention; (b) developmental reading students seeking to complete college-level course work in pursuit of a more prosperous future; (c) scholars focused on developmental learning, remedial reading, and (d) curriculum designers. If it is determined that one method may bring better results in the reading comprehension of developmental education reading students, a recommendation to retain and expand that method throughout the Discipline of College Prep, at the institution where the study was conducted, may be warranted.

Definitions of Terms

Andragogy (Adult learner) teaching methods for adult learners, the process of helping adults learn.

*At-Risk Students S*tudents demonstrating any number of characteristics, including academic under preparedness, weak self-perception, and low income are deemed "students at risks" (Adelman, 2005).

Computer Placement Test (CP) This term refers to state-mandated adaptive test that is required for all incoming state public college students (Florida Department of Education, 2008b).

College Prep Remedial course-taking for skills needed to be "college ready (Florida Department of Education, 2005)

Content Area Based approach (CAB) includes a number of applications that base teaching and learning on the theory of constructivism such as *discovery learning*, *hands-on*, *experiential*, *collaborate*, *project-based*, and *tasked-based* (Kolb, 1984).

Developmental education A synonym for remedial education, college – preparatory classes are designed to prepare and empower academically underprepared learners by offering them an opportunity to refresh and bolster academic skills required for college-level courses (Bailey, 2009).

Exit Test By state law, underprepared college students must successfully complete remedial course requirements and pass the state-mandated exit test prior to being allowed to enroll in college-level courses (Bashford, 2002; Florida Department of Education 2008a, 2008b).

First-Time-In-College (FTIC) General Overview from the Florida State University System -Board of Governors http://www.flbog.org/forstudents/ati/ftcs.php

Florida College Basic Skills Exit Test (BSET) High-stakes exit test in Florida (Florida Department of Education, 2008a)

Full-Time-Equivalent (FTE) is one of the key metrics for measuring the contribution of academics in third level education, number of supported students.

Quality Enhancement Plan (QEP) The concept of quality enhancement is at the heart of the Commission's philosophy of accreditation. Each institution seeking reaffirmation of Accreditation is required to develop a Quality Enhancement Plan (Southern Association of Colleges and Schools Commission on Colleges, 2012).

Reading Completers Reading completers are students who have successfully completed and met the basic reading developmental course and successfully passed the state-mandated exit exam (Bashford, 2002).

Remedial students For purposes of this study, remedial students are defined as degree-seeking college students who fail the reading, writing and math portions or anyone of those of the CPT (College Placement Test). Remedial students are students assessed as needing academic development prior to entry into college-level courses.

TSD (Traditional skills and drills) or "one-size-fits-all approach" (Cross, 1976) The traditional skills and drill-based approach is a method of teaching intensive, systematic, and drill-based skills teaching main idea, supporting details and other discrete skill sets of relationships mostly, if not exclusively, through direct instruction, in a way that is intensive and explicit, by means of a specific sequence of lessons. The point is to get students to correctly identify one skill at a time (i.e. main idea, supporting details and

other skills one after another until they can do so without thinking). In some classrooms, the reading materials are limited to contrived sentences containing only the patterns already taught (Johnson 2002).

Assumptions

1. The sample in this study is adequate in size.
2. The sample in this study is typical of remedial reading students in College Prep courses.
3. The students in the content-area based group and the traditional skills instruction group are of equal reading level according to the state-mandated College Placement Test (CPT).
4. The students in this study self-selected into these classes by the advisement scheduling process.
5. The teaching methods from a curriculum and instruction perspective used with the groups are significantly different.

Limitations

1. The students in the courses involved in this study were all below their grade level in reading comprehension.
2. The students in this study were in developmental (remedial) education and were recommended for remedial reading instruction.
3. Reading comprehension is the only component of reading instruction that will be measured in this study.
4. The Florida College Basic Skills Test (BSET) is the sole testing device used for testing reading mastery and comprehension.

Overview

In Chapter I, the researcher provided a historical timeline on how and when these programs expanded. It was the escalating student population that resulted from the "*open door*" provided by the Higher Education Act of 1965 that contributed to the percentage of institutions offering developmental education increased steadily during the 1970s and legislatively mandated assessment testing began in the 1980s. Consequently, an exit exam policy by state was implemented in 1997 (Cobb & Johnson, 1997). While poor outcomes have been reported for developmental education (Bailey, 2009), there is also lack of data on the effectiveness of specific *instructional* approaches for this population (Levin & Calcagno, 2008).

In Chapter 2, a thorough review of the educational literature is presented. Given the size and importance of the developmental education function, there are surprisingly few rigorous program evaluations and outcomes from those available are not encouraging. Fike and Fike (2008) reported how little is known about the effectiveness of developmental education. The evaluation data concerning evidence about the effectiveness (or, unfortunately, in too many cases, the ineffectiveness) of remediation (current curriculum) is suggestive but cannot reliably measure the effect of developmental education (Simms & Knowlton, 2008). This picture is further complicated by the lack of consensus (nationally) about what constitutes being college-ready (Boylan, 2009).

CHAPTER II

LITERATURE REVIEW

Introduction

The research literature renders a comprehensive and current assessment of the topic of underprepared students related to the emerging implications on the *political, economic, demographic and cultural* trends. In order to achieve this goal, a thorough review of the educational literature was conducted, and the information obtained was then segmented into three main areas.

The literature begins with the *political* implications that seeks to enlighten the reader on the impact that policies have in the daily life of a developmental education students. Second, eight major concepts are presented relate to retention and academic success of remedial-reading courses. Lastly, a brief summary concludes this examination of the literature on many other scholars advocating for new approaches and options needed for students who are academically underprepared to meet educational and career goals.

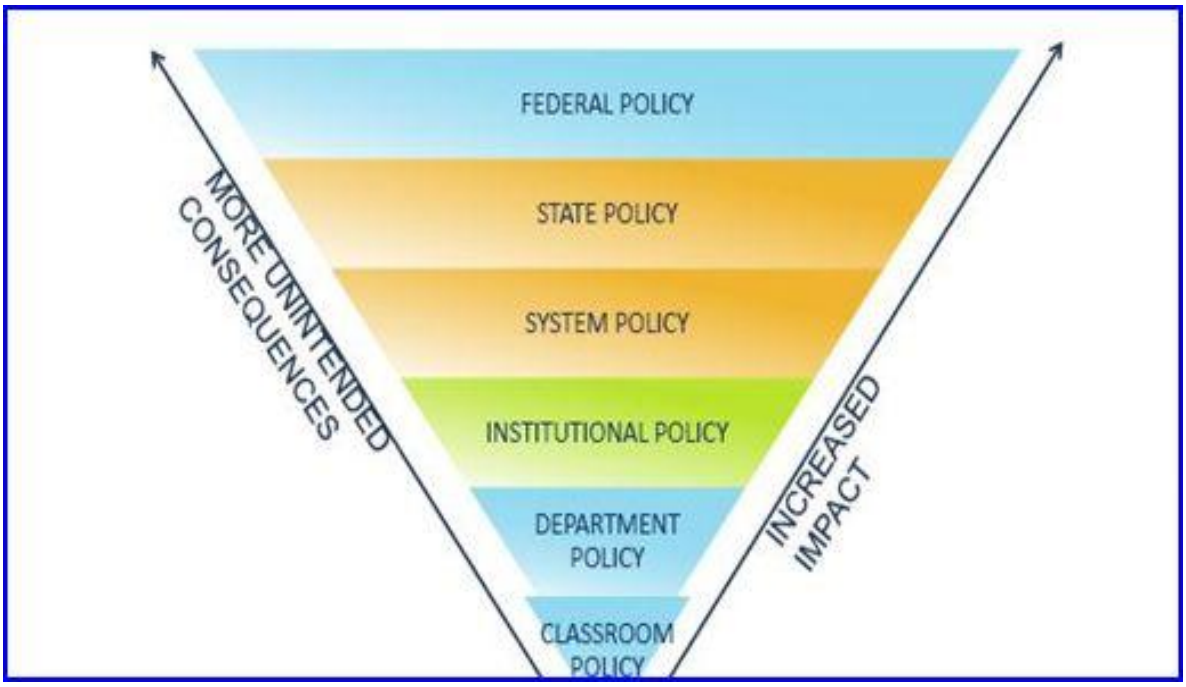
Political Implications

Public policy is a powerful force that can either help or hinder the efforts of community colleges working to increase rates of success for students (Perin & Hare, 2010) and while remedial education policies should be designed as part of a seamless pipeline (Bailey, 2009) that doesn't happen in practice.

Jenkins, Zeidenberg and Kienzie (2009) state what is needed to align and secure a combination of *federal, state, system and institutional policy and other funding sources* for innovation that can seed and test pilots and demonstrations of alternative methods for

delivering developmental education, thus allowing institutions to test "big ideas" that evidence suggests might be effective in improving outcomes.

Figure 2. Public Policy Model (Rodicio, L., 2012)



Policies and regulations governing assessment, placement, pedagogy, and eligibility for enrollment in college-ready courses *vary* from state to state, college to college, and program to program (Bailey, 2009). For example, a state's approach to placement-assessment policies can make the difference between whether a student who cannot succeed without intervention is well-served. These policies also affect whether students slip through the cracks and are allowed to enroll in college-level courses with little probability for success (CCRC, 2008). Poorly designed state placement-assessment policy can also result in students being placed in developmental education when supports and enrollment in college-level classes would serve them better (Jenkins, Zeidenberg & Kienzie, 2009).

As institutions try to do things differently, they inevitably encounter policy barriers that hinder their efforts. Thus, the core element of a robust developmental education improvement strategy is state-level policy support that removes barriers to improvement and addresses gaps in support of what works (Simms & Knowlton, 2008). For innovation to gain traction and move beyond boutique exceptions, state policy must provide flexibility for institutions to try new approaches that do not track to traditional academic timelines, delivery models, and funding structures (Bailey, 2009)

Policy and Curriculum

In 1983, A Nation at Risk: The Imperative for Educational Reform National Commission on Excellence in Education, regarding standards and expectations, reported the recommendation for higher education and the impetus for adopting standards-based reforms:

> *"We recommend that schools, colleges, and universities adopt more rigorous and measurable standards, and higher expectations, for academic performance and student conduct, and that 4-year colleges and universities raise their requirements for admission. This will help students do their best educationally with challenging materials in an environment that supports learning and authentic accomplishment*."

In addition, the implementation of the curriculum *"traditional skills and drill based instruction*" or *"one-size-fits-all approach" was adopted* (National Commission on Excellence in Education, 1983).

During the 1980s and 1990s critics and advocates of U.S. higher education issued numerous reports (reports from individuals, panels of experts assembled by federal agencies, educational lobbying organizations, and private foundations) calling for reform

of the college and university curriculum (Bettinger & Long, 2005). First, reform produced policy changes at all levels of government. At the national level, elected officials and business leaders articulated national education goals and launched and touted education reform initiatives.

According to Adelman (1999), Secretary Bell and his successor, William Bennett, encouraged further scrutiny of college and university education and prompted calls for accountability at the postsecondary level. Another major piece of education legislation passed during the Clinton administration was "*The Improving America's School Act*," signed into law on October 1994 (Clinton, 1993). It required each state to develop state content and performance standards for mathematics and reading by the 1997–1998 school year and assessments by the 2000–2001 school year appropriate for all students, including the disadvantaged (Boylan, 2009).

In 1995, the National Academy of Education (Russell, 2008) endorsed four guiding principles for Standard: created by statute to address the issue, the National Council on Education Standards and testing, recommended;

- Standards must reflect high expectations, not expectations of minimal competency.
- Standards must provide focus and direction, not become a national curriculum.
- Standards must be national, not federal.
- Standards must be voluntary, not mandated by the federal government.

These representative descriptions of the characteristics of quality standards exhibit significant commonalities (Boylan & Saxon, 2004). There was little accord, however, about their utility and actual impact on teaching and learning.

Some disapproved of the "traditional skills and drills curriculum" or "*one-size-fits-all approach***"** (Cross, 1976). Others lamented standards as an "*autocratic*", regimented throw-back to factory-model approaches to school, where students are forced to regurgitate expert-prescribed sets of facts or face failure (Perin & Hare, 2010). Some saw national standards and testing as key, especially if they can be benchmarked against the work of other strong-performing countries with notably well integrated education systems (Apple, 1995). Others opposed national standards and assessments (Darling-Hammond & Falk, 1997a), or asserted that nationally prominent textbooks imply de facto national standards.

Ravitch (1995) voiced a complaint against how the potential risk posed to holistic, individualized, student-centered learning that can come from pressures to "*teach to the test*" would be present. In the same vein, Ohanian (1999) critiqued the high-stakes tests; they included the potential to exacerbate pre-existing racial and class tensions, their perceived unfairness to those with limited English proficiency, and their tendency to commandeer the entire curriculum and foster investment in testing over learning. This worried a number of analysts (Berlak, 1995; Marzano & Kendall, 1996; White House Initiative on Educational Excellence for Hispanic Americans, 1999), and it was perceived as a lack of concern for gender, race, and class differences. The TSD (*traditional skills and drills) curriculum* was then adopted and each state reinforced the new standards through equally new performance accountability systems composed of various public reporting requirements and performance tests (Brothen & Wambach, 2004).

At the state level, all states developed tests to measure student performance, and forty-nine states developed academic standards (Boylan, 2007). Twenty-seven states

began to hold colleges and universities accountable for results, promoting accountability but also inspiring debates about the scope and quality of standards, the adequacy of tests, and needed supports for change (Darling-Hammond & Falk, 1997a).

The s*tandards period* initiatives established standards for student knowledge and regarding levels of student mastery. In 2003, Bracey argued that although its publication is considered a landmark event in modern American educational history, the "*20th Anniversary of A Nation at Risk,"* report examined the developmental education movement in the United States, looking at the nature of student inadequacies, the various models and methods used, and the causes and effects of the admission of underprepared students among other things. The report contributed to the ever-growing (and still present) sense that American schools are failing, and it touched off a wave of local, state, and federal reform efforts.

Russell (2008) acknowledged that remedial education has become an increasingly common aspect of all sectors of postsecondary education: Recent ideological debates have resulted in state and system-wide policies that increasingly segregate remediation solely within the community college sector. Safron and Vicher (2010) also suggested that the trend has had profound implications for access to educational opportunity for large segments of the population, particularly the poor and minority students who are most often placed in remedial courses.

Bailey (2009) confirms the national data that point to the high proportion of students, many of whom are Black or Hispanic, who begin their postsecondary careers in developmental education courses. These courses are generally noncredit- bearing courses designed to improve the academic skills of students considered underprepared.

Bettinger and Long (2009) corroborates the staggering number of college students who require at least one remedial course, 40% overall, and 58% at community colleges coupled with low college success rates for remedial students threaten to undermine national and state efforts to significantly increase postsecondary attainment rates. Developmental education as traditionally delivered does not appreciably increase community college students' chances of earning credentials or degrees (Jenkins, Zeidenberg & Kienzi 2009). Few students who are more than one level below college proficiency ever complete their developmental education requirements, let alone earn college credits or a degree. Many leave college without taking any classes upon being referred to more than one developmental education course (CCRC, 2008).

According to the 2007 NAEP (Educational Evaluation and Policy Analysis), the current policies for (remedial) developmental education have not been working for the larger number of students "*falling behind*" and the states are at a crossroad. Simms and Knowlton (2008) affirmed with explaining how the "*broken model*" of remedying students' academic deficiencies is not sustainable in an era of tight budgets, swelling enrollments and pressure for more accountability for results.

The National Center for Developmental Education (2007) echoes this broader definition and grounds the approach in learning theory and developmental psychology, promoting education and support to meet the needs of all learners. These realities have prompted a wave of innovation in remedial instruction that is focused on accelerating the entry of unprepared students into college-level coursework and their programs of study, and onto earning a credential (Boylan, 2009).

Major Concepts Related to the Problem

An exploration of eight significant concepts occupies the next portion of this literature review which provides the explanation issues related to retention and academic success for remedial reading students.

Issues related to retention and academic success in developmental (remedial) reading courses include: (a) a *surging global demand for intellectual capital* and its impact on the nation (Brustein, 2007); (b) *staggering numbers of students requiring remedial* (developmental) reading (NCES, 2003); (c) *weighing the benefits and costs* of remedial (developmental) education on society (NCES, 2006) (d) the *needs of a diverse student* population (Bailey, 2009); (e) *recognizing common traits* and addressing the needs associated with *at-risk learners* (Adelman, 2006); (f) the *use of technology* as interventions for learning growth and retention (Spellman, 2007) (g) recognizing and overcoming *dispositional, epistemological and situational* barriers to learner success (Bahr, 2007; Bailey, 2008; Bedard-Voorhees, 2008); and (h) reform *initiatives and best practices* (American Association of Colleges & Universities, 2010; Adelman, 2005; Boylan, 1999; Bahr, 2007; Bailey & Alfanso, 2007; Bedard-Voorhees, 2008; Bettinger & Long, 2005; Levin & Calcagno, 2008; Spellman, 2007; Tinto, 1997, 2006).

Surging Global Demand for Intellectual Capital

Florida (2007) gives details about the transitional period between the 20th and 21st centuries which represents a knowledge-intensive age powered by information, technology, and fierce global competition when the return on investments in the production of intellectual capital generate advantages for individuals, nations, states, and local businesses and organization. Brustein (2007) stated that a society facing complex

business, political, scientific, technological, health and environmental challenges, and in diverse workplaces and communities, hinge on collaborative relationships and social networking, the ingenuity, agility and skills of the American people are crucial to U.S. competitiveness.

Adelman (2004) confirmed that in recent years, the ground has shifted for the United States in almost every important sphere of life (i.e. economics, global, cross-cultural, environmental, and civic). Adelman (2006) further confirms how the world around us is being dramatically reshaped by scientific and technological innovations, global interdependence, cross-cultural encounters, and changes in the balance of economic and political power. Consequently, in the United States, American workers intending on thriving or even surviving have little choice they must join the ranks of the learned workforce. Regardless of the nation's cyber capacity and impressive economic track record, scholars have that the educational level of the average American working in the global of the third millennium is noncompetitive (Dayton, 2005).

Whether they are ready for college or in need of developmental preparation for higher education, current learners represent the unrealized future of a globe consuming physical and intellectual resources with increasing speed. Dayton (2005) authenticates that in the United States children enter a wired, wireless, anywhere, anytime cyber world. For techno kids, virtual and physical boundaries blur to create a reality unfazed by the commotion that ever present change and innovation technology brings.

Although American students may be familiar with technology, reports produced by the U.S. Department of Education find the American students falling behind their global counterparts by Grade 12 (Florida, 2007). American learners in kindergarten through

Grade 12 are underperforming in comparison to their global counterparts; even though the United States allots more funding per student than almost all countries (Adelman, 2004).

Upon graduation from high school, U.S. college students are failing to graduate at rates to meet demand (Wagner, 2008). For example, Wagner (2008) reported that more than 60% of college students fail to earn a bachelor's degree. Similarly, learners' engaged in science and math academic disciplines at community colleges are also losing ground. Based on data finding that the 2-year degrees awarded in engineering-associated technologies shrank from 1991 to 2001 (Simms & Knowlton, 2008). A surging demand for educated workers, lagging academic performance by American students in kindergarten through Grade 12, and inadequate college-graduation rates spell national needs and gaps with technology representing the biggest gap (Brustein, 2007).

As if competition from other carbon-based resources was not enough, the relentless technological innovations that shrink the size of microchips while exponentially increasing their capabilities combine to worsen already daunting challenges for employment, economic stability, and experiencing significant failures that put our national future at risk. For example, Bell (2003) reported that researchers have placed the computing power of the human brain somewhere between one trillion and 20 quadrillion (20 million billion) operations per second. Bell (2003) reported that computers would be able to perform more per-second operations than the brain by 2010 and would develop artificial-intelligence capabilities by 2020. In accordance with the report by Bell (2003) International Business Machines and Los Alamos, scientists launched the Roadrunner supercomputer in 2008. The Roadrunner can perform four quadrillion operations per

second, thus rivaling, if not surpassing, the unidirectional capacity of the human brain (Beckerson, 2008).

Bill Gates (2007) recounted that Americans are forced to compete with well-prepared foreign students and computers capable of performing creative solutions to real-world challenges and opportunities. This supports the assertion that individuals who attain higher levels of education generate higher incomes than their less educated counterparts. In 1997, the Council for Aid to Education published their findings indicating that the disparity between the top and bottom 10% of U.S. incomes will be greater than sixteen fold by 2015. The NCES (2008c) reported comparable findings and declared that to humanize the statistical analyses and predictions, undereducated 21st century citizens lack the tools needed to extricate themselves from poverty, and consequently, face class barriers that will forbid upward socioeconomic mobility, ultimately circumventing fulfillment of the American Dream.

Staggering Numbers Requiring Remediation

Cohen (1998) establishes that the pursuit of knowledge is nothing new; personal, national, and organizational discoveries in the arts of science, mathematics, medicine, music, and the technologies of war and peace mark important milestones in the ongoing story of humankind. Moreover, nothing new, remedial education has been a component of the American landscape since the colonial period when Harvard tutored students deficient in Latin, Greek, and Hebrew (Cohen, 1998). Today's scholars in the field of developmental education have proposed that the purpose of remedial education is to give underprepared students the tools required for the rigors of college-level studies that will prepare students for college-level courses (Levin & Calcagno, 2008).

Alarmingly, studies have reported that students enrolled in remedial (developmental education) courses are less likely to earn degrees and take longer to graduate than counterparts entering institutions academically prepared for college-level courses (Bettinger & Long, 2005, NCES, 2004b). A longitudinal study by the NCES (2004) examined college graduation rates of 12th-grade students earning high school diplomas in 1992 and attending college through the year 2000. The study indicated that college-ready students earned degrees at a rate of 69%, as compared to a rate of 30% for students requiring remediation. A prerequisites for graduation, retention is another area of concern because 90% of students completing remedial programs do so in 1 year or less, whereas some 40% of all academically needy learners drop out and fail to complete remedial (developmental education) courses (Saxon & Boylan, 2004).

According to Kozeracki (2002), the open admission policies instituted in the 1960s has increased the ranks of incoming underprepared college students and thus reduced disparity in academic preparedness between students entering 2 and 4 year colleges during the last decade. Alternatively, McCabe (2003) suggested that growing numbers of academically underprepared high school graduates would flood America's community college enrollments in search of the developmental education required by workplaces demanding college-level education. Not surprisingly, community colleges consistently attract large numbers of students requiring remediation (McCabe, 2006). Simple jobs once requiring only basic skills are being transformed into positions demanding problem-solving skills; once employed, modern laborers are faced with workplaces that demand continuous learning (Bettinger & Long, 2005).

Nationwide, the proportion of college-preparatory learners requiring remediation at 2-year institutions is significantly greater than the proportion of college-preparatory students needing remediation at public 4-year colleges and universities (Florida Department of Education, 2001, 2005). Specially, the ratio of new students required to remediate at least one subject area is greater than 41% at the community colleges and approximately 29% at 4-year institutions (Bettinger & Long, 2005; McCabe, 2006). Prompted by demand, research from 2001 reported by NCES confirmed that at least 99% of all community colleges offered developmental courses.

Not limited to 2-year colleges, the NCES (2007b) reported that 72.8% of all American institutions of higher education offered at least one remedial course during 2006-2007 academic year. As a consequence, adult learners make up the fastest growing population of college students. Data show that adults competing in the global workforce are increasingly seeking to further their education, as evidenced by statistics finding that 54% of working-age adults participated in formal learning activities during the span between 2001 and 2005 (NCES, 2008b).

Spellman (2008) confirms that the number of American children living in single-parent households grew by 50% and almost half of single-parent families in poverty and one-parent families headed by woman are more likely to live in greater poverty during longer spans than other American families. Dayton (2005) reported that people earning only a high school diploma are more likely to give birth out of wedlock, subsequently representing the largest proportion of single parents.

Throughout our history, Americans have remained dedicated to self-improvement and social and economic mobility, with equality of opportunity as the universally

accepted framework for achieving these values. Yankelovich (2009) note that the success and threat of higher education in the United States has long rested on an implicit social contract that lies at the heart of our American value system.

McCabe (2003) asserted that the heart and soul of the American core value system is that education is the royal road to middle-class status. Moreover, focusing on the self, more education correlates with an improved socioeconomic situation. The average age of developmental students is as young as sixteen or as an old as sixty. According to the NCES (2009) the majority of developmental students are from low-income backgrounds.

A 2007 study conducted by the National Center for Education Statistics, reported that more than 50 percent of dependent students taking developmental courses came from families with annual incomes of $20,000 or less. On the other hand, about 8 percent came from families with annual incomes of $50,000 or higher. A high school degree no longer demonstrates that a graduate is ready for college. Student's inadequate preparation for higher education has become a deep and widespread problem (Tinto, 2006).

Nonetheless college remediation isn't just a problem of urban high schools, aging cities, and lower tax rates. This is an issue that affects middle class students from middle class America with fair academic skills. The remediation rates in a number of states exceed 40 percent of all entering college students. According to the NCES (2008a) 48 percent of all Maryland high school graduates were assessed as needing remediation. At many colleges across the country, well over half of all students arrive without a proper grounding in academic basics. The study also alluded that, of the 40,000 freshmen admitted each year into California State University, the largest university system in the

country, more than 60 percent need extra academic help. More than 80 percent of students in Oklahoma's community college system were enrolled in a remedial course in 2005.

The college remediation rates are well over one third of all undergraduates and more than a quarter of students at four-year public colleges. The issue is deep and pervasive and includes students who graduated from the most prestigious high schools and enroll in top universities (National Center for Education Statistics NCES, 2008a). The same study, (NCES, 2008a), divulged more examples; University of Wisconsin, Madison and the University of Michigan, Ann Arbor, test all incoming students to see if they are college ready. Ivy League universities like Dartmouth College offer year-long remedial writing courses. The problem of college remediation is much larger than previously believed.

Today, in our continuing quest to learn and produce knowledge during yet another era when scientific and technological discoveries can foster continued prosperity and national security, a large remedial/developmental education programs signals a systematic American performance gap demanding careful attention and timely rectification (Bettinger & Long, 2005). Our economy, our security, and our government, all depend on a steady supply of college-educated graduates. Boylan (2009) insists that college remediation is one of the most serious education issues facing our country, and policymakers and educators must address it sooner than later**.** Bailey (2009) makes certain to highlight that the lack of clear college-ready standards, poor assessment practices, the lack of customized learning options and the cost in time and money contribute to the "national" crisis in developmental education.

Adelman (2006) adds that the need for developmental education is large and not going away. He gives details on how the nation's ability to compete on the global economy depends on having numbers of workers with postsecondary credentials, most of whom enrolled in colleges, and yet are not prepared for college-level work at the time of their enrollment. Furthermore, these students lack the foundation and skills required for rigorous college curriculum and many of them have responsibilities that place excessive demands on their time and other resources.

Boylan (1999) states that nontraditional students enter college from a variety of circumstances, including laid-off workers in need of retraining, working adults returning to college to upgrade their credentials to get better jobs, or former dropouts coming back to finish a degree. Moreover, he included the recent rise in legal and illegal immigrants and returning veterans need basic skills development to be ready for college-level work. Many of these nontraditional students will require refresher courses in one or more area (i.e. reading math and writing), and others will need to develop new knowledge and skills. Although many students are motivated to overcome the barriers that stand between them and their educational goals, many more fail to engage in sometimes this daunting task.

Breneman and Harlow (1999) made certain the implications of remediation (developmental education) reduce the likelihood that American students will face lives burdened by the constraints associated with minimal wage jobs, unemployment, welfare and even imprisonment. Focusing through a national lens, researchers have observed that remediation (developmental education) courses have increased (Bedard-Voorhees, 2008).

Based on 2008 data provided by American College Testing, researchers have reported that some 95% of students enrolled at Chicago's Richard J. Daley College require remediation in one or more subject areas (Peterson & Siadat, 2009).

At Cuyahoga Community College in Ohio, 82% of new students are required to enroll in remedial (developmental education) courses, but just 32% of those learners remediate successfully (Melguizo, 2007). In New Jersey, remedial (developmental education) students at Bergen Community College succeed approximately 49% of the time, but success rates have decreased steadily from 58% in 2002 to 48% in 2006 (Bailey, 2009). Reflectively, poor passing rates in initial remedial courses prompt concerns about public education.

In Ohio, almost 62% of all female students, 54% of male students, more than 75% of Hispanic and Black students, and 55% of White students require remediation (Bettinger & Long, 2005). At Maryland's Allegany College, approximately 90% of all students are enrolled in remedial (developmental education) courses and just 34% of students enrolled in developmental courses successfully complete the classes (Spellman, 2007). If we measure performance using a percentage-based grading scale, reported national success rates of remedial (developmental education) programs hovering around or below 50% would earn a failing mark. Based on this assertion, it is reasonable to propose that remediation efforts are themselves in need of reform or remediation (Jenkins, Zeidenberg, & Kienzi, 2009).

Benefits and Costs of Remedial Education

Remedial (developmental education) is certainly costly. States spend tens of millions of dollars on remediation, and very rough national estimates suggest that well over $1 billion a year are spent on these programs (Adelman, 2005). Research has found that American colleges remediate more than 1 million students annually at a cost of 1% of the total college budget and 4% of student federal financial aid (McCabe, 2003). But it is the students who have to bear the most significant costs. They must not only pay for the classes (remedial classes are non-credited courses and do not count towards their GPA) but also must delay their progress through college.

McCabe (2003) suggested that such an investment results in an exceptional cost-to-benefit ratio because students who complete developmental courses are as successful in college courses as their college-ready counterparts, 98% of those students find employment within 10 years of remedial studies completion, 90% earn wages in excess of the legal minimum, approximately 66% work in technical and office-oriented jobs, and about 50% continue their education. Also trumpeting the value of remedial (developmental education) to society at large, researchers have affirmed that learners excluded from higher education due to academic under preparation would produce larger *numbers of welfare recipients, prison inmates, and disproportionately large numbers of individuals stuck in low-productivity, minimal-wage jobs* (Breneman & Harrlow, 1999; Koseracki, 2002).

Reviewing research on the impact of remediation (developmental education) on grade-point average (GPA), Saxon and Boylan (2001) found studies that students who successfully complete remedial requirements earn higher cumulative GPA and retain with

greater frequency than students requiring but not completing remedial (developmental education) courses. Comparing underprepared and college-ready learners, research finds that students requiring remediation tend to perform less favorably than those entering college-ready but discovers that developmental education reduces the disparity and provides underprepared learners a bridge to success (Florida Department of Education, 2005; Russell, 2008).

In 2002, more than 75% of remedial students at 27 community colleges around the nation had not successfully completed remedial requirements within 3 years. This is a particular concern because failure in remedial courses negatively impacts retention and cost (Bahr, 2007; Blum, 2007). In 2008, Levin and Calcagno cited findings from research studies that remediation improved second-year retention between 7% and 8%, and increased transfer and graduation rates between 2% and 3%.

In addition, Attelwell, Lavin, Domina, and Levey (2006) found that remediation does not negatively impact community college degree completion rates, but it does negatively impact 4-year degree completion rates by about 7%. For students earning a bachelor's degree within 8 years of high school graduation, research indicates that remedial course enrollment delays graduation by 2 to 3 months (Bahr, 2008). Among 4-year college students, enrollment in remedial English negatively impacts chances for graduation, but enrollment in remedial mathematics or writing shows no significant correlation with the likelihood of graduation (Attelwell, Lavin, Domina, and Levey, 2006).

In contrast to findings showing that successful remediation paves the road to academic achievement, some research suggests that remedial education does not

completely close the gaps between college-ready and underprepared students (Bailey, 2008). When comparing remedial course impact on completion between age groups, Calcagno, Crosta, Bailey and Jenkins (2007b) found that older learners' completion rates are impacted less by enrollment in developmental courses than are completion rates for younger students. Additionally, Calcagno, Crosta, Bailey and Jenkins (2007b) found that older students attending Florida community colleges complete degree requirements with greater frequency than do younger students, but they are less likely to transfer to 4-year programs upon 2-year degree completion.

Nationwide, researchers have estimated that annual costs for remedial education total about $1 billion annually or 1% of the annual $115 billion higher education budget (Boylan & Saxon, 2001; Breneman & Haarlow, 1999; Center for Community College Policy, 2006; Levin & Calcagno, 2008). Then again, Saxon and Boylan (2001) cited findings from numerous studies where annual costs for remedial education ranging well below the $1 billion mark, totaling between $260.3 million and $580.7 million. Alternatively, researchers have approximated that the annual cost of remedial education at community colleges ranges between $1.9 and $2.3 billion and an additional $500 million at 4-year institutions (Bailey et al., 2008).

Regardless of estimates placing direct public cost for remedial education between less than $1 billion and as much as $2.5 billion annually (Breneman & Haarlow, 1999; Kozeracki, 2002; Levin & Calcagno, 2008; Saxon & Boylan, 2001), estimate that the indirect costs to the public and private sectors total $17 billion annually (Bahr, 2007, 2008b).

In addition to the $1 to $2.5 billion price tag, critics have argued that remedial education dilutes academic rigor, extends the length of courses once offered during a single term into multi-term classes, and increases the likelihood of grade inflation, extends the length of stay and reduces graduation rates among remedial learners, and decreases earning opportunities for learners spending time in remedial courses (Bailey, 2008; Levin & Calcagno, 2008). Others have added that developmental-education programs tax resources otherwise needed for college-level programs, dilute institutional priorities, encourage inadequately prepared students to matriculate in order to boost enrollment numbers, and require the state to pay multiple times for high-school education at the college level (Bahr, 2008b; Kozeracki, 2002; McCabe, 2000; Saxon & Boylan, 2001).

Yet other researchers have proposed that mainstreaming underprepared students can result in distractions and slowdowns for college-ready learners, water down courses, decreased graduation, and degraded value of degrees as faculty members feel compelled to pass students not ready to produce college-level work (Attelwell, Lavin, Domina, & Levey 2006; Breneman & Haarlow, 1999; Kozeracki, 2002). Saxon and Boylan (2001) reported that remediation costs typically represent less than 10% of the total budget and most often demands an investment of just 1% to 2% of overall funding.

Furthermore, Saxon and Boylan (2001) noted that remedial education costs as a percentage of the total state higher education budget range from 1.2% in Maryland to 7% in Washington. The proportions of overall community-college budgets spent on remediation in other states are 11% in California, 8.8% in Wyoming, 18.5% in Illinois and 6.5% for remedial instruction in Texas (Saxon & Boylan, 2001).

In Florida, Levin and Calcagno (2008) discovered that community college remedial education costs represented 4.5% of the entire operating budget. Defending remediation efforts, Saxon and Boylan (2001) found that remedial education courses generally produce more revenue for the institution than they cost to deliver. Moreover, based on a bachelor's degree earning rate of 30%, college graduates are projected to pay approximately $87 billion in state and federal taxes over a 44-year period.

These projected tax revenues would represent a net gain of $43 billion after spending $44 billion on remedial education during the same 44-period (Saxon & Boylan, 2001). Arguing that the $1 billion investment is worthwhile Spann (2000) proposed that if 33% of remedial learners earned 4-year degrees, they would boost federal tax revenues by $74 billion while generating an additional $13 billion in local and state taxes and the return on the initial investment would be forfeited only if remedial student graduation rates fell below 1%. Fueled by budgetary considerations, many states are placing sole responsibility for remedial education on community colleges (Breneman & Haarlow, 1999; Kozeracki, 2002; Levin & Calcagno, 2008; Saxon & Boylan, 2001).

Studies have indicated that although remediation programs exist at 2-and 4-year colleges, community colleges spend a greater proportion of their total budget on remedial education than do 4-year institutions (Prince & Jenkins, 2005; Kozeracki, 2002; Levin & Calcagno, 2008; Saxon & Boylan, 2001; Merisotis & Phipps, 2000). For example, in 1997 legislation enacted in Florida, South Carolina, Colorado, and Missouri prohibited developmental offerings in 4-year public colleges is also being considered by legislators in Georgia, Maryland, Minnesota, Massachusetts, Nevada, Ohio, and Virginia (Attelwell, 2006; Bettinger & Long, 2005; Levin & Calcagno, 2008; Merisotis & Phipps, 2000;

Saxon & Boylan, 2001). Focusing on legislation forcing the expulsion of remedial students from 4-year campuses and its impact on diversity, studies find that minorities are overrepresented within the ranks of remedial students (Bahr, 2008a,2008b; Bashford, 2002; Mccabe, 2000; Melguizo, 2007; Melguizo, Hagedon, & Cypers, 2008; Tinto, 2006).

Adelman (2006) noted that developmental students with greater need were more likely to enroll in colleges that were urban, large, certificate-oriented, and serving high proportions of minority students, particularly Hispanic and economically disadvantaged populations. Upon closer inspection, minorities represent 9% of all American college students and 23% of all developmental students (McCabe, 2003). In America, developmental students tend to be more female than male, about half are at least 24 years old, a high ratio are poor and, at institutions serving urban communities, the percentage of remedial students rises to 75% (McCabe, 2003).

Meguizo (2007) affirmed that developmental students are most likely to be minorities, and poor, older, and first-generation students. Kozeracki (2002) recounts protests by some social scientists claiming that diversity and opportunity are reduced at public 4-year institutions as a consequence of state mandates that limit remedial enrollment to community colleges. In addition to public funding, unemployment is a cost associated with undereducated Americans needing remedial assistance (Breneman & Haarlow, 1999; Kozeracki, 2002; McCabe, 2003; Saxon & Boylan, 2001).

Driven by growing demands for technology-savvy workers, 21st century Americans possessing inadequate education are finding that low-wage jobs are being outsourced to less expensive overseas workers. Thus, they are compelled to enroll at

community colleges around the nation in order to improve their prospects for earning a living wage (Dayton, 2005; Kozeracki, 2002). The American Association of Community Colleges (2010) reported that almost 12 million students enrolled at 1,177 public and private community colleges; 60% enrolled part time; 47% of these students are younger than 21 years old; 40% are between the ages of 22 and 39; 13% are at least 40 years old; 58% are female; and minorities account for 36% of all students with Hispanics representing 16% and Blacks representing 13% of all 2-year student, respectively.

Dayton (2005) reported that some 20% of American workers earn poverty-level income, and 29% of U.S. families are unable to generate enough earnings to keep up with a basic living standard. Nationwide, Dayton (2005) reported that men earning only high school diplomas experienced an almost 20% drop in real wage earning between 1973 and 1995. Correlated with inadequate education and unemployment, there exists a high incidence poverty among minorities (Florida Department of Education, 2005; McCabe, 2003; Melguizo, 2007). Thus, poverty and low-paying jobs represent social costs associated with the failure to produce college-educated workforce. Hence, the past and current remedial policy and effort is costly and not very effective.

However, Yankelovich (2009) adds that the belief that college has become a necessity has risen steadily since 2000, while the conviction that there are many ways to succeed without going to college has dropped way down. Today, 87% of the public believes that college now is as important as a high school diploma was in the past, and a similar number, 88%, feel that no qualified, motivated student should be denied access because of cost or enrollment status (remedial or not college-ready).

Diverse Student Population

McCabe (2000) reported that only 43% of U.S. high school graduates enter higher education, 41% of students enrolled in remedial (developmental education) and courses are at least 24 years old. In the same vein, Melguizo (2007) added that researchers also found that the need for remediation is more often associated with young, female, Black, Hispanic, or economically disadvantaged learners attending large urban institutions and college students who attend part time, are enrolled in certificate or vocational programs, and need to work during their college tenure. Boylan (2009) factors in how the picture is further complicated by the lack of consensus about what constitutes being college-ready.

National data about remedial (developmental) education showed that 80% of all developmental students are U.S. citizens; about 40% receive some type of financial aid, approximately 33% work at least 35 hours per week, 20% are married, 10% are veterans, 13% are single parents and minorities are overrepresented (Community College Research Center, 2008). Minorities represent 9% of all college students and 23% of all developmental students at American colleges (McCabe, 2003). Across the nation, increased minority enrollment is related to lower graduation rates (Kozeracki, 2002). In terms of completion, McCabe (2003) reported that minority college graduation rates are lagging behind those of White students and the Black and Hispanic students lose ground to their White counterparts along every step of the education continuum.

Currently, the American Hispanic population is growing (Bailey et al., 2008; Cohen, 1998; McCabe, 2003; Melguizo, 2007). More than 50% of all U.S. immigrants arrive from Latin America, and 70% of them migrate from Mexico or Central America (Hohn, 2006). McCabe (2003) noted that by 2050, almost 50% of all Americans would

represent ethnic minorities, with Hispanics accounting for one quarter of the American constituency. Predicted to outpace Caucasian residency by 2020, Hispanic populations already represent approximately one third of all people in Arizona, California, Florida, New York, New Jersey and Texas (Hagedorn & Lester 2006).

Specifically, McCabe (2003) noted that American Hispanics represent 14% of students between the ages of 15 and 19, and they earn 7% of all associates degrees and 6% of all 4-year degrees awarded. Black students represent approximately 16% of all 15-to 19-year-olds and earn 10% of all associates degrees and 9% of all 4-year degrees conferred. Non-Hispanics Whites account for 70% of the population between the ages 15 and 19 and earn 83%of all 2-year degrees and 86% of all bachelor's degrees awarded.

Across America, minority populations are increasing and performing at lower levels than their White counterparts in public schools (Hagedorn & Lester 2006; McCabe, 2003; Melguizo, 2007). Academic performance analyses of students attending Los Angeles unified school district in 2002 and 2003 indicated that Asian, White, American Indian, Filipino, and Pacific Islander learners outperformed their Black and Hispanic classmates. The analyses also discovered that Hispanic students lagged behind Black learners by a single point (561 versus 562) on the academic performance index during 2002 but surged by 17 points (580 versus 597) in 2003 (Hagedorn & Lester, 2006).

In a sequential pattern of underperformance that continues beyond secondary education, minorities are consequently overrepresented in remedial college courses (Bashford, 2002: Bettinger & Long, 2005; Center for Community College Policy, 2006; McCabe, 2003; Melquizo, 2007; Melguizo et al., 2008). Additionally, researchers have

discovered that Black students are more likely to enroll in remedial courses than their non-Hispanic Caucasian counterparts. Community-college students attending public colleges require remediation at higher rates than do learners at 4-year schools, and students attending private institutions (Attelwell, 2006). Also focusing on minorities, McCabe (2003) distinguished that the percentage of remedial students rises to 75% at institutions serving urban communities.

Given that community colleges are often solely responsible for statewide remedial education, the issue of minority overrepresentation is illustrated by research indicating that 2-year institutions serve 44% of all U.S. undergraduate students but serve 52% of all Hispanic, 43% of all African American, 52% of all Native American, and 45% of all Asian or Pacific Islander undergraduate learners, respectively (American Association of Community Colleges, 2010). Accordingly, an American being transformed and challenged by expanding numbers of minority learners who are not performing as well as their majority classmates suggest that the percentage of college-ready high school graduates will drop to 33% in the coming years (McCabe, 2003). As a consequence of demographic shifts and trends, minority underperformance is a source of national concern (Bedard-Voorhees, 2008; Fike & Fike, 2007; McCabe, 2006).

At California colleges, 40% of learners are White, 30% are Hispanic, 15% are of Asian or Pacific Islander descent, 8% are African American, and less than 5% are Native Americans (Hagedorn & Lester 2006). Hagedorn and Lester (2006) also informed that approximately one-quarter of all California community colleges students transfer to 4-year colleges, and both transfer and graduation rates are low among Hispanic and Black adult students, and learners who have not earned a high school diploma. Scholars have

reported that less than 9% of all Los Angeles Community College District Hispanic students who enroll during an average of six semesters are ready for transfer to 4-year institutions (McCabe, 2003).

Research conducted at a Texas community college found that 48% of remedial students earned at least a C**,** that minority students do not perform as well as their White counterparts, and older students enjoy better grades and completion rates than younger students. Females are more likely than males to complete remedial courses, and students taught by professors holding graduate degrees performed better than counterparts who are taught by professors earning bachelor degrees (Levin & Calcagno, 2008).

At an urban community college in Florida, American Association of Community Colleges (2010) reported that 65% of all developmental students represented minorities, and females outnumbered males in remedial courses. Bahr, (2008) stated in the U.S. undergraduate enrollment is higher among females than males and females are earning bachelor's degrees with greater frequency than their male counterparts.
Between 1995 and 2008, research indicates that female students represented approximately 56% to 58% of the undergraduate population (Fuller, 2010).

Scholars have found that although women are more likely than men to be placed in remedial courses, they outperform men in developmental courses (Bailey et al., 2008; Breneman & Haarlow, 1999). In Ohio, females were more likely than males to be placed in developmental courses, but they succeeded with greater frequency than did their male classmates (Byrd & MacDonald, 2005). Focusing on gender and ethnicity, Melguizo (2007) reported that women are earning bachelor's degrees with greater frequency than men; the proportion of White students earning 4-year is larger than the proportion of

African Americans earning bachelor's degrees, and that overall numbers of people earning 4-year degrees have grown recently.

Given information that Asian students are twice as likely as other students to earn a bachelor's degree, Melguizo (2007) also found that White and Asian students outperform Hispanics, Native Americans, and African Americans. Exploring retention and success Perin (2006) did a comparison of various community college learner groups and finds that vocational students, part-time learners, males, older students, and Black learners produce lower retention and success rates than other student groups. In California, researchers have found that 3% of all Hispanics attending community colleges persist and complete the necessary requirements for transfer to 4-year institutions (Hagedon & Lester, 2006).

At-Risk Learners

In addition to the competitive setbacks plaguing public school students and younger college learners, America is aging (Cohen, 1998). Substantiating a maturing American workforce, McCabe (2003) noted that approximately 69.3 million, or 43%, of the 160 million American workers competing in the global economy of 2030 would be at least 65 years old. Due to the pressing demand for educated workers, 2-year colleges also serve large numbers of adult learners (Adelman, 2006).

Based on research conducted by the NCES (2006) nontraditional students are defined as those belonging to any of the seven following groups and to some extent considered at-risk learners: (1) students not entering college immediately upon high school graduation, (2) part-time learners enrolled in less than 12 semesters credits or 10 quarter credits, (3) economically independent learners, (4) students working full-time or

more than 35 hours weekly, (5) students responsible for children or dependent lives, (6) single parents, and (7) those who have not earned a traditional high school diploma. Furthermore, Macari, Maples and D' Andrea (2006) noted that students with membership in four or more of these groups are deemed at-risk learners. Changing the student population by expanding the rosters of nontraditional learners, adult students are increasingly returning to college in order to update job skills and improve their economic situations (Breneman & Haarlow, 1999; Kozeracki, 2002; Levin & Calcagno, 2008; Saxon & Boylan, 2001).

Macari et al., (2006) reported adult students older than 24 years represented 28% of college students in 1970; adult learners now represent some 44% of the entire college learner pool. In addition, Yankelovich (2009) corroborates by reminding us about the meaning of retirement in the United States and how it has been transformed over the past few decades. Previously, it used to be that when you reached age 65, you received Social Security, hung around for a year or two, and then conveniently died. Now there is an extra 15 to 20 years of life. Based on U.S. Census figures, the NCES (2008) suggested that adult students would continue to represent slightly more than 40% of the student population by 2016.

During the transitional period between the 20th and 21st centuries, Snyder et al., (2009) reported that younger college students have enrolled more frequently than older students, but the authors proposed that adult college enrollment will overtake traditional-age college enrollment; they forecast that traditional-age enrollment will grow between 2006 and 2017, and the ranks of adult learners will surge by 19% during the same time frame. Nationwide, adult learners represent approximately 35% of full-time-equivalent,

community college enrollment and 15% of the full-time-equivalent at 4-year public colleges. Challenged by college-level entrance requirements, the growing adult student population often enrolls in remedial courses upon entry into college (Levin & Calcagno, 2008; Merisotis & Phipps, 2000). Motivated by economic needs and personal goals, research has suggested that older community college students transferring to 4-year schools apply their life experiences towards their studies, and these positively impact their academic progress, schedule management, goal attainment and self-regulated (Byrd & MacDonald, 2005).

Contrasting the insufficient graduation rates among younger American college students, the proportion of Americans over 35 possessing a bachelor's degree is second only to the proportion of those at least 35 with a 4-year degree (Adelman, 2006). Social scientists find that adult learners tend to be self-directed students who seek to connect life knowledge and experience throughout the processes of topic exploration and task completion. Simms and Knowlton (2008) reported that adult learners are also goal-oriented and benefit from a structured curriculum featuring clearly defined objectives; they learn more successfully when course material is personally relevant.

Adult students are practical learners who expect to be treated with respect based on their life experiences and tend to be uninterested in knowledge for the sake of academia (Breneman & Haarlow, 1999; Kozeracki, 2002; Levin & Calcagno, 2008; Saxon & Boylan, 2001). In Florida, studies have shown that adult community college students are less likely to transfer to 4-year colleges, but they are more likely to complete 2-year degree or certificate requirements than younger students (Levin & Calcagno, 2008). Nationwide, older remedial students perform better than younger students and, in

particular, older males enrolled in classes taught once per week (Simms & Knowlton, 2008).

Learners are considered at-risk if they demonstrated any combination that include being poor, being raised in a single-parent household, having siblings who quit school, changing institutions at least twice, earning grades of C or lower between Grades 6 and 8, and being required to repeat a grade (Adelman, 1999; Hagedorn & Lester 2006; Simms & Knowlton, 2008). Moreover, studies have proposed that the definition of at risk must be broadened to include all factors that limit learning, including student background, personal characteristics, environmental dynamics, language and cultural barriers, physical and emotional challenges, and the existence of a dysfunctional domestic environment (Hagedorn & Lester 2006; Merisotis & Phipps, 2000; Simms & Knowlton, 2008; Spellman, 2007).

For adult students representing large proportions of community college learners, additional factors placing them at-risk and requiring consideration in course development to include challenges associated with being single parents, health problems, high school preparation, and immigration issues (Bulger & Watson, 2006). In addition to the challenges facing adult students, studies have reported that low-income learners tend to enter college less academically prepared than their higher-income classmates and have also reported research by the NCES (2009) indicating that 56% of learners entering college from higher-income families earn 4-year degrees, as compared to a graduation rate of 26% for low income students (Engstrom & Tinto, 2008; Tinto, 2006).

Socioeconomic status particularly impacts large numbers of minority students deemed more at risk due to lacking economic sources (Fike & Fike, 2008). Further

inspecting the challenges facing academically underprepared minority students seeking to earn a college degree, studies have asserted that Black students assessed two or more levels below what is considered as college-ready are particularly at risk of failing to complete remedial sequences and subsequent educational goals (Bailey et al, 2008). From coast to coast, community colleges serve approximately 50% of all new students (American Association of Community Colleges, 2010; Bulger & Watson, 2006).

Reinforcing the growing national trend requiring that academically underprepared learners enroll at community colleges, Tinto (2006) reported that during the initial year of the Pell Grant program in 1973-1974, 62.4% of low-income students receiving Pell Grants matriculated at 4-year colleges, but the proportion had dropped to 44.9% by 2001-2002, which signaled a trend toward enrollment at community colleges. Although 4-year tuition and fees at public 4-year colleges are almost three times greater than they are at 2-year institutions, community colleges receive 31% of all Pell Grant funding (American Association of Community Colleges, 2010).

In addition, Russell (2008) stated that higher proportion of community college students enroll in remedial course than do their counterparts attending 4-year colleges and that low-income student require remediation 63% of the time, as compared to their more affluent classmates who enroll in remedial courses at a rate of 25%. Exploring economic demographics, Bulger and Watson (2006) report that low-income students represent 53% of the community college population and 57% of all students at 2-year institutions work full time. In contrast to a rate of 25% for high income students, less than 8% of low-income community college students earn a bachelor's degree within 6 years of college

matriculation (Russell, 2008; Tinto, 2006). Contrastingly, Russell reported that low-income learners attending 4-year institutions earn bachelor's degrees 34% of the time.

According to Engstorm and Tinto (2008), the majority of community-college learners are considered at-risk. Nationally, a large percentage of all 2- and 4- years at-risk college students matriculating into developmental courses are not deemed prepared for the rigors of college-level reading (Bailey et al., 2008; MacCabe, 2000, 2003; Merisotis & Phipps, 2000). Especially at risk due to a variety of socioeconomic variables (Bahr, 2008a, 2008b; Fike & Fike, 2008; Melguizo, 2007; Tinto, 2006), approximately 50% of all community college students enroll in one or more remedial courses, and a majority of these students matriculate in remedial courses (Bahr, 2007; Bailey et al., 2008; Bedard-Voorhees, 2008; Blum, 2007; Calcagno et al., 2007b).

Regardless of their age, ethnicity, preparation, or economic status, studies find that at-risk students are less likely to succeed when confronting extensive travel times, high costs, inflexible course schedules, obstacles finding internship opportunities, unsupportive employers, difficult economic conditions, inadequate self-concept, and academic under preparation that all too often to feelings of isolation and helplessness (Adelman, 2005; Bulger & Watson, 2006; Hagedorn & Lester 2006; Levin & Calcagno, 2008; Simms & Knowlton, 2008). More to the point of at-risk students, college-credits courses that report failure or withdrawal rates more than 30% of the time are considered at-risk courses (Breneman & Haarlow, 1999; Kozeracki, 2002; Levin & Calcagno, 2008; Merisotis & Phipps, 2000). When addressing barriers to retention and success, researchers have asserted that individual attributes play a greater role in student success than do campus characteristics (Bailey et al., 2008).

Andragogy and Adult Education

Adult learners make up the fastest growing population of college students. They are the largest proportion of incoming students needing remediation. The NCES (2006) reported one-parent families headed by woman are more likely to live in greater poverty during longer spans than other American families. Spellman (2008) confirms that the number of American children living in single-parent households grew by 50% and almost half of the single-parent families live in poverty. Steinman (2007) reported currently in the United States, according to single parent family statistics, there are over 13 million single parents (Spellman, 2007).

Knowles (1989) was the first to attempt a comprehensive theory of adult education via the notion of andragogy. Knowles (1980) developed a distinctive conceptual basis for adult education and learning with six assumptions related to motivation of adult learning:

1. Adults need to know the reason for learning something (Need to Know)
2. Experience (including error) provides the basis for learning activities (Foundation).
3. Adults need to be responsible for their decisions on education; involvement in the planning and evaluation of their instruction (Self-concept).
4. Adults are most interested in learning subjects having immediate relevance to their work and/or personal lives (Readiness).
5. Adult learning is problem-centered rather than content-oriented (Orientation).
6. Adults respond better to internal versus external motivators (Motivation).

Since the inception of Knowles' theory other authors have embraced the concept of andragogy within the field of adult education as is evident in the works of Merriam and Caffarella (1991). They concurred that Knowles' conception of andragogy is an attempt to build a comprehensive theory (or model) of adult learning that is anchored in the characteristics of adult learners. Isenberg, (2005) extended the discussion when he argues that most *theories* of adult learning are based on research into the learning of children, which in turn is founded upon theories of animal learning. These theories, formulated under laboratory conditions, are *artificial* at best and not complex enough to apply to adults.

Henschke (2008) adds that education is one of the fundamental human rights but due to scarce opportunities, fewer resources, innovations and trends, the traditional or formal system *calls* for an alternate to guarantee it is appropriate. Henschke (2008) draws on a rich scholarship informed by the philosophical, structural, and pedagogical writings of Knowles (1980) and Dewey (1938). Building upon Knowles' (1980) theory of andragogy for adult education, Henschke (2008) proposed six similar principles of effective practices for facilitating learning of adult learning: (1) voluntary participation; (2) mutual respect; (3) collaborative spirit; (4) action and reflection; (5) critical reflection; and (6) self-direction.

Both Knowles (1989) and Henschke (2008) bring together major contributions to the current debates about what learning during *adulthood* should look like. Moreover, the significant factor in reorienting adult educators is from 'educating people' to 'helping them learn." Based on these elucidations, either Knowles (1989) or Henschke(2008)

principles of effective practices for facilitating adult learning emerge or are present in the TSD instructional practices.

Barriers to Learning

The need for developmental (remedial) reading represents a barrier to retention and success. In Matthew 25:29, the Bible states, "To everyone who has, more shall be given, and he will have an abundance; but from the one who does not have, even what he does have shall be taken away" (Zondervan Corporation, 2009, para.1). Bahr (2007) recounted that this biblical passage has inspired what is termed the *Matthew Effect*, exemplified by research that weak English skills negatively impact remedial reading learners and that individuals experiencing the greatest remediation needs are less likely to be remediated than those who require less remediation.

The inverse correlation between increased academic under preparedness and success in remedial courses is acknowledged in numerous studies (Bahr, 2007; Fike & Fike, 2008; McCabe, 2000). For example, research at an urban public college in Ohio indicated that students placed in remedial reading courses prior to enrollment in college-level (writing) composition I sections passed approximately 50% of the time and less frequently than did students whose college-entrance scores placed them directly into college-level writing (Guskin & Marcy 2002).

Discussing the relationship between reading skills and a content area (i.e. math), Bahr (2007) asserted that overcoming innumeracy demands literacy and informs that college-ready English learners are more likely to successfully complete mathematics than students enrolled in developmental reading and writing courses, respectively. Bahr (2007) taught that the more severely deficient a student is in reading, the less likely it is

that the student will succeed in the quest to comprehend college-level text books. Investigating retention among highly underprepared learners, a study by Community College Research Center CCRC (2008) reports that less than 20% of students deemed unready for college work by three or more courses complete the required remedial cycle.

Addressing barriers, Bahr (2007) suggested that low self-perception and student frustration stemming from required completion of numerous remedial courses represented obstacles in retention and success. As a result of the frustration, Bailey et al. (2008) reported that between 40% and 50% of students requiring more than one remedial reading course do not complete any remedial courses and also noted that the neediest students often find remediation requirements too time consuming or daunting and thus refuse to enroll, withdraw, or simply drop out. Bahr, (2007), Bedard-Voorhees (2008), and Bailey et al. (2008) considered the following barriers to completion and grouped them into *four* major categories:

Dispositional barriers include gender, age, socioeconomic background, enrollment and employment status, learner attitude, motivation, self-discipline, self-perception, and confidence (Bahr, 2007; Bailey et al., 2008; Bedard-Voorhees, 2008; Fike & Fike 2008*).* *Epistemological barriers* (a) learner ability and confidence; (b) moderate to severe academic under preparedness demonstrated by learners especially those demonstrating weakness in reading; (c) comfort with different learning environments; (d) personal study habits; and (e) the quality of the learning environment experienced by students (Bulger & Watson, 2006; Hagedorn & Lester 2006; Kozeracki, 2002). *Situational barriers* are described as explicit parameters of the learner's lifestyle and environment including obligations at home and work (Bailey et al., 2009; Spellman,

2007). *Institutional barriers* involve college location and size, educational costs, college-wide procedures, scheduling, and guidelines (Bahr, 2007; Bailey et al., 2008; Bedard-Voorhees, 2008).

In an attempt to address *instructional and institutional barriers*, a study conducted at Miami Dade College (2009) shows that in certain courses students perform better when the courses have an intensive, eight week duration versus the regular 16 week format. Because the study reports mixed results in student pass rates in different subject areas, the recommendation would be for the College to offer more intensive eight week courses in which students' success rates showed a significant difference. An example of courses in which pass rates were significantly higher included math and reading in college prep. Jenkins and Boswell (2002) noted that because states do not fund new innovations and test new strategies, these practices are difficult to scale up or maintain. Another *instructional barrier* is the old fashion style of lecturing and students taking notes "receptacles" in which they have little opportunity to actively engage as "discoverers" in the entire learning process (Tinto, 1993, 2006).

Berry (2008) proposes Problem Based Learning (PBL), which provides interactive and engaging learning as well as improving student retention and satisfaction. Furthermore, Calgano, Crosta, Bailey and Jenkins (2007b) contend that traditional teaching methodologies have become obsolete. Some of the methods they propose are delivering gatekeeper courses in small modules, which allow students to progress at different rates. Tinto (2006) noted that given the nature of the student population in the developmental phase, students need more of a nurturing approach or a sense of belonging, a sense of guidance. This situation is compounded with students' lack of

academic preparation, which about a high proportion of developmental students report as a reason for dropping out (Bailey, 2009). Consequently, institutionally innovative pedagogy practices, such as developing team taught interdisciplinary courses or learning communities (LCs) may give students a sense of belonging, support, and cohesiveness (Berry, 2008).

Tinto (2003) proposed a configuration of courses that provide a coherent interdisciplinary experience such as developmental math and science or developmental reading and writing with history. On the subject, Tinto (2003) also mentioned LCs at Iowa State University with incoming undecided freshmen linked to a developmental advising class. Bailey and Alfonso (2007) states that developmental students could benefit from the learning communities strategies if the states provide the funding to assist colleges institutionalize (scale up) them and providing faculty the training and support to implement them.

Astin (1993) found that the retention rate of students is greatly affected by the level and quality of their interactions with peers as well as faculty and staff. This supports the multiple views by Tinto's (1993) "Model of Institutional Departure" which states that, to persist, students need integration into formal (academic performance) and informal (faculty/staff interactions) academic systems and formal (extracurricular activities) and informal (peer-group interactions) social systems.

In addition to the *instructional barriers* mentioned, *institutional barriers* may also hinder student progress and completion. Jenkins, Zeidenberg, and Kienzi (2009) stated that an *institutional barrier* may be the lack of resources in terms of personal due to budget constraints in critical areas such as Advising and Counseling; in addition, not

providing all students with an IEP (Individual Educational Plan) and/or lack of proper advising regarding course scheduling and sequencing are other possible *institutional barriers*.

Fike and Fike (2008) has focused on first-year student drop-out rates and found that educational and financial variables are the most predictors of student attrition from data mining techniques involving 8 years of institutional data from Oklahoma State University. As such, successes in fundamental coursework (i.e., college prep completion) along with the necessary funds to support one's educational plan can greatly assist in the completion of a course study. According to Tinto's (1993) theory of student integration, past and current success is a key element in determining attrition. Effective programs affirm and help students understand that academic success is not attained through individual achievement alone, but through an axis of support (Dayton, 2005).

Technology

In a digital, wireless, information-intensive age of global competition when the American workforce is aging and diversifying (Breneman & Haarlow, 1999; Kozeracki, 2002; Levin & Calcagno, 2008; Saxon & Boylan, 2001) colleges serving the needs of growing ranks of nontraditional learners and new generations of cyber children are transforming and exploiting spaces designed to foster knowledge based on the recognition that learning involves action and not a specific time and location.

Today, large numbers of cyber-savvy youngsters accustomed to an anywhere, anytime, surf-and-click lifestyle, and a large numbers of adult learners inspired by economic demands and challenged by scheduling issues are predicted to continue to look

for new learning opportunities (Bedard-Voorhees, 2008; Engstorm & Tinto, 2008; Simms & Knowlton, 2008).

Studying global knowledge demands and national demographic shifts, futurist Peter Drucker (1998b) proposed that American research universities have been failing for some three or four decades because they have failed to recognize and adequately address the critical need to produce student learning (Dychtwald, Erickson, & Morrison, 2006). Discussing the impact the impact of technological advancements in 1997, Drucker asserted technology is transforming the way we learn more rapidly than the printed word. The widespread Internet use by the majority of the population regardless of age, gender, race, or economic status promises the continued growth of learning in education (Simms & Knowlton, 2008). According to Dychtwald (2006) the Internet attracted more than 50 million users in its first 4 years, whereas television required 13 years and radio needed 38 years to attract the same numbers of patrons.

Bill Gates (2007) reported in his study that more than one billion people around the world accessed the Internet in 2005 including 73% of American adults. The Pew Internet and American Life Project (2008) reported the following statistics regarding U.S. Internet use:

a) 73% of women and 77% of men access the web
b) 91% of 18-to 29-year-olds, 86% of those aged 30 to 49, 74% of those aged 50 to 64 and 38% of seniors over 65 use the Internet
c) At least 75% of Whites, Blacks and Hispanics browse the web
d) A minimum of 64% of all urban, suburban, and rural communities access the Internet

e) Households earning less than $30,000 annually visit the web 56% of the time, whereas 95% families with annual incomes greater than $75,000 use the internet

f) 95% of all college graduates use the Internet, compared to a rate of 38% for people who have not completed high school

Whether related to a techno centric society, a signal of ivory tower transformation, or the initial stages of pending extinction, today's largest American institution of higher education is the University of Phoenix, serving 165,373 online learners and outpacing enrollment at the second largest college by a ratio greater than 3:1 (NCES, 2009; Snyder et al., 2009). Between 2001 and 2005, online enrollment for kindergarten through Grade 12 grew by a factor of 10 from some 50,000 students in 2001 to more than 520,000 online learners in 2005 (Steinman, 2007).

During 2005-2006 and in accordance with predictions, American public schools hosted approximately 700,000 distance learners (Cramer, Cramer, Fisher & Fink, 2008). Scholars have cited findings asserting that the number of secondary online students is growing across the United States, as evidenced by statistics showing that 42 states offer online learning opportunities, 12% of all secondary school students enroll in online courses at school, and 8% study via distance of their own accord (Friedman, 2006; Skelly, 2007; Steinman, 2007). Across the states, more than half of all public secondary schools offer online courses; online secondary student enrollment tripled by 2007, and the long-term annual growth of secondary distance (online) education is projected to approach 40% (Christensen, Horn, & Johnson, 2008). Outpacing the projected numbers,

U.S. high school online enrollment has grown more than twentyfold from 45, 000 to one million between 2000 and 2007 (Christensen et al., 2008).

Addressing demand and seizing opportunities, 22% of U.S. colleges and universities offered education via online portals in 1997. More than 54,000 online courses were offered at 1, 680 institutions across the United States in 2001 (Muse, 2003), and almost 90% of all public colleges offered online courses in 2004 (Christensen, Horn & Johnson, 2008). Currently, almost 67% of all American colleges and universities offer some type of online program or course (NCES, 2009; Snyder et al., 2009). Because many states place sole responsibility for remediation on community colleges, students matriculate in at least one developmental course (Attewell et al., 2006; Bettinger & Long, 2005; Russell, 2008).

Due to growing online college enrollments, the Bureau of Labor Statistics predicts a growth of 22.9% in the ranks of postsecondary teachers by 2016 (Steinman, 2007). For working adults, around-the-clock access to online education offers scheduling flexibility (Fike and Fike, 2008) through the inception of flexible course offerings that include 9-week courses and the availability of three, 6-week, one-credit modules offered throughout an 18-week semester. During an era when community colleges are being assigned sole responsibility for helping students fill academic gaps prior to commencing college studies, retention in remedial courses is of particular concern. Looking at the entire developmental population, McCabe (2003) reported high dropout rates among American college students enrolled in developmental courses and finds that developmental course completion rates hover at the 50%.

Bedard-Voorhees (2008) stated that numerous researchers have reported no significant difference in learning outcomes between technology-intensive online learners and students studying in brick-and-mortar, however, Bedard-Voorhees stated the study did confirm improvement in student attitude and confidence towards remedial learning. In order to improve retention and success, Spellman (2007) suggested that colleges build support systems that address learner needs, including offering flexible course scheduling, hybrid courses, delivering learner-centered developmental, preparing curricula focused on real-life problems, providing developmental advising designed to empower students, providing accessible tutoring, and offering workshops that help learners develop and improve their study strategies. According to the National Association for Developmental Education (NADE) another principle of developmental (remedial) education is that students' affective characteristics are just as important to their success in academe as their cognitive characteristics. Affective characteristics are students' beliefs, thoughts, and emotions, such as their attitudes toward education, their motivation, their instructional style preferences, or their level of autonomy.

TSD Curriculum Theory

TSD "drills and practices" is direct instruction and is described as "a systematic method" for presenting material in small steps, *pausing* to check for student understanding, and *eliciting* active and successful involvement from all students (Baker & Wigfield 1999). The principles upon which this theoretical approach is based include: *all students can learn*; *the teaching of basic skills and their application in higher-order skills is essential to intelligent behavior and should be the main focus of an instructional*

program; *and instruction with students with learning difficulties must be highly structured and permit large amounts of practice* (Cross, 1976).

Baker and Wigfield (1999) posit that the TSD (direct instruction strategy) is familiar to all educators and it is *highly teacher-directed* and the most commonly used. Proponents of TSD consider this strategy to be effective for providing information or developing step-by-step skills. It "*promotes the acquisition of knowledge or skill through repetitive practice"* (Cross, 1976). Veenman, Denessen, van den Oord and Naafs (2003) state the TSD *assumes* all students can learn and, thus, failure in student learning is viewed as a deficiency in teacher instruction.

According to Chapman and Tunmer (2003) another goal of the TSD is to develop "*faultless instruction*" that is, *sequences or routines* for which there is only one logical interpretation. Veenman, Denessen, van den Oord and Naafs (2003) characterized the TSD strategy by *performance expectations, systematic prompting, structured practice, monitoring of achievement, reinforcement and corrective feedback*. The lessons follow a *prescribed model lead- test format*, whereby the instructor/ teacher first models a strategy, and guides the students through examples. After students are able to respond correctly on several prompted trials, they are urged to commence independent practice Cotton and Savard (1982). In general, lessons close with a review of what was learned during the lesson, as well as a brief preview of the instructional objectives for the next session (Chapman & Tunmer, 2003).

Veenman, Denessen, van den Oord and Naafs (2003) stress the most salient feature of TSD programs is a s*cripted presentation.* Scripted lesson plans are a hallmark of the TSD instruction and are intended to control the quality of instruction.

Binder and Watkins (1990) add that the TSD includes memorization, involves repetition of specific skills, such as addition and subtraction, or spelling. To be meaningful to learners, the skills built through drill-and-practice should become the building blocks for more meaningful learning Haberlandt (1988). Drills are usually repetitive and are used as a reinforcement tool. Gallagher (2002) contends that there is a place for TSD (direct instruction) for students who are experiencing learning problems, its use, *however*, should be kept to situations where the instructor is certain that it is the most appropriate form of instruction.

CAB Curriculum Theory

CAB (Content area based) instruction was designed to provide second-language learners instruction in *content* and *language* (Brinton, 2003). Historically, the word *content* has changed its meaning in language teaching. *Content* used to refer to the methods of grammar-translation, audio-lingual methodology and vocabulary or sound patterns in dialog form. *Recently*, content is interpreted as the use *of subject matter* (i.e. math, science, social studies) as a vehicle for second or foreign language and teaching/learning. Campbell (1997) explains how the CAB instruction has its roots in constructivism; and its implications for the theory of instruction lays emphasis on the ways knowledge is created or constructed.

According to Kliebard (1992), the constructivist learning theory is a student-centered pedagogy in which students learn about a subject through the experience of problem solving. Students learn thinking strategies and the domain knowledge. According to Kolb (1984) Dewey created an active intellectual learning environment in his laboratory school during the early 20th century a*n*d depicts constructivism as "a

theory of knowledge with roots in philosophy and psychology." Kolb (1984) points outs how the CAB approach includes a number of applications that base teaching and learning on constructivism (i.e. *discovery learning, hands-on, experiential, collaborate, project-based,* and *tasked-based*).

Snow (2001) states that *central to* the CAB approach are the belief that learning occurs not only through exposure to the instructor's input, but also through *peer* input and interactions. They do not depend on the instructor to direct *all* learning or to be the source of *all* information. Students learn through doing and are actively engaged in the learning process. Henschke (2006) explains how students assume active, social roles in the classroom that involve interactive learning, *negotiation,* information gathering and the co-construction of meaning. Isenberg (2005) emphasizes on the other important implication of the CAB approach and that is the CAB approach is an attempt to e*mpower students and give them voice* by focusing on their basic, human needs. Unless students are given power, they may exert what little power they have to hinder learning and achievement. Thus, it is important for instructors to give students a voice, especially in the current educational climate, which is dominated by standardization and testing.

Developmental Education Best Practices

A priority for developmental education research is designing and investigating the impact of more balanced instructional approaches that promote the student as the key agent in the process of their learning (Kaplan, 2004). Currently, in 2012, at the national level, the Bill & Melinda Gates Foundation and Lumina Foundation for Education have funded the *Developmental Education Initiative* (DEI). It is an outgrowth of Achieving the Dream. Sixteen colleges are participating in the DEI, the purpose of which is to help

the colleges expand small or pilot programs that have been shown to be effective and "scale-up" to other institutions as a model. Through grants for research, innovation, communication, and evaluation, as well as policy education and leadership development, the Lumina Foundation addresses issues that affect access and educational attainment among all students, particularly underserved student groups. Lumina Foundation is the Founding Investor of Achieving the Dream, and has invested more than $70 million into Achieving the Dream since its inception.

In 2012, the "*Completion by Design*" funded by the Gates Foundation, awarded competitive grants to four groups of community colleges to help transform their students' experience. Today, community colleges serve nearly 11 million students. However, not enough low-income adults who enroll at a community college complete a credential that prepares them to find a decent-paying job or to transfer to a four-year institution. Completion by Design is a five-year Bill and Melinda Gates Foundation initiative that works with community colleges to significantly increase completion and graduation rates for low-income students under 26. Completion by Design will provide each grantee, referred to as a managing partner, with the expert technical assistance required to address the full range of postsecondary educational matters that affect completion: educational practice, data analysis and utilization, leadership, cost efficiency, systems change and policy.

In 2010, the American Association of Colleges & University funded 12 community colleges (nationally) to create robust and proactive programs of academic support, tied to the Colleges' learning outcomes that engage students at entrance and teach them, from the outset, how to become active partners in their own quest for

educational success. The *Roadmap Project* is working intensively with a select group of twelve community colleges that are poised to become national model in supporting community college student success. Collectively, these leadership institutions are working to take what are often isolated and independent student success efforts and create an integrated roadmap to support both student persistence and higher levels of academic achievement.

The ALP (Accelerated Learning Program) is a project coordinated by the Community College Research Center and funded by the Hewlett Foundation. As of the spring of 2013, ninety-seven schools throughout the nation have begun offering ALP and state-wide programs are underway in three states: Arkansas, Indiana, and Michigan. (ALP) places students into upper-level developmental course are "mainstreamed" into college-level courses in that subject, and are simultaneously enrolled in a companion ALP course (taught by the same instructor) that meets in the class period immediately following the college-level class. The ALP is one of the few innovative models for developmental education that has produced dramatic improvements in success rates and has demonstrated that it can be scaled up. And ALP's successes are not limited to the Community College of Baltimore County where it originated. The aim of the ALP course, which has a small number of students, is to help students maximize the likelihood of success in their first college-level course and to speed up their progress through the development sequence.

The Washington State Board for Community and Technical Colleges (SBCTC) has implemented I-BEST since the 2005-06 academic year, when 10 colleges piloted the program. In 2007-08, I-BEST was expanded to all 34 colleges in the system. Integrated

Basic Education and Skills Training (I-BEST). In the I-BEST model, basic skills instructors and professional-technical faulty jointly teach college-level occupational classes that admit basic skills student. The objective is to accelerate the rate at which adult basic skills students advance to college-level programs that lead to career-path employment.

Reform Initiatives and Best Practices

Bettinger (2005) affirms that while there are important suggestive steps to maximize assistance to remedial students, there is little *to no mention* of rethinking or revisiting the developmental education *curriculum* by means of alternative *instructional approaches.* The implementation of the curriculum *traditional skills* and *drill* instruction or one-size-fits-all (Cross, 1976) approach was adopted in 1983 for students in remedial courses in higher education (National Commission on Excellence in Education, 1983) and is still utilized as the main means of instruction.

As a result the college where the study is taking place still does not offer other forms of curriculum instruction for remedial students unless it can be funded by grants or pilot program on a smaller scale. In 2005 through the summer of 2009 the MAC^3 Project (Mathematics across the Community College Curriculum) was initiated through a grant funded by the NSF (National Science Foundation). This collaborative project was between AMATYC (American Mathematical Association of Two-Year Colleges) with Edmonds Community College, Seattle Central Community College, and *Miami Dade College.* The cohorts studied in this research participated during the time of the grant 2005 through the summer of 2008 [(a) fall 2006- (n=2,999), (b) spring 2007 (n=3,281) and (c) fall 2007 (n=3,022)].

The MAC^3 Institutes provided professional development twice a year for five years. Forty-eight faculty from twelve institutions, sixteen disciplines, and seven states attended the institutes twice a year to integrate mathematics and science into their curricula. The institute participants worked in interdisciplinary teams to *create curriculum* integrating mathematics and/or quantitative reasoning into Adult Basic Education, Accounting, Anthropology, Biology, Business, Ceramics, Chemistry, Economics, English, College Prep (remedial education) Music and ESL.

The MAC_3 institute, funded by the Department of Education through Edmonds Community College was the first event of the new MAC_3 national dissemination project led by AMATYC (American Mathematical Association of Two-Year Colleges) and in partnership with Miami Dade College and Seattle Central Community College. The grant was the impetus to support new conceptions *of* instructional formats for remedial education. These activities led to the implementation of learning communities with other disciplines, and the combining of classroom instruction into the curriculum (MDC-IR, 2010**).** It was at these institutes the CAB (contextualized/content area based) curriculums were created. The CAB (content-area based) instructional approaches uses the core discipline concepts as the backdrop for instructions. Moreover the classroom dynamics view the student as the key agent in the learning process, unlike the TSD instructional type that has been predicated on the active role of the instructor and the passive role of the student.

Tinto (2006) explains that typical developmental pedagogy is thought to rely on procedural skill-building, which has been linked to better performance on standardized tests—*but* in order to understand the concepts students need much more than procedural

fluency. A primary theoretical perspective based on Tinto's (1993) theory which specifies that strong classroom experiences and opportunities to use those experiences in other courses and other areas of life enhance both the amount of material students learn and their efforts to persist in their studies (Tinto, 1993).

Summary

In chapter two, while it is clear that too many postsecondary students entering the community colleges need remediation many developmental college reading students are at risk for academic failure. Thus far, poor outcomes have been reported for developmental education, but more importantly there is a lack of data on the effectiveness of *specific* instructional approaches for this population.

The researcher reviewed the relevant literature on major concepts implications and emerging trends related to the problem of underprepared students. At a time when developmental education is being attacked by policy makers, it is imperative to conduct research to demonstrate the achievements of the field (Boylan, 2009). Still research is limited as to the preferred method of remediating developmental education readers as well the absence of good data on remedial education in U.S. colleges and universities. Developmental educators must remain open and susceptible to new learning theories being explored, such as the content-based literacy approach discussed in this study.

In an evolving educational environment, the disruption of traditional learning environments and methods discussed by Tinto (2006) theoretical framework inspired the author of the study to examine two approaches to reading used at the large community college.

CHAPTER III

METHODOLOGY

Overview

This study examined two methods of teaching reading instruction (TSD vs.CAB) on the passing rate and progression of students into the subsequent courses of ENC1101 and ENC1102. More specifically, this study contrasts the passing rates and final grades (GPA) of remedial reading students who had successfully completed the reading course. The implementation of the curriculum *traditional skills* and *drill* instruction (TSD) or one-size-fits-all (Cross, 1976) approach was adopted in 1983 for students in remedial courses in higher education (National Commission on Excellence in Education, 1983), and is still utilized as the main means of instruction. As a result the college does not offer other forms of curriculum instruction for remedial students unless it is funded by grants or pilot program on a smaller scale. The three cohorts studied in this research participated during the time of a NSF grant 2005 through the summer of 208 hence the availability of two forms of instruction, TSD and its alternative CAB.

Research Design

The design that was used to examine this research problem was a causal-comparative retrospective study. This study used an ex post facto research design, which is characterized by the facts that (1) there will be no deliberate manipulation of the independent variables by the researcher, (2) the participants will be studied after treatment occurred (Creswell, 1994) and (3) the retrospective study applied a causal-comparative research design with three contrast cohort groups: (a) fall 2006-1 Group 1 (n=2,999), (b) spring 2007-1 Group 2 (n=3,281), (c) fall 2007-2 Group 3(n=3,022)

assembled from the student records' database at Institutional Research at the college where the study was conducted (Gall, Borg, & Gall, 1996).

Population Sample/Participants

In order to pass REA0003, students must average at least 70% on all course assignments and assessments. Moreover, in accordance with state law (policy), REA 0003 students must also score a minimum of 61% on the Florida Basic State Exit Exam (Bashford, 2002). The original database assembled for the researcher had a total of 9,302 students between the three cohorts. Multiple students from the three cohorts did not successfully complete the remedial course requirements and/or did not pass the Florida College Basic Skills State Exit Exam. Over 3,040 students (college-wide) did not complete the state mandated reading course. This left a sample of 6,262 students for the next part of the analysis, passing the State Exit Exam and the progression through subsequent sequences of courses (ENC1101 and ENC1102).

The students in this study represent the total sample size and/or population of reading college prep students. There were fewer Whites NH (4%) who were part of the study than those in the college population overall of Whites NH (8%). Hispanic and Black NH students constituted a large number of students in the courses compared to those in what is the sample of the population i.e. Hispanic 70% and Black NH 18% (Miami Dade College, 2005).

Table 1

Student Characteristics as a Percentage of the Sample

Cohort	Fall 2006-1		Spring 2007-1		Fall 2007-2	
	TSD	vs. CAB	TSD	vs. CAB	TSD	vs. CAB
Gender:						
Female	59.3	64.6	57.8	59.2	57.3	61.2
Male	40.7	35.4	42.2	40.8	42.7	38.8
Age:						
<=20	67.1	62.4	72.9	69.2	77.7	69.1
21-25	18.2	20.9	14.6	16.1	11.0	15.0
26-30	5.2	7.2	4.3	4.8	4.4	4.7
31 +	9.5	9.5	8.2	9.9	6.9	11.2
Ethnicity:						
Black NH	21.9	39.5	20.6	40.0	21.9	49.6
Hispanic	69.3	53.8	70.3	50.0	69.5	41.6
White NH	6.0	4.2	5.5	5.4	5.1	4.4
Other	2.8	2.5	3.6	4.6	3.5	4.4
Enrollment Status*:*						
Full time	49.1	52.5	51.6	61.4	47.0	61.4
Part time	50.9	47.5	48.4	38.6	53.0	38.6

Note: Retrieved from http://www.mdc.edu/ir/iremployees/restopic.asp

Ethical Considerations

The researcher first sought permission from the Barry University Institutional Review Board (IRB) for approval to conduct the study. When permission was obtained, the researcher conveniently selected the site to conduct the study; the study took place at the largest higher education institution in the country, a College in South Florida. The

researcher obtained permission in writing from the College's Institutional Research department. The subject studied was Reading because of the researcher interest in the topic, and need for improvement in the curriculum of reading in developmental education. The study was conducted in the spring and summer of 2012 semesters.

Data Collections Procedures/Instrumentation

Data was collected using multiple types of instruments from the college where the study was conducted. The archival data was assembled by the staff at the Office of Institutional Research. The original database assembled for the researcher had a total of 9,302 students between the three cohorts(a) fall 2006- Group 1 (*n*=2,999), (b) spring 2007 Group 2 (*n*=3,281), (c) fall 2007 Group 3(*n*=3,022). The data included information about the students' demographic categories: gender, ethnicity, age and enrollment status (full time/ part time). Lastly, the research study utilized the course syllabi and objectives/competencies for ENC1101 (Composition I**)** and ENC1102 (Composition II).

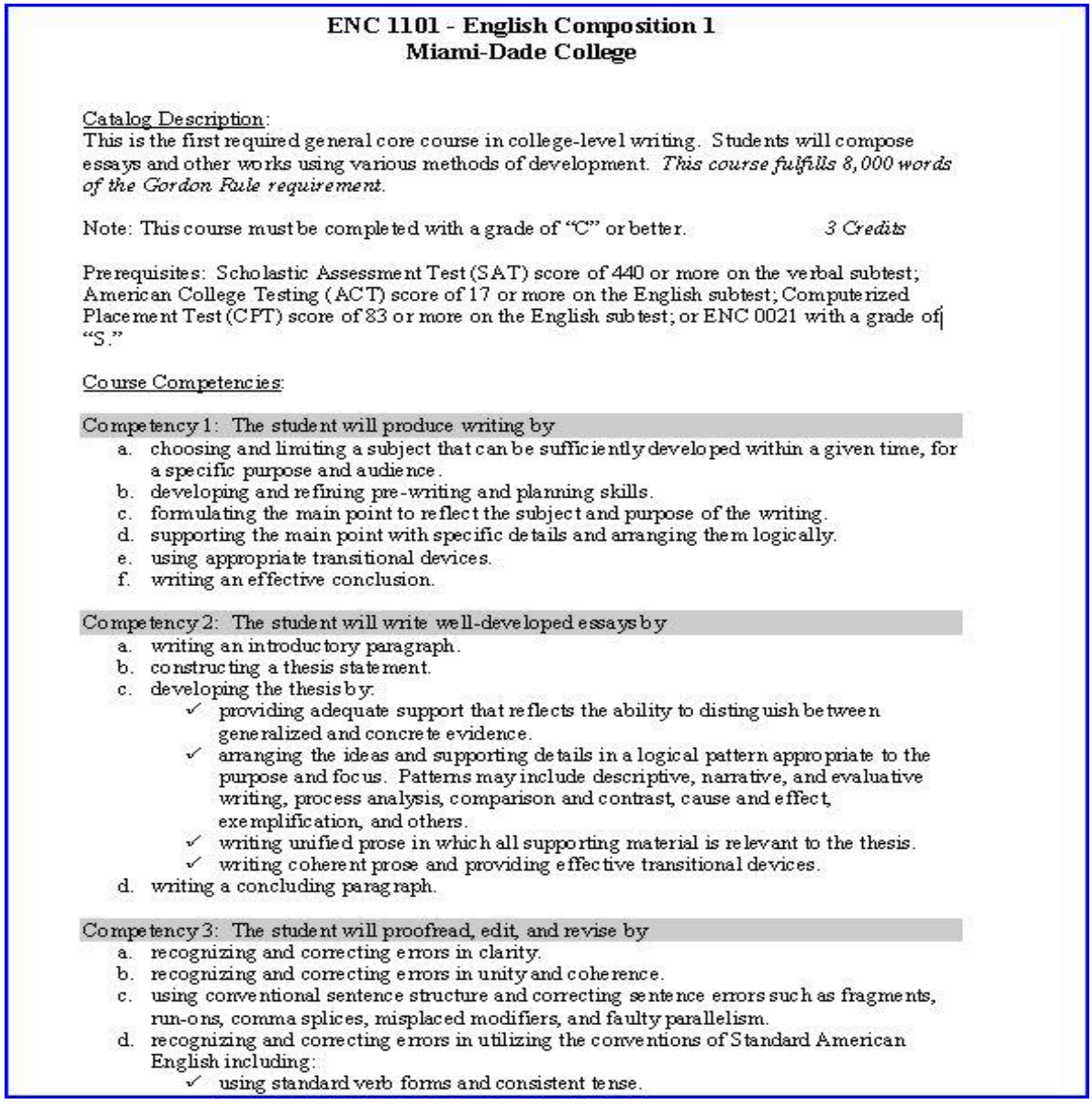
The Florida College Basic Skills Exit Test (BSET)

By state law, underprepared college students must successfully complete remedial course requirements and pass the state-mandated exit test prior to being allowed to enroll in college-level courses (Bashford, 2002; Florida Department of Education 2008a, 2008b). The researcher was not involved in the delivery of the reading assessment or the exit test. The student-assessment services section of the state department of education outsourced development of the state exit-test guidelines, forms, questions, and specifications to university personnel (Bashford, 2002).

ENC1101 (Composition I) Syllabus

A description of the course syllabus includes a university parallel course in which the student writes expository themes in various modes. Research methods and library skills are introduced, and a documented paper is required. Placement in ENC 1101 is determined by both standard and departmental assessment tests.

Figure 3 Syllabus_ENC1101 (Composition 1)



ENC 1101 - English Composition 1
Miami-Dade College

Catalog Description:
This is the first required general core course in college-level writing. Students will compose essays and other works using various methods of development. *This course fulfills 8,000 words of the Gordon Rule requirement.*

Note: This course must be completed with a grade of "C" or better. *3 Credits*

Prerequisites: Scholastic Assessment Test (SAT) score of 440 or more on the verbal subtest; American College Testing (ACT) score of 17 or more on the English subtest; Computerized Placement Test (CPT) score of 83 or more on the English subtest; or ENC 0021 with a grade of "S."

Course Competencies:

Competency 1: The student will produce writing by
- a. choosing and limiting a subject that can be sufficiently developed within a given time, for a specific purpose and audience.
- b. developing and refining pre-writing and planning skills.
- c. formulating the main point to reflect the subject and purpose of the writing.
- d. supporting the main point with specific details and arranging them logically.
- e. using appropriate transitional devices.
- f. writing an effective conclusion.

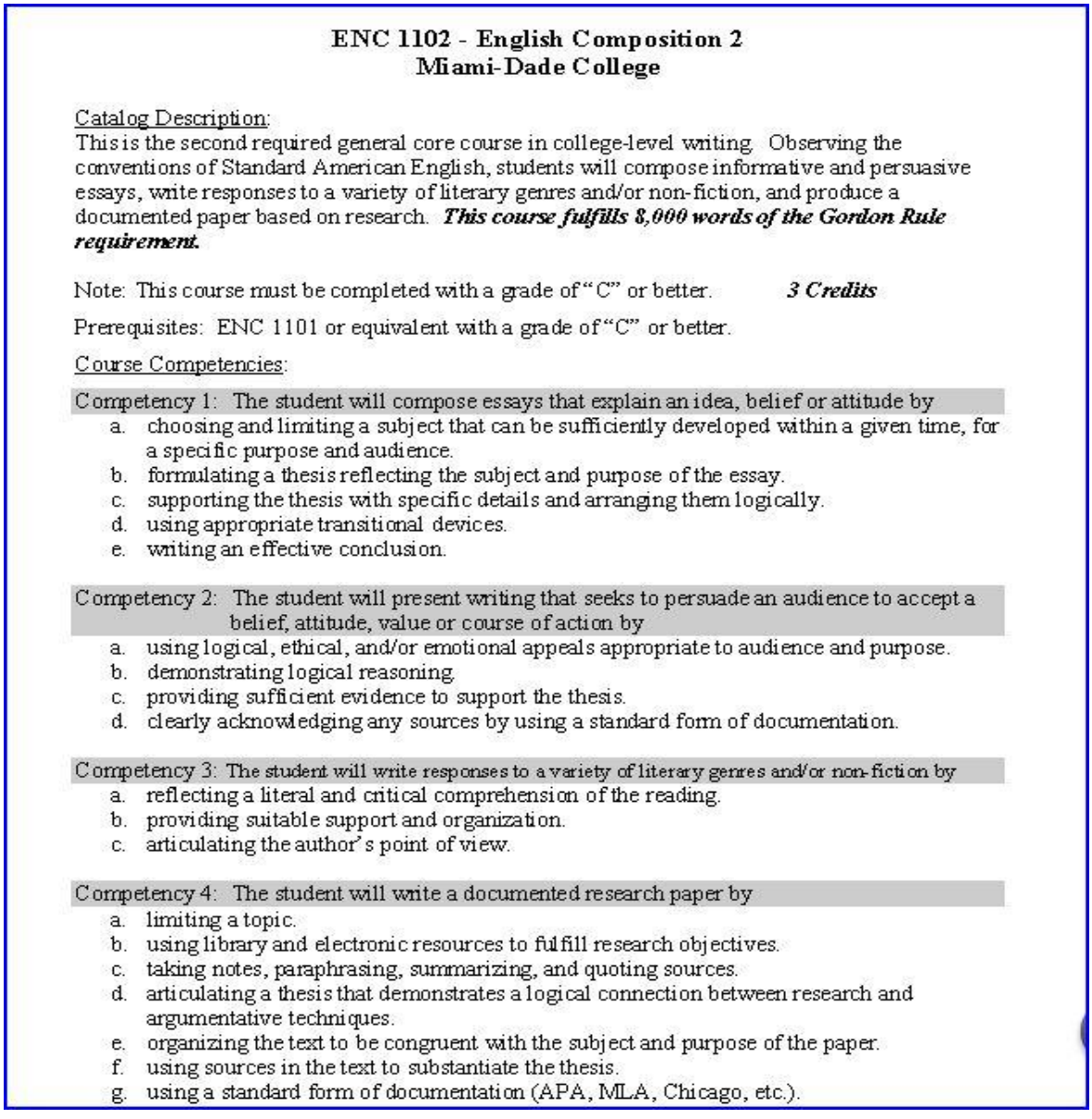
Competency 2: The student will write well-developed essays by
- a. writing an introductory paragraph.
- b. constructing a thesis statement.
- c. developing the thesis by:
  - ✓ providing adequate support that reflects the ability to distinguish between generalized and concrete evidence.
  - ✓ arranging the ideas and supporting details in a logical pattern appropriate to the purpose and focus. Patterns may include descriptive, narrative, and evaluative writing, process analysis, comparison and contrast, cause and effect, exemplification, and others.
  - ✓ writing unified prose in which all supporting material is relevant to the thesis.
  - ✓ writing coherent prose and providing effective transitional devices.
- d. writing a concluding paragraph.

Competency 3: The student will proofread, edit, and revise by
- a. recognizing and correcting errors in clarity.
- b. recognizing and correcting errors in unity and coherence.
- c. using conventional sentence structure and correcting sentence errors such as fragments, run-ons, comma splices, misplaced modifiers, and faulty parallelism.
- d. recognizing and correcting errors in utilizing the conventions of Standard American English including:
  - ✓ using standard verb forms and consistent tense.

ENC1102 (Composition II) Syllabus

Description of the course syllabus includes expository writing based upon the close reading and study of selected examples from fiction, poetry, and drama. The course emphasizes oral and written analytical interpretations which include recognition of the traditional techniques, forms, and rhetorical devices used by writers of literature. The course also serves as an introduction to literature.

Figure 4 Syllabus ENC1102 (Composition 2).



ENC 1102 - English Composition 2
Miami-Dade College

Catalog Description:
This is the second required general core course in college-level writing. Observing the conventions of Standard American English, students will compose informative and persuasive essays, write responses to a variety of literary genres and/or non-fiction, and produce a documented paper based on research. ***This course fulfills 8,000 words of the Gordon Rule requirement.***

Note: This course must be completed with a grade of "C" or better. ***3 Credits***

Prerequisites: ENC 1101 or equivalent with a grade of "C" or better.

Course Competencies:

Competency 1: The student will compose essays that explain an idea, belief or attitude by
a. choosing and limiting a subject that can be sufficiently developed within a given time, for a specific purpose and audience.
b. formulating a thesis reflecting the subject and purpose of the essay.
c. supporting the thesis with specific details and arranging them logically.
d. using appropriate transitional devices.
e. writing an effective conclusion.

Competency 2: The student will present writing that seeks to persuade an audience to accept a belief, attitude, value or course of action by
a. using logical, ethical, and/or emotional appeals appropriate to audience and purpose.
b. demonstrating logical reasoning.
c. providing sufficient evidence to support the thesis.
d. clearly acknowledging any sources by using a standard form of documentation.

Competency 3: The student will write responses to a variety of literary genres and/or non-fiction by
a. reflecting a literal and critical comprehension of the reading.
b. providing suitable support and organization.
c. articulating the author's point of view.

Competency 4: The student will write a documented research paper by
a. limiting a topic.
b. using library and electronic resources to fulfill research objectives.
c. taking notes, paraphrasing, summarizing, and quoting sources.
d. articulating a thesis that demonstrates a logical connection between research and argumentative techniques.
e. organizing the text to be congruent with the subject and purpose of the paper.
f. using sources in the text to substantiate the thesis.
g. using a standard form of documentation (APA, MLA, Chicago, etc.).

Data Analysis

Statistical procedures were performed for the comparisons of the three cohort's student groups. SPSS 18.0 was used to calculate the one-way Analysis of Variance (ANOVA), to establish whether there was a statistically significant difference between the final grades (GPA) in the subsequent courses of ENC1101 and ENC1102. Chi Square was used to test the 3 cohorts passing rates by the instructional type TSD and CAB.

Descriptive statistics test were used to summarize the overall tendencies in the numerical data observation from the three cohort groups. (a) A chi-square procedure was applied to the discrete and categorical data where the units of measurement were the frequency counts. The observed and expected frequencies were expressed as actual head counts and percentages. (b) A chi-square for two variables: test of independence was performed to test if the two independent variables were related to, or are independent of, each other. (c) A chi-square test was conducted to create the three-way table in which categories of the row and column variables (TSD vs. CAB and age, gender, ethnicity, and enrollment status) were further subdivided by categories of the layer variable to analyze the differences between students' demographic distribution who took a CAB vs TSD course on the passing rate. (d) One-way ANOVA procedure was used to determine if they were significant differences between the means of the TSD and CAB groups for the GPA in the subsequent courses of ENC1101 and ENC1102. Corresponding null and research hypothesis guided the study and an alpha level of .05 was used for all statistical tests. Data analysis was designed to illustrate the results of the students (archival data of reading completers) passing rates and final grade (GPA) in the subsequent courses of ENC1101 and ENC1102.

Implementation

One assumption of ANOVA is that the variances across the groups are equivalent. In order to verify the variances of the population from which the three cohorts TSD vs. CAB are drawn are equal an analysis of variance was conducted. The one-way ANOVA procedure produced for the dependent variable: *Exited/* Passed *REA0003 state exit exam* by the independent variable two independent instructional curriculums TSD or CAB. See One-way ANOVA assumes that variables are normally distributed.

Table 2

Comparisons of Means of final grades (GPA) in ENC1101

	n	Mean	S.D.
Cohort 1 2006-1			
TSD	1569	2.39	1.075
CAB	293	2.26	1.060
Total	1862	2.37	1.073
Cohort 2 2007-1			
TSD	1512	2.46	1.081
CAB	506	2.29	1.099
Total	2018	2.42	1.088
Cohort 3 2007-2			
TSD	1518	2.50	1.101
CAB	273	2.29	1.084
Total	1791	2.46	1.101

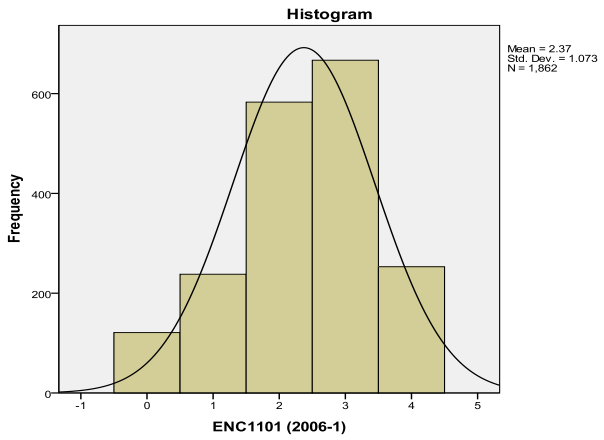
Table 3

Comparisons of Means of final grades (GPA) in ENC1102

	n	Mean	S.D.
Cohort 1 2006-1			
TSD	1091	2.55	1.149
CAB	209	2.54	1.051
Total	1300	2.55	1.134
Cohort 2 2007-1			
TSD	1069	2.64	1.123
CAB	336	2.53	1.159
Total	1405	2.61	1.132
Cohort 3 2007-2			
TSD	1064	2.63	1.139
CAB	174	2.68	1.048
Total	1238	2.64	1.126

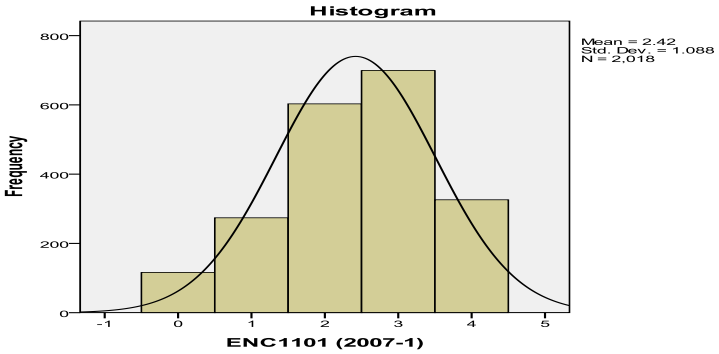
The results indicated that they are independent of each other and the sample is from a normal distribution. The size of the sample assures that probability plot follows a typical one for normal distribution accordingly when the standard deviations of the TSD and CAB students groups. To determine this, histograms were produced to determine visually if the sample was normally distributed for final grades (GPA) in the subsequent course of ENC1101. The histograms show a fairly normal distribution for the means of final grades (GPA) in ENC1101 and ENC1102.

Figure 5 *Cohort 1 2006-1 ENC1101 Distribution Curve*



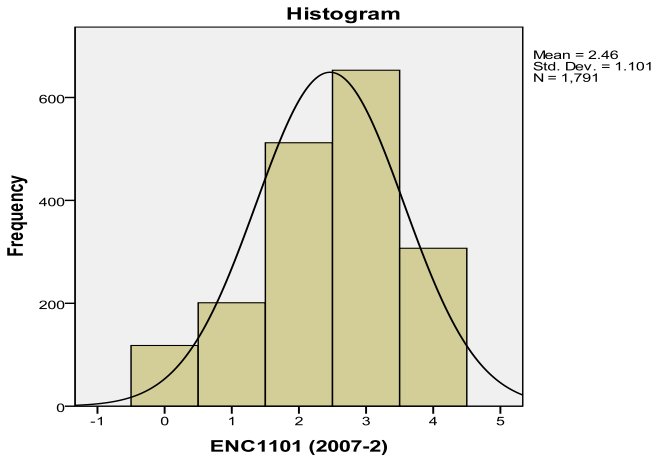
Note: Histogram with distribution curve showing frequency of final grades (GPA) means for the subsequent course ENC1101 for cohort 1 2006-1.

Figure 6 *Cohort 2 2007-1 ENC 1101 Distribution Curve*



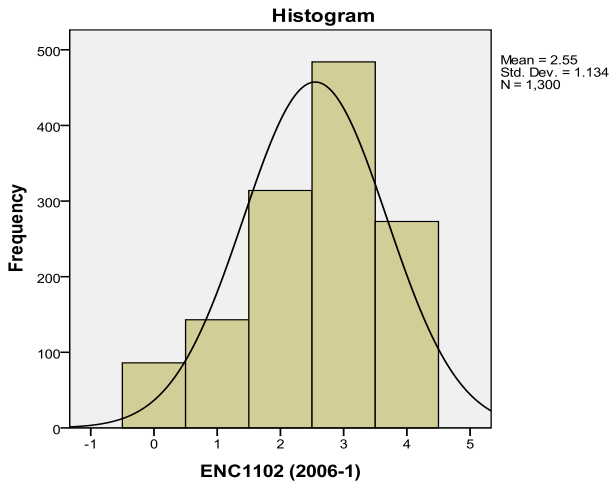
Note: Histogram with distribution curve showing frequency of final grades (GPA) means for the subsequent course ENC1101 for cohort 2 2007-1

Figure 7 *Cohort 3 2007-2 ENC 1101 Distribution Curve*



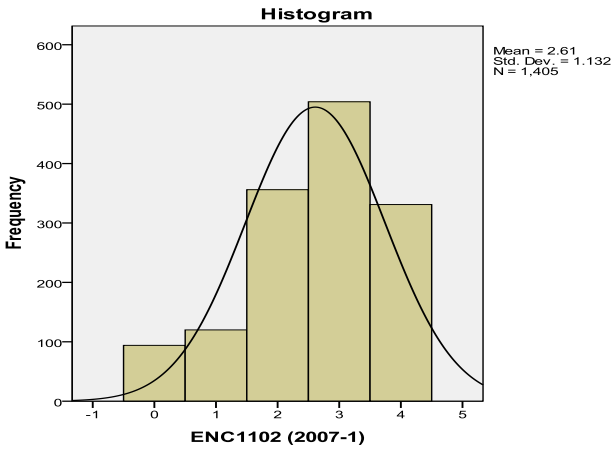
Note: Histogram with distribution curve showing frequency of final grades (GPA) means for the subsequent course ENC1101 for cohort 3 2007-2

Figure 8 *Cohort 1 2006-1 ENC1102 Distribution Curve*



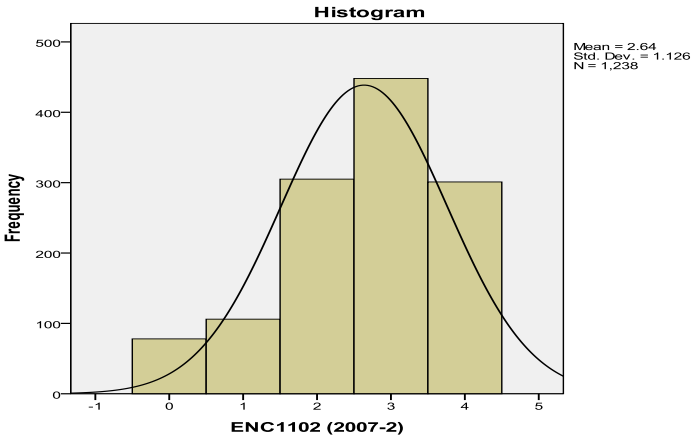
Note: Histogram with distribution curve showing frequency of final grades (GPA) means for the subsequent course ENC1102 for cohort 1 2006-1

Figure 9 *Cohort 2 2007-1 ENC 1102 Distribution Curve*



Note: Histogram with distribution curve showing frequency of final grades (GPA) means for the subsequent course ENC1102 for cohort 2 2007-2

Figure 10 *Cohort 3 2007-2 ENC 1102 Distribution Curve*



Note: Histogram with distribution curve showing frequency of final grades (GPA) means for the subsequent course ENC1102 for cohort 3 2007-3

Summary

Chapter III described the research methodology used in the study and provided a description of the research design and participants. In chapter IV the results of the study ethical considerations, data collection procedures, instrumentation, and data analysis procedures were addressed and Chapter V explains the findings, limitations, and recommendations for further study.

CHAPTER IV

RESULTS

The purpose of this study was to examine two types of reading instruction on the students passing rates and the final grades (GPA) in the subsequent courses ENC1101 and ENC 1102 at large community college. This chapter is divided into two sections. The first section includes a description of the sample. The second section includes the results of the statistical analyses for all three cohorts (reading completers in TSD vs. CAB) for academic years 2006-1, 2007-1 and 2007-2.

Research Methods

This chapter provides a summary of the research design that was used to conduct the inquiry relating to the data collection methods and the findings. This study used an ex post facto research design. This quantitative study applied a causal-comparative design to contrast exit-test performance (passing rates) and final grades (GPA) between three cohort groups available from the student records' database at the Office of Institutional Research at the college where the study was conducted. The measure of academic performance was the completion of the developmental course (passing rates) and their final grades GPA (grade point average) in the courses ENC1101 and ENC1102.

Descriptive Statistics

The following analyses were conducted: (a) the chi-square procedure was used to apply to the discrete and categorical data where the units of measurement were the frequency counts. The observed and expected frequencies were expressed as the actual head counts and percentages. (b) A Chi-square for two variables: test of independence was conducted to test if the two independent variables were related to, or are independent of, each other. (c) A chi-square test was performed to create the three-way table in which categories of the row and column variables (TSD vs. CAB and age, gender, ethnicity and enrollment status) were further subdivided by categories of the layer variable to analyze the differences between TSD vs. CAB students and between their demographics and achievement (passing rates). (d) Moreover, the one-way ANOVA procedure was used to determine if the differences were significant between the means of the TSD and CAB groups for GPA in the ENC1101 and ENC1102 courses. Lastly cross tabulation tables (contingency tables) were used to display the differences between two variables (TSD vs. CAB) and the student demographics. Throughout this effort, the author utilized SPSS 18.0 statistical software to organize and report the information.

The Participants

The sample was selected from a large representation of the reading completers at the largest community college in the nation. The students in this study represent the total sample size and/or population of reading college prep students in year 2006-1, 2007-1 and 2007-2. The original database assembled for the researcher had a total of 9,302 students between the three cohorts (a) fall 2006- Group 1 (n=2,999), (b) spring 2007 Group 2 (n=3,281), (c) fall 2007 Group 3(n=3,022).

Multiple students from the three cohorts did not successfully complete the remedial course requirements and/or did not pass the Florida College Basic Skills State Exit Exam. This left a sample of 6,262 students for the next part of the analysis, passing the State Exit Exam and the progression through subsequent sequences of courses in ENC1101 and ENC 1102.

Data Collection

Data was collected using multiple sources at the college where the study was conducted. The archival data was assembled by the staff at the Office of Institutional Research. The original database assembled for the researcher had a total of 9,302 students between the three cohorts. The data included information about the students' demographic categories: gender, ethnicity, age and enrollment status (full time/ part time). Lastly, the research study utilized the course syllabi and objectives/competencies for ENC1101 (Composition I**)** and ENC1102 (Composition II).

Statistical Analysis of Data

Findings for Research Question 1 (cohorts 2006-1, 2007-1 and 2007-2)

Research Question 1 asked the following: Are there significant differences in the passing rates between students who took the CAB REA0003 vs. TSD REA0003 for cohorts 2006-1, 2007-1 and 2007-2? The independent variable was the differences between TSD vs. CAB students' instructional type and the dependent variable passing rates. A chi-square analysis was conducted to measure the proportion of passing rates between the TSD and CAB groups, respectively. The study assessed the interaction between a specified, multilevel independent variable on a two-category dependent-grade variable (i.e. pass versus fail), respectively. Utilizing the SPSS Statistics Student Version

18.0 for Windows, the researcher was able to determine and understand which hypothesis could be rejected or accepted.

Findings for Research Question 1 (cohort 1 2006-1)

The first null hypothesis *(H_01)* for cohort 1 2006-1 predicted there would be no significant difference between the passing rates of TSD and CAB reading completers.

(H_01) Significant differences were found using the *p* value and the alpha of < 0.05). A chi-square test of independence was calculated comparing the frequency between the passing rates of those who took TSD vs. CAB. The results for cohort 1 2006-1 ($x^2(1)$, =12.194, $p<.05$) *p* value= <.000shows a significant difference between TSD (*n*= 1589; pass 62.9%) and CAB (*n*=338; pass=71.3%) passing rates. The CAB passing rates were significantly higher than those generated by the TSD student group. The null hypothesis was rejected. Results of Fisher's exact test supported the findings, *p* <.000. The researcher concluded that the alternative hypothesis (H_a1) for cohort 1 2006-1 CAB group is true.

Table 4

*Instructional Type * Passed REA TSD and CAB for Cohort 1 2006-1*

Cohort1	Fall 2006-1	TSD		CAB		Reading Completers
		#	%	#	%	
(N=2999)		1589	62.9	338	71.3	*n*=2525
Did not exit		(936)	37.1	(136)	28.7	100.00

Findings/Results

Findings for Research Question 1 (cohorts 2 2007-1)

The first null hypothesis *(H_01)* for cohort 2 2007-1 predicted there would be no significant difference between the passing rates of TSD and CAB reading completers.

(*H_01*) No significant differences were found using the *p* value and the alpha of < 0.05). A chi-square test of independence was calculated comparing the frequency between the passing rates of those who took TSD vs. CAB. The results for cohort 2 2007-1 shows no significant difference (x^2 (1), =.897, p>.05) *p* value =.183, chi-square test, 0.05 significance level) between TSD (*n*= 1701; pass 68.8%) and CAB (*n*=571; pass=70.6%) passing rates. The researcher concluded there is not enough evidence to reject the null hypothesis.

Table 5

*Instructional Type * Passed REA TSD and CAB for Cohort 2 2007-1*

Cohort 2	Spring 2007-1	TSD		CAB		Reading Completers
		#	%	#	%	
(N=3281)		1701	68.8	571	70.6	*n*=2271
Did not exit		(771)	31.2	(238)	29.4	100.00

Findings for Research Question 1 (cohorts 3 2007-3)

The first null hypothesis *(H_01)* for cohort 3 2007-2 predicted there would be no significant difference between the passing rates of TSD and CAB reading completers.

(*H_01*) Significant differences were found using the *p* value and the alpha of < 0.05). A chi-square test of independence was calculated comparing the frequency between the passing rates of those who took TSD vs. CAB. The results for cohort 3

2007-2 ($x^2(1)$, =4.537, $p<.05$) shows a significant difference between TSD (n= 1721; pass 67.5%) and CAB (n=342; pass=72.5%) passing rates. The CAB passing rates were significantly higher than those generated by the TSD student group. The null hypothesis was rejected. Results of Fisher's exact test supported the findings, p <.018. The researcher concluded that the alternative hypothesis (H_a1) for cohort 3 2007-2 CAB group is true.

Table 6

*Instructional Type * Passed REA TSD and CAB for Cohort 3 2007-2*

Cohort 3	Fall 2007-2	TSD		CAB		Reading Completers
		#	%	#	%	
(N=3022)		1721	67.5	342	72.5	*n*=2063
Did not exit		(829)	32.5	(130)	27.5	100.00

Statistical methodology for research question 2 (cohorts 2006-1, 2007-1, 2007-2)

Throughout the analyses, independent variables represented in unequal samples of students were grouped by combinations of learning format (i.e. TSD versus CAB), ethnicity, age, gender, and enrollment status. Research question 2 was designed to determine if there are difference in selected variables (age, gender, ethnicity and enrollment status) between students who took a CAB (contextualized/content area base) course vs. TSD (traditional skill and drill base course) and passing rates on who passed the course. The subsequent paragraphs detail the results of the analyses assessing passing rates looking at the distribution of the demographics between the TSD and CAB groups for the four iterations grouping TSD vs. CAB students by the instructional format, age,

gender, ethnicity and student enrollment status: (a) instruction and age; (b) instruction and gender; (c) instruction and ethnicity; and (d) instruction and enrollment status.

Findings for Research Question 2 (Instructional Type * Gender cohort 1 2006-1)

The second null hypothesis ($H_0 2$): tested predicted a comparison in selected variables (age, gender, ethnicity, and enrollment status**)** of the archival cohorts (reading completers) will reveal no differences between students' gender distribution who took a CAB (contextualized/content area base) course from those who took the TSD (traditional skill and drill) based instruction course on who passed the course.

($H_0 2$) A chi-square test of independence was calculated comparing the frequency between students' gender distribution who took a CAB vs. TSD instructional course. A significant interaction was found ($x^2(1) = 4.623$, $p < .05$). The analysis for cohort 1 2006-1 shows significant differences between genders within the type of instruction (TSD vs. CAB) when exposed to the different instructional type at the 5% significance level. The null hypothesis was rejected based on results of the chi-square test. Results of Fisher's exact test supported the findings, $p < .018$. The researcher concluded that the alternative hypothesis ($H_a 2$) for the gender student group in cohort 1 2006-1 is true that there was a higher percentage of female students in the CAB groups.

Table 7

*Instructional Type * Gender for Cohort 1 2006-1*(*N=2999*)

Cohort1	Fall 2006-1	TSD		CAB	
		#	%	#	%
Gender					
	Female	1497	59.3	306	64.6
	Male	1028	40.7	168	35.4

Findings for Research Question 2 (Instructional Type * Gender cohort 2 2007-1)

The second null hypothesis ($H_0 2$): tested predicted a comparison in selected variables (age, gender, ethnicity and enrollment status**)** of the archival cohorts (reading completers) will reveal no differences between the distribution of students' gender who took a CAB (contextualized/content area base) course from those who took the TSD (traditional skill and drill) based instruction course on the passing rate.

($H_0 2$) A chi-square test of independence was calculated comparing the frequency between students' gender distribution who took a CAB vs. TSD instructional course. No significant relationship was found ($x^2(1) = .464$, $p > .05$). The analysis for cohort 2 2007-1 shows no significant differences between genders within the type of instruction (p value =0.261). The researcher concluded there is not enough evidence to reject the null hypothesis. See Table 8

Table 8

*Instructional Type * Gender for Cohort 2 2007-1*(*N=3281*)

Cohort 2	Spring 2007-1	TSD		CAB	
		#	%	#	%
Gender					
	Female	1430	57.8	479	59.2
	Male	1042	42.2	330	40.8

Findings for Research Question 2 (Instructional Type * Gender cohort 3 2007-2)

The second null hypothesis ($H_0 2$): tested predicted a comparison in selected variables (age, gender, ethnicity and enrollment status**)** of the archival cohorts (reading completers) will reveal no differences between the students' gender distribution who took a CAB (contextualized/content area base) course from those who took the TSD (traditional skill and drill) based instruction course on the passing rate. ($H_0 2$) A chi-square test of independence was calculated comparing the frequency between students' gender distribution who took a CAB vs. TSD instructional course. No significant relationship was found ($x^2(1) = 2.480$, $p > .05$). The analysis for cohort 3 2007-2 shows no significant differences between genders within the type of instruction (p value =.063) chi-square test, 0.05 significance level. The researcher concluded there is not enough evidence to reject the null hypothesis.

Table 9

*Instructional Type * Gender for Cohort 3 2007-2*(*N=3022*)

Cohort3	Fall 2007-2	TSD		CAB	
		#	%	#	%
Gender					
	Female	1462	57.3	289	61.2
	Male	1088	42.7	183	38.8

Findings for Research Question 2 (Instructional Type * Ethnicity Cohort 1 2006-1)

The second null hypothesis ($H_0$2): tested predicted a comparison in selected variables (age, gender, ethnicity and enrollment status) of the archival cohorts (reading completers) will reveal no differences between the students' distribution of ethnicity background who took CAB course from those who took the TSD course on passing rates.

($H_0$2) A chi-square test of independence was calculated comparing the frequency between students' ethnicity distribution who took a CAB vs. TSD instructional course. The analysis for cohort 1 2006-1 shows significant differences between ethnicity within the type of instruction (x^2(3) =66.517, <.05) when exposed to the different instructional type at the 0.05% significance level. The null hypothesis was rejected based on results of the chi-square test. Results of Fisher's exact test supported the findings, p <.000. The researcher concluded that the alternative hypothesis (H*a*2) for the ethnicity student group in cohort 1 2006-1 is true. The results are displayed on Table 10.

Table 10

*Instructional Type * Ethnicity for Cohort 1 2006-1*(*N=2999*)

Cohort1	Fall 2006-1	TSD		CAB	
		#	%	#	%
Ethnicity					
	Black NH	553	21.9	187	39.5
	Hispanic	1750	69.3	255	53.8
	White NH	152	6.0	20	4.2
	Other	70	2.8	12	2.5

Findings for Research Question 2 (Instructional Type * Ethnicity Cohort 2 2007-1)

The second null hypothesis ($H_0$2): tested predicted a comparison in selected variables (age, gender, ethnicity and enrollment status) of the archival cohorts (reading completers) will reveal no differences between the students' ethnic distribution for those who took CAB course from those who took the TSD course on passing rates.

($H_0$2) A chi-square test of independence was calculated comparing the frequency between students' ethnicity distribution who took a CAB vs. TSD instructional course. The analysis for cohort 2 2007-1 shows significant differences between ethnicity within the type of instruction (x^2 (3) =131.426, p<.05) when exposed to the different instructional type at the 0.05% significance level. The null hypothesis was rejected based on results of the chi-square test. Results of Fisher's exact test supported the findings, p <.000. The researcher concluded that the alternative hypothesis (Ha2) for the ethnicity student group in cohort 2 2007-1 is true. Table 11 illustrates the ethnic distribution according to instructional type.

Table 11

*Instructional Type * Ethnicity for Cohort 2 2007-1*(*N=3281*)

Cohort 2	Spring 2007-1	TSD		CAB	
		#	%	#	%
Ethnicity					
	Black NH	509	20.6	324	40.0
	Hispanic	1739	70.3	404	49.9
	White NH	136	5.5	44	5.4
	Other	88	3.6	37	4.7

Findings for Research Question 2 (Instructional Type * Ethnicity Cohort 3 2007-2)

The second null hypothesis ($H_0$2): tested predicted a comparison in selected variables (age, gender, ethnicity and enrollment status) of the archival cohorts (reading completers) will reveal no differences between the students' ethnicity for those who took CAB course from those who took the TSD course on passing rates.

($H_0$2) A chi-square test of independence was calculated comparing the frequency between the students' ethnicity distribution who took a CAB vs. TSD instructional course. The analysis for cohort 3 2007-2 shows significant differences between ethnicity within the type of instruction ($x^2(3) = 165.898$, $p < .05$) when exposed to the different instructional type at the 0.05% significance level. The null hypothesis was rejected based on results of the chi-square test. Results of Fisher's exact test supported the findings, $p < .000$. The researcher concluded that the alternative hypothesis (H*a*2) for the ethnicity student group in cohort 3 2007-2 is true. See Table 12

Table 12

*Instructional Type * Ethnicity for Cohort 3 2007-2*(*N=3022*)

Cohort 3	Fall 2007-2	TSD		CAB	
		#	%	#	%
Ethnicity					
	Black NH	558	21.9	234	49.6
	Hispanic	1772	69.5	196	41.5
	White NH	132	5.2	21	4.4
	Other	88	3.5	21	4.4

Findings for Research Question 2 (Instructional * Age cohort 1 2006-1)

The second null hypothesis ($H_0$2): tested predicted a comparison in selected variables (age**,** gender, ethnicity and enrollment status) of the archival cohorts (reading completers) will reveal no differences between the students' age distribution who took CAB course from those who took the TSD course on passing rates.

($H_0$2) A chi-square test of independence was calculated comparing the frequency between students' age distribution who took a CAB vs. TSD instructional course. No significant relationship was found (x^2 (3) =5.700, p>.05). The analysis for cohort 1 2006-1 shows no significant differences between ages within the type of instruction (p value =.127) chi-square test, 0.05 significance level. The researcher concluded there is no enough evidence to reject the null hypothesis. Table 13 shows the differences between ages within the type of instruction.

Table 13

*Instructional Type * Age Cohort 1 2006-1(N=2999)*

Cohort 1	Fall 2006-1	TSD		CAB	
		#	%	#	%
Age					
	<=20	1695	67.1	296	62.4
	21-25	460	18.2	99	20.9
	26-30	131	5.2	34	7.2
	31+	239	9.5	45	9.5

Findings for Research Question 2 (Instructional * Age cohort 2 2007-1)

The second null hypothesis ($H_0$2): tested predicted a comparison in selected variables (age, gender, ethnicity and enrollment status) of the archival cohorts (reading completers) will reveal no differences between the students' age distribution who took CAB course from those who took the TSD course on passing rates.

($H_0$2) A chi-square test of independence was calculated comparing the frequency between students' age distribution who took a CAB vs. TSD instructional course. No significant relationship was found ($x^2(3) = 4.313$, $p > .05$). The analysis for cohort 2 2007-1 shows no significant differences between ages within the type of instruction (p value =.230) chi-square test, 0.05 significance level. The researcher concluded there is not enough evidence to reject the null hypothesis. The differences between ages within the type of instruction are displayed on Table 14.

Table 14

*Instructional Type * Age Cohort 2 2007-1*

Cohort 2	Spring 2007-1	TSD		CAB	
		#	%	#	%
Age					
	<=20	1801	72.9	560	69.2
	21-25	361	14.6	130	16.1
	26-30	107	4.3	39	4.8
	31+	203	8.2	80	9.9

Findings for Research Question 2 (Instructional * Age cohort 3 2007-2)

The second null hypothesis ($H_0$2): tested predicted a comparison in selected variables (age, gender, ethnicity and enrollment status) of the archival cohorts (reading completers) will reveal no differences between the students' age distribution who took CAB course from those who took the TSD course on passing rates.

($H_0$2) A chi-square test of independence was calculated comparing the frequency between students' age distribution who took a CAB vs. TSD instructional course. The analysis for cohort 3 2007-2 shows significant differences between ages within the type of instruction ($x^2(3) = 19.313$, $p < .05$) when exposed to the different instructional type at the 0.05% significance level. The null hypothesis was rejected based on results of the chi-square test. Results of Fisher's exact test supported the findings, $p < .000$. The researcher concluded that the alternative hypothesis ($H_0$2) between ages of the student group in cohort 3 2007-2 is probably true. See Table 15.

Table 15

*Instructional Type * Age Cohort 3 2007-2*

Cohort 3	Fall 2007-2	TSD		CAB	
		#	%	#	%
Age					
	<=20	1981	77.7	326	69.1
	21-25	281	11.0	71	15.0
	26-30	112	4.4	19	4.7
	31+	176	6.9	41	11.2

Findings for Research Question 2 (Instructional Type * Fulltime/Part-time Cohort 1 2006-1)

The second null hypothesis ($H_0 2$): tested predicted a comparison in selected variables (age, gender, ethnicity and enrollment status) of the archival cohorts (reading completers) will reveal no differences between the students' enrollment status who took a CAB (contextualized/content area base) course from those who took the TSD (traditional skill and drill) based instruction course on the passing rate.

($H_0 2$) A chi-square test of independence was calculated comparing the frequency between students' enrollment status who took a CAB vs. TSD instructional course. No significant relationship was found ($x^2(1) = 1.827$, $p > .05$). The analysis for cohort 1 2006-1 shows no significant differences between students' enrollment status (full time/part time) within the type of instruction (p value =.097) chi-square test, 0.05 significance level. The researcher concluded there is not enough evidence to reject the null hypothesis. Table 16 shows the comparison between students' enrollment status in the instructional courses.

Table 16

*Instructional Type * Fulltime/Part-time for Cohort 2006-1*

Cohort 1	Fall 2006-1	TSD		CAB	
		#	%	#	%
Enrollment Status					
	Full time	1241	49.1	249	52.5
	Part time	1284	50.9	225	47.5

Findings for Research Question 2 (Instructional Type * Fulltime/Part-time Cohort 2 2007-1)

The second null hypothesis ($H_0$2): tested, predicted a comparison in selected variables (age, gender, ethnicity and enrollment status) of the archival cohorts (reading completers) will reveal no differences between students' enrollment status who took a CAB (contextualized/content area base) course from those who took the TSD (traditional skill and drill) based instruction course on the passing rate.

$H_0$2) a chi-square test of independence was calculated comparing the frequency between students' enrollment status distribution who took a CAB vs. TSD instructional course. The analysis for cohort 2 2007-1 shows significant differences between enrollment status (full time/part time) within the type of instruction ($x^2(1) = 23.645$, $p<.05$) when exposed to the different instructional type at the 0.05% significance level. The null hypothesis was rejected based on results of the chi-square test. Results of Fisher's exact test supported the findings, $p <.000$. The researcher concluded that the alternative hypothesis (H*a*2) for the enrollment status between student group in cohort 2 2007-1 is true. See Table 17.

Table 17

*Instructional Type * Fulltime/Part-time for Cohort 2 2007-1*

Cohort 2	Spring 2007-1	TSD		CAB	
		#	%	#	%
Enrollment Status					
	Full time	1276	51.6	497	61.4
	Part time	1196	48.4	312	38.6

Findings for Research Question 2 (Instructional Type * Fulltime/Part-time Cohort 3 2007-2)

The second null hypothesis ($H_0$2): tested predicted a comparison in selected variables (age, gender, ethnicity and enrollment status) of the archival cohorts (reading completers) will reveal no differences between students' enrollment status who took a CAB (contextualized/content area base) course from those who took the TSD (traditional skill and drill) based instruction course on the passing rate.

($H_0$2) A chi-square test of independence was calculated comparing the frequency between students' enrollment status distribution who took a CAB vs. TSD instructional course. The analysis for cohort 3 2007-2 shows significant differences between enrollment status (full time/part time) within the type of instruction ($x^2(1) = 33.320$, $p < .05$) when exposed to the different instructional type at the 0.05% significance level. The null hypothesis was rejected based on results of the chi-square test. Results of Fisher's exact test supported the findings, $p < .000$. The researcher concluded that the alternative hypothesis (H*a*2) for the enrollment student group in cohort 3 2007-2 is true. Students' enrollment status according to distribution in the instructional course is shown on Table 18.

Table 18

*Instructional Type * Fulltime/Part-time for Cohort 3 2007-2*

Cohort 3	Fall 2007-2	TSD		CAB	
		#	%	#	%
Enrollment Status					
	Full time	1198	47.0	290	61.4
	Part time	1352	53.0	182	38.6

ANOVA

The one-way ANOVA was calculated in order to determine if they were significant differences between the means of the TSD and CAB groups for the GPA in the subsequent courses of ENC1101 and ENC1102. The corresponding null and research hypothesis guided the study and an alpha level of .05 was used for all statistical tests.

Statistical methodology for research question 3 (cohorts 2006-1, 2007-1, 2007-2)

The third null hypothesis ($H_0 3$): tested predicted there would be no differences between the final grades (GPA) for cohort 1 2006-1, cohort 2 2007-1, and cohort 3 2007-2 in the subsequent course of ENC1101 for students who took CAB course vs. TSD.

Findings for research question 3 ENC1101 (Cohort 1 2006-1)

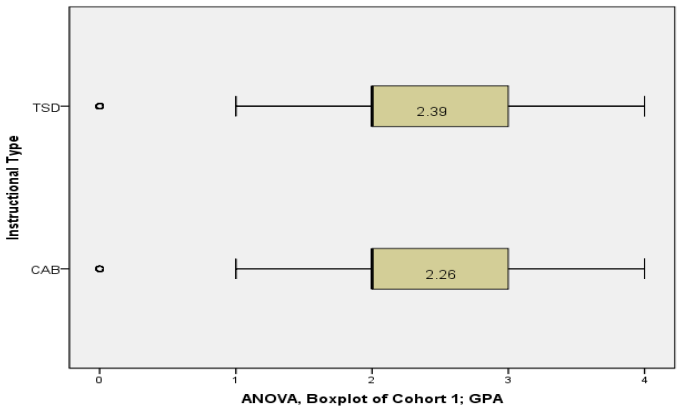
*($H_0 3$)*For cohort 1 2006-1 a one-way ANOVA was calculated comparing final grades (GPA) between students who took a CAB vs. TSD instructional course. A significant difference (F (1, 1860) =4.08, p>.05), TSD (m=2.39, sd=1.075) was found compared to the CAB (m=2.26, sd=1.060) student groups in cohort 1 2006-1. This shows significant differences between the final grades (GPA) in the subsequent course of ENC1101 within the type of instructions (p value=.043), at the 0.05 significance level. The researcher concluded there is enough evidence to reject the null hypothesis. The ANOVA was significant. The researcher concluded that the alternative hypothesis (H*a3*) for the student group in cohort 1 2006-1 is true. The results are displayed on Table 19 and Figure 10 for Cohort 1 2006-1.

Table 19

*Instructional Type * ENC1101 Cohort 1 (2006-1)*

ENC1101 GPA	Sum of Squares	df	Mean square	*F*	*Sig.*
Between	4.696	1	4.696	4.084	.043
Within	2138.383	1860	1.150		
Total	2143.079	1861			

Figure 11 Boxplot *Comparison of means for TSD vs. CAB cohort 1 fall 2006-1*



Note: *ANOVA Boxplot showing the distribution of GPA final grade means for cohort 1*

Findings for research question 3 ENC1101 (Cohort 2 2007-1)

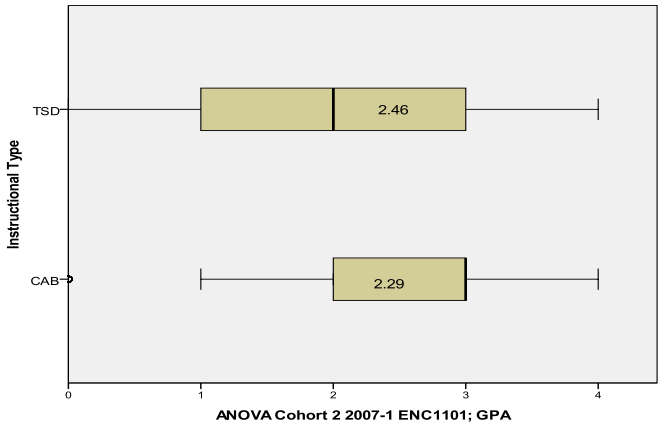
($H_0$3) A one-way ANOVA was calculated comparing final grades (GPA) between students in cohort 2 2007-1 who took a CAB vs. TSD instructional course. A significant difference was found between the final grades (GPA) in the subsequent course of ENC1101 within the type of instructions CAB vs. TSD ($F(1,2016)=9.42$, $p<.05$) ($p<.002$), 0.05 significance level. The results were between cohort 2 2007-1 TSD ($m=2.46$,$sd=1.081$) CAB ($m=2.29$,$sd=1.099$) student groups' final grade (GPA) in the subsequent course of ENC1101 within the type of instructions. There is enough evidence to reject the null hypothesis based on the results.

Table 20

*Instructional Type * ENC1101, Cohort 2 (2007-1)*

ENC1101 (2007-1)	Sum of Squares	df	Mean square	*F*	*Sig.*
Between	11.102	1	11.102	9.420	.002
Within	2376.070	2016	1.179		
Total	2387.172	2017			

Figure 12 Boxplot *Comparison of means for TSD vs. CAB cohort 2 spring 2007-1*



Note: *ANOVA Boxplot showing the distribution of GPA final grade means for cohort 2*

Findings for research question 3 ENC1101 (Cohort 3 2007-2)

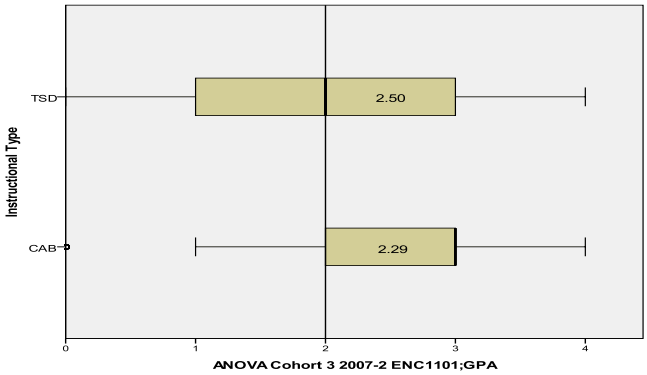
($H_0$3) A one-way ANOVA was calculated comparing final grades (GPA) between students in cohort 3 2007-2 who took a CAB vs. TSD instructional course. A significant difference was found between the final grades (GPA) in the subsequent course of ENC1101 within the type of instructions CAB vs. TSD (F(1,1789)=8.43, p<.05) (p <.004), 0.05 significance level. The differences were between cohort 3 2007-2 TSD (m=2.50,sd=1.101) CAB (m=2.29,sd=1.084) student groups' final grade (GPA) in the subsequent course of ENC1101 within the type of instructions. There is enough evidence to reject the null hypothesis based on the results.

Table 21

*Instructional Type * ENC1101, Cohort 3 (2007-2)*

ENC1101 (2007-2)	Sum of Squares	df	Mean square	*F*	*Sig.*
Between	10.173	1	10.173	8.429	.004
Within	2159.182	1789	1.207		
Total	2169.355	1790			

Figure 13 Boxplot *Comparison of means for TSD vs. CAB cohort 3 spring 2007-2*



Note: *ANOVA Boxplot showing the distribution of GPA final grade means for cohort 3*

Statistical methodology for research question 4 (cohorts 2006-1, 2007-1, 2007-2)

The fourth null hypothesis ($H_0$4): tested predicted there would be no differences between the final grades (GPA) for cohort 1 2006-1, cohort 2 2007-1, and cohort 3 2007-2 in the subsequent course of ENC1102 for students who took CAB course vs. TSD.

Findings for research question 4 ENC1102 (Cohort 1 2006-1)

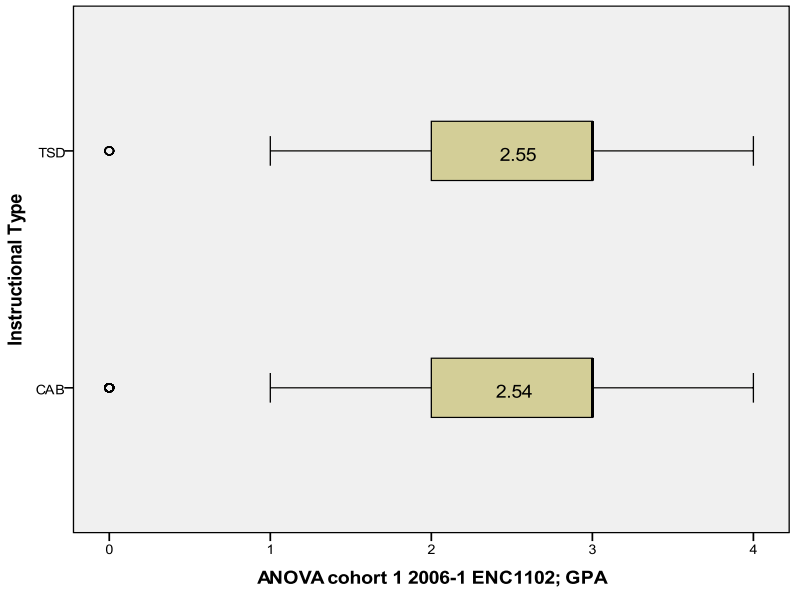
($H_0$4) The final grade (GPA) means of cohort 1 2006-1 in the course of ENC1102 were compared using a one-way ANOVA. No significant differences were found (F(1,1298) =.017, p>.05). TSD (m=2.55, sd=1.149) and CAB (m=2.54, sd=1.051) student groups in cohort 1 2006-1 showed no significant differences between final grades (GPA) in the subsequent course of ENC1102 within the type of instructions (p value=.897), 0.05 significance level. The researcher concluded there is not enough evidence to reject the null hypothesis. The ANOVA was not significant.

Table 22

*Instructional Type * ENC1102 Cohort 1 (2006-1)*

ENC1102 (2006-1)	Sum of Squares	df	Mean square	*F*	*Sig.*
Between	.022	1	.022	.017	.897
Within	1669.728	1298	1.286		
Total	1669.750	1299			

Figure 14 Boxplot *Comparison of means for TSD vs. CAB cohort 1 spring 2006-1*



Note: *ANOVA Boxplot showing the distribution of GPA final grade means for cohort 1*

Findings for research question 4 ENC1102 (Cohort 2 2007-1)

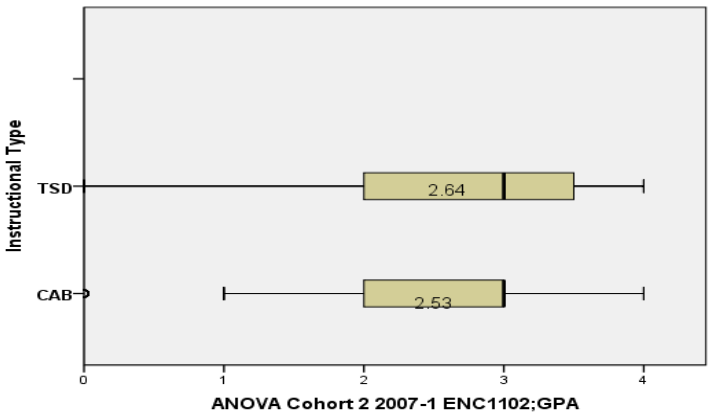
($H_0$4) The final grade (GPA) means of cohort 2 2007-1 in the course of ENC1102 were compared using a one-way ANOVA. No significant differences were found ($F(1,1403) = 2.257$, $p > .05$). TSD ($m = 2.64$, $sd = 1.123$) and CAB ($m = 2.53$, $sd = 1.159$) student groups in cohort 2 2007-1 showed no significant differences between final grades (GPA) in the subsequent course of ENC1102 within the type of instructions (*p* value=.133) 0.05 significance level. The researcher concluded there is not enough evidence to reject the null hypothesis. The ANOVA was not significant.

Table 23

*Instructional Type * ENC1102, Cohort 2 (2007-1)*

ENC1102 (2007-1)	Sum of Squares	df	Mean square	*F*	*Sig.*
Between	2.891	1	2.891	2.257	.133
Within	1797.149	1403	1.281		
Total	1800.040	1404			

Figure 15 Boxplot *Comparison of means for TSD vs. CAB cohort 2 spring 2007-1*



Note: *ANOVA Boxplot showing the distribution of GPA final grade means for cohort 2*

Findings for research question 4 ENC1102 (Cohort 3 2007-2)

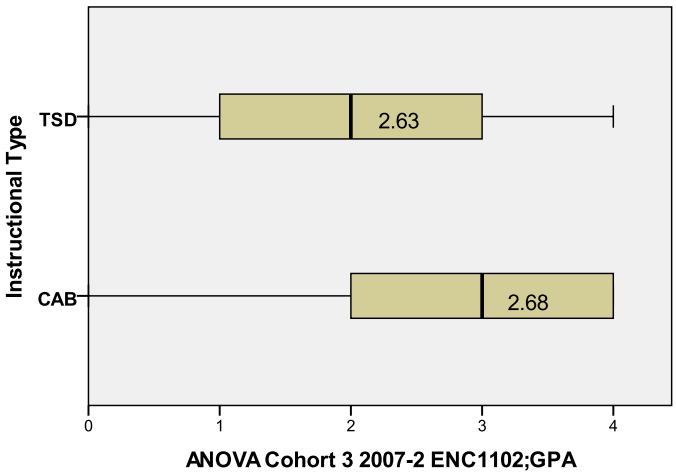
($H_0$4) The final grade (GPA) means of cohort 3 2007-2 in the course of ENC1102 were compared using a one-way ANOVA. No significant differences was found ($F(1,1236) = .277$, $p > .05$). TSD ($m = 2.63$, $sd = 1.139$) and CAB ($m = 2.68$, $sd = 1.048$) student groups in in this group showed no significant difference in their final grades (GPA) in the subsequent course of ENC1102 within the type of instructions (*p* value=.599) 0.05 significance level. The researcher concluded there is not enough evidence to reject the null hypothesis. The ANOVA was not significant.

Table 24

*Instructional Type * ENC1102, Cohort 3 (2007-2)*

ENC1102 (2007-2)	Sum of Squares	df	Mean square	*F*	*Sig.*
Between	.351	1	.351	.277	.599
Within	1568.079	1236	1.269		
Total	1568.430	1237			

Figure 16 Boxplot *Comparison of means for TSD vs. CAB cohort 3 spring 2007-2*



Note: *ANOVA Boxplot showing the distribution of GPA final grade means for cohort 2*

Summary

Four null hypotheses were proposed for this inquiry. Each of these hypotheses made general predictions that there would be no significant differences between the TSD vs. CAB student groups on passing rates and final grades (GPA) in the subsequent courses of ENC1101 and ENC1102. Therefore, the six null hypotheses in this study were declared as follows based on the findings of the data: rejected or accepted. In the forthcoming chapter, the researcher will provide a discussion that will connect chapter II (literature review), chapter III (the methodology), and chapter IV (the research findings) to chapter V, the final chapter of this study.

CHAPTER V

DISCUSSION

The purpose of this study was to examine two methods of reading instruction TSD (Traditional skills and drills) vs. CAB (Content area based/contextualized) on the students' state exit exam and final grades (GPA) in the subsequent courses of ENC1101 (Composition I) and ENC1102 (Composition II). Since 1997 the governing policy for developmental education is standard-based (i.e., placement, curriculum and assessment). Subsequently, the execution of the TSD *curriculum* or one-size-fits-all (Cross, 1976) approach was adopted for remedial courses in higher education (NCEE, 1983). In view of that, colleges still do not offer other forms of *curriculum methods or alternative approaches* for remedial students unless an alternative curriculum is funded by grants or selected as a pilot program on a smaller scale.

In 2005, the National Science Foundation awarded a national dissemination grant to Edmonds Community College, Seattle Central Community College, and Miami Dade College (the college where this study was conducted in South Florida-) called the MAC^3 (Mathematics across the Community College Curriculum) project. The goal of the MAC^3 grant was to create projects and courses that integrate mathematics into numerous disciplines and these grant-funded activities were led by the American Mathematical Association of Two-Year Colleges (AMATYC). The grant was the impetus to pilot alternative *modes of curriculum integration* for remedial education (MDC-IR, 2010**).**

The cohorts examined in this research study participated during the time of the grant 2005 through the summer of 2009 [(a) fall 2006- (*n*=2,999), (b) spring 2007 (*n*=3,281) and (c) fall 2007 (*n*=3,022)]. The core subject of reading was selected for the

study because of the researchers' interest and the need for improving the national curriculum for developmental education in colleges. This study used an ex post facto research design, which is characterized by the facts that (1) there will be no deliberate manipulation of the independent variables by the researcher, (2) the participants will be studied after treatment occurred (Creswell, 1994) and (3) the retrospective study applied a casual-comparative research design with three contrast cohorts groups: (a) fall 2006-1 cohort 1 (*n*=2999), (b) spring 2007-1 cohort 2 (*n*=3,281), (c) fall 2007-2 cohort 3 (n=3,022).

This dissertation was designed to add to the body of knowledge about the possible use of *alternative instructional strategies* as a means of improving the learning process for developmental/remedial students. Thus far the 2008 NCES (National Center for Education Statistics) reported the current policies for (remedial) developmental education have not been working for the larger number of students "*falling behind."* A primary goal of this chapter is to summarize the results and discuss the implications and significant factors that may aid in the educational achievement of remedial students in college. As discussed in the review of literature (chapter 2), developmental education is designed to provide students who enter college with weak academic skills the opportunity to strengthen those skills enough to prepare them for college-level coursework (McCabe, 2006). This chapter also provides a summary of the findings; limitations and conclusions of the study are discussed and recommendations, implications for practice and further research are offered.

Interpretation of the Findings

The first null hypothesis predicted no significant differences between the TSD vs. CAB student group. Research question one indicated significant differences for cohorts 1 and 3 (2006-1 and 2007-2) hence, the findings that there was no significant difference in the passing rates between the TSD and the CAB in the cohort 2 2007-1. To assess variances in final grades between groups, the researcher conducted chi-square tests and analysis of variance.

Results from the study found a significant difference in the passing rates between two (cohort 1 2006-1 and cohort 3 2007-2) of three contrast cohorts groups when exposed to the different instructional type (TSD vs. CAB) at the 5% significance level. The results for cohort 1 2006-1 ($x^2(1)$, =12.194, $p<.05$) TSD (n= 1589; pass 62.9%) and CAB (n=338; pass=71.3%) and for cohort 3 2007-2 ($x^2(1)$, =4.537, $p<.05$) TSD (n= 1721; pass 67.5%) and CAB (n=342; pass=72.5%) shows a significant difference between passing rates. The CAB passing rates were significantly higher than those generated by the TSD student group. For cohorts 1 2006-1 and 2 2007-3 the null hypothesis was rejected. The researcher concluded that the alternative hypothesis for cohorts 1 2006-1 and cohort 3 2007-2 CAB group is true. These findings are consistent with other researchers who have found positive outcomes when remedial students have participated in curriculum other than the TSD (Tinto, 2006).

Results for research question one support these findings with most factors indicating significant statistical differences between students who have received other classroom instruction than the TSD. Tinto (2006) suggested a primary theoretical perspective that underpins many of the recent advancements in community college

practice and this is a shift in classroom dynamics toward a view of the student as the key agent in the learning process. Traditional classroom instruction has been predicted on the active role of the instructor and the passive role of the student. However, there exists a growing awareness that conventional methodologies placing students in inert roles in abstract contexts are unlikely to advance the development of non-traditional learners.

According to Fike and Fike (2008) the shift from the learner as the receiver to the learner as the constructor of meaning is defined as "constructivism" a conceptual framework that asserts that learners are constantly updating their memory based on ongoing experience. In the constructivist framework, the measure of and motivation for learning rests with the learner, not the instructor. Spann (2000) asserts that one of the goals and effects of the contextualized/content area based approach is to capture a student's attention by illustrating the relevance of the learning experience. CAB helps students find and create meaning through experience, drawing from prior knowledge in order to build upon existing knowledge (Tinto, 2006). In the CAB approach, the TSD is placed in a broader framework that integrates other subject content into the learning to find information, adapt to change, and communicate effectively while relating others. In the TSD, students often struggle to connect with abstractions. An authentic context helps the learner see the relevance of information and creates a pathway for them to understand the material.

The second null hypothesis predicted a comparison in selected variables (age, gender, ethnicity, and enrollment status**)** of the archival cohorts (reading completers) will reveal no differences between students' selected variables (age, gender, ethnicity, and enrollment status**)** distribution who took a CAB course from those who took the TSD

based instruction course on the passing rates. The second null hypothesis study was declared as follows based on the findings of the data, rejected or accepted.

Instructional Type * Gender

The second null hypothesis study for *instructional type and gender* was declared as follows based on the findings of the data. A chi-square test of independence was calculated comparing the frequency between students' gender distribution who took a CAB vs. TSD instructional course. A significant value was found ($x^2(1) = 4.623$, $p < .05$) for cohort 1 2006-1 that shows significant differences between genders within the type of instruction (TSD vs. CAB) when exposed to the different instructional type at the 5% significance level. The null hypothesis was rejected based on results of the chi-square test. The researcher concluded that the alternative hypothesis for differences between gender within the type of instruction (TSD vs. CAB) in cohort 1 2006-1 is true. On the other hand, the chi-square calculated comparing the frequency between students' gender distribution who took a CAB vs. TSD instructional course in cohort 2 2007-1 ($x^2(1) = .464$, $p > .05$) and cohort 3 2007-2 ($x^2(1) = 2.480$, $p > .05$) shows no significant differences between genders within the type of instruction.

Instructional Type * Ethnicity

The second null hypothesis study for instructional type and ethnicity was declared as follows based on the findings of the data. A chi-square was calculated comparing the frequency between students' ethnicity distribution who took a CAB vs. TSD instructional course. The analysis for all three contrast cohort groups 1 2006-1($x^2(3) = 66.517$, $< .05$); cohort 2 2007-1 ($x^2(3) = 131.426$, $p < .05$); cohort 3 2007-2 ($x^2(3) = 165.898$, $p < .05$) shows significant differences between students' distribution of ethnicity background who took a

CAB course from those who took the TSD course based on the different instructional type at the 0.05% significance level. The null hypothesis was rejected based on results of the chi-square test. The researcher concluded that the alternative hypothesis for the student groups in all three contrast cohorts 1 2006-1; 2 2007-1; and cohort 3 2007-2 is true.

Socioeconomic status particularly impacts large numbers of minority students deemed more at risk due to lacking economic sources (Fike & Fike, 2008). Further inspecting the challenges facing academically underprepared minority students seeking to earn a college degree, studies have asserted that Black students assessed two or more levels below what is considered as college-ready are particularly at risk of failing to complete remedial sequences and subsequent educational goals (Bailey et al., 2008).

Based on the findings of this present study where ethnicity was one of the variables in research question 2, the results show significant differences between students' distribution of ethnicity background who took a CAB course compared to those who took TSD course on the percentages of students in these cohort type. For example, as seen among Black NH learners for cohort 1 2006 1 CAB (39.5%) vs. TSD (21.9%); cohort 2 (2007-1) Black NH CAB (40.0%) vs. TSD (20.6%); and for cohort 3 (2007-2) CAB (49.6%) vs. TSD (21.9%), than they were among Hispanic, White NH and other student groups.

Instructional * Age

The second null hypothesis study for instructional type and age was declared as follows based on the findings of the data. A chi-square was calculated comparing the frequency between students' age distribution who took a CAB vs. TSD instructional

course. The analysis for cohort 1 2006-1 and cohort 2 2007-1 shows no significant differences between students' age distribution who took CAB course from those who took the TSD course. On the other hand, the analysis for cohort 3 2007-2 shows significant differences between ages within the type of instruction ($x^2(3) = 19.313$, $p < .05$) when exposed to the different instructional type at the 0.05% significance level. The null hypothesis was rejected based on results of the chi-square test. The researcher concluded that the alternative hypothesis for the student groups in cohort 3 2007-2 is true. Overall, the student demographics were different among the CAB age groups of 21-25 CAB (15.0%) vs. TSD (11.0%); 26-30 CAB (4.7%) vs. TSD (4.4%) and 31+ CAB (11.2%) vs. TSD (6.9%).

Instructional Type * Full Time/Part-time

The second null hypothesis for instructional type and enrollment status was declared as follows based on the findings of the data. The results comparing the frequency between students' enrollment status distribution who took CAB course from those who took the TSD course indicated that for cohort 1 2006-1 ($x^2(1) = 1.827$, $p > .05$) shows no significant differences between students' enrollment status (full time TSD (49.1%) vs. CAB (52.5%) /part time TSD (50.9%) vs. CAB (47.5%) within the type of instruction. In contrast, the results for cohort 2 2007-1 ($x^2(1) = 23.645$, $p < .05$) (full time TSD (51.6%) vs. CAB (61.4%) /part time TSD (48.4%) vs. CAB (38.6%) and cohort 3 2007-2 ($x^2(1) = 33.320$, $p < .05$) (full time TSD (47.0%) vs. CAB (61.4%) /part time TSD (53.0%) vs. CAB (38.6%) shows significant differences between enrollment status (full time/part time) within the type of instruction. The null hypothesis was rejected based on results of the chi-square test. The researcher concluded that the alternative hypothesis for

the student groups in cohorts 2 2007-1 and 3 2007-2 is true. Bahr (2008) reports that there is a new American majority on campus and seventy-five percent of today's students are juggling some combination of families, jobs, and school while commuting to class. According to the U.S. Department of Education, only a quarter go full-time, attend residential colleges, and have most of their bills paid by their parents.

Instructional Type * GPA

For the third null hypothesis a one-way ANOVA was calculated in order to determine if they were significant differences between the means of the TSD and CAB groups for the GPA in the subsequent courses of ENC1101 and ENC1102 (i.e., research questions three). The corresponding null and research hypothesis guided the study and alpha levels of .05 were used for all statistical tests as reported in chapter 4.

The third null hypothesis predicted there would be no differences between the final grades (GPA) for cohort 1 2006-1, cohort 2 2007-1, and cohort 3 2007-2 in the subsequent course of ENC1101 for students who took CAB course vs. TSD. The instructional type TSD performed significantly better in ENC 1101 (comparing the means per cohort: for cohort 1 2006-1; TSD 2.39> CAB 2.26; cohort 2 2007-; TSD 2.46> CAB 2.29; cohort 3 2007-2; TSD 2.50> CAB 2.29). The standard deviations were cohort 1 2006-1: TSD 1.075> CAB 1.060; cohort 2 2007-1 TSD 1.081< CAB 1.099; and cohort 3 2007-2 TSD 1.101> CAB 1.084), but still the standard deviations are very close and the claim of homogeneity of variances applies by finding no significant differences at the 0.05 level of significance.

For the fourth null hypothesis a one-way ANOVA was calculated. The fourth null hypothesis predicted there would be no differences between the final grades (GPA)

for cohort 1, 2006-1, cohort 2, 2007-1, and cohort 3, 2007-2 in the subsequent course of ENC1102 for students who took CAB course vs. TSD. The instructional type TSD performed better but not statistically for ENC 1102 for the first two cohorts (comparing the means cohort 1, 2006-01 TSD 2.59> CAB 2.37; cohort 2, 2007-1 TSD 2.64> CAB 2.53) the cohort 3, 2007-02 resulted the TSD performing less than CAB (comparing the means TSD 2.63< CAB 2.68) and the standard deviations were 2007-02 TSD 1.139> CAB 1.048). The cohorts 1 and 2 show exactly equal or slightly more consistency of the data (comparing the standard deviations cohort 1, 2006-01 TSD 1.227= CAB 1.227; cohort 2, 2007-01 TSD 1.123< CAB 1.159), but still the standard deviations are very close and claim of the homogeneity of variances applies, by showing having no significant differences at the 0.05 level of significance.

ENC1101 shows significant differences (*p* values = 0.043; 0.002; 0.004) in the three cohorts which is less than 0.05 level of significance, while ENC 1102 shows no significant differences for the cohort 1(2006-01, *p* value= 0.897) and in the rest of the cohorts for ENC1102 there was also no significant differences among the factors (*p* value=0.133; 0.599).

Discussion of findings for Instructional Type and GPA

There are several explanations as to why the TSD student group could have performed significantly better than the CAB student group. To begin with, the English discipline is not geared to teaching secondary educational (Composition I & II) to *marginal students* (Conley, 2005) hence students with the need of basic English proficiency are at risk. Next, the competencies/objectives for ENC1101 are scripted lesson plans *similar* to the TSD curriculum. Subsequently, although faculties want their

students to achieve higher kinds of learning, they continue to use a form of teaching that is not effective at promoting such learning (Tinto, 1999).

Released in September 2002, the AAC&U report, *Greater Expectations: A New Vision for Learning as a Nation Goes to College* called for a dramatic reorganization of undergraduate education to ensure that ALL students receive an education of lasting value, relevant for the 21st century. The report shared the vision of a "*New Academy"* based on *an engaged and practical liberal education* and fostered by intentional practice at all institutional levels. To respond to the challenges created both by near-universal college attendance and by the global, knowledge-based economy, the report urged all stakeholders in higher education toward concerted action. Conceptually, the "New Academy" emerged from higher education reforms that addressed the "multiple purposes of higher learning in the complex society" of the 21st century and attempts to "bring together the divergent expectations" of students, employers, policymakers, faculty, and the general public (AAC&U 2002, 9).

As a result of the AAC&U "Greater Expectations" report and the call for a "new academy" the mechanism for better educating and assessing students was channeled through the variety of organizations involved in higher education: (a) accrediting agencies (policy to continue the trend), (b) funding agencies in government, corporate and private organizations funding education-related projects that reflect effective institutional design, such as interdisciplinary learning and educative assessment (Attewell, 2008), and (c) disciplinary associations working collaboratively with local institutions and other national organizations that address issues affecting/improving curriculum. To realize the vision of an "invigorated liberal education" colleges and

universities had to focus on the processes most likely to bring about positive desired learning outcomes.

Miami Dade College was poised to expand on the national learning agenda recommended by the AAC&U. The Colleges *2004-2010* Strategic Plan called to reassert the College's commitment to the most fundamental challenge: to support individual students in their educational journey, and to continue to uncover meaningful methods of measuring student learning *(Miami Dade College Strategic Plan, 2004-2010).*

SACS accreditation criteria changed the focus on student learning and quality improvement. *Hence* as part of MDC's decanal accreditation review, the College used research on student outcomes at MDC and other institutions to develop a Quality Enhancement Plan (QEP), focusing on improving student success in high risk *mathematics* courses. The three cohorts examined in this research study participated during this time through funding by the NSF grant 2005-2008. Other external influences *at that time* besides the AAC&U's *Greater Expectations Report, was "Our Students' Best Work: A Framework for Accountability Worthy of Our Mission* and the Carnegie Foundation's efforts to make teaching public.

At the present time, the 2010-*2015* Strategic Plans reaffirmed the College's commitment to continue to ascertain meaningful methods for improving positive student learning outcomes *(Miami Dade College Strategic Plan, 2010-2015). As a result, presently* the SACS accreditation criteria again changed the focus on student learning and quality improvement. *Hence* as part of MDC's decanal accreditation review, the College is developing a Quality Enhancement Plan (QEP), focusing on improving student success in writing (comparable to the 2005-2010 QEP for mathematics).

The present Quality Enhancement Plan (QEP) will focus on "writing across the curriculum." Writing across the curriculum is a pedagogical movement that began in the 1980s; this pedagogical approach values writing as a method of learning and draws upon the rich scholarship of John Dewey and the constructivist view (Boylan, 1988).

Writing to communicate (or, Learning to write): writing is a communicative process which occurs in and across communities and which requires that the writer understand the needs and expectations of an audience with regard to subject matter, elements of support, genre, stylistic choices, etc. When students write reactions to information received in class or in reading, they often *comprehend and retain* the information better. This pedagogical method also helps students work through confusing new ideas and apply what they learn to their own lives and interests. The assignments are typically short and informal and can be performed either in or out of class. Examples include writing and reading journals, summaries, response papers, learning logs, problem analyses, and more. Finally, writing across the curriculum acknowledges the differences in writing conventions across the disciplines, and believes that students can best learn to write in their areas by practicing those discipline-specific writing conventions.

Bahr (2008) asserts that the trademark of composition 1 (ENC1101) instructions are intended to control the quality of instruction. In fact, students have to learn (memorize) rules for mechanics, punctuation and grammar furthermore, it is required. Likewise, the hallmark of the TSD instruction is intended to control the quality of instruction. The TSD includes memorization, involves repetition of specific skills. Bettinger and Long (2003) assert that the drills are usually repetitive and are used as a reinforcement tool.

The findings of this study support the current institutional *change and procedures* related to faculty work and faculty evaluation towards the reform institutionally of ENC1101 (Composition I) and ENC1102 (Composition II) and *evidence* of positive student learning outcomes.

Limitations and Educational Implications

When addressing fairness in testing, scientists propose that students must be given the opportunity to learn the subject matter covered by an achievement exam and assert that testing equity can be undermined when resources are inadequate, students are at a disadvantage, or when ethnic, racial, or gender biases are present (American Educational Association, American Psychological Association, & National Council on Measurement in Education, 1999). Various studies propose that aligning learning outcomes with subsequent assessments represents a best practice (Tinto, 2006). Consequently, a limitation of this study surrounds that fact that the *study focused solely on exit-test performance, (passing rates) and final grades (GPA) in the subsequent courses of ENC1101 and ENC1102,* but it did not explore the course curricula, the materials covered, or the quality or nature of instruction offered in TSD and CAB courses or the content of the state exit exam.

The decision to select a sample from remedial-reading students at the largest community college in the country was the result of consultations and recommendations by administrative and faculty personnel at the institution. Due to the choice of location, a limitation of this study surrounded the demographic disparity associated with a proportionally larger Hispanic, slightly larger Black NH, and smaller White and other learner population in comparison to the overall college population (Miami Dade

College, 2009). Statewide, community colleges are allowed to determine their own exit-test passing scores, thus raising questions about the validity of student success-rate comparisons between institutions (Bashford, 2002). Consequently, exit-test reliability, performance comparisons on institutionally adopted standards, and loopholes associated with completion mandates represented limitations for the study when exploring the exit-test passing rates. These mitigating factors were beyond the control of the researcher and therefore represented additional limitations.

Addressing compressed course schedules, Conley (2005) reports that community college remedial students enrolled in course sections once per week do not perform as well as students attending courses meeting two or three times per week. Alternatively, Bedarad-Voorhees (2008) found students enrolled in compressed courses performed better than did counterparts learning for longer periods. For the three semesters analyzed for this study, TSD course sections were offered in 16-week time frames and the CAB course sections were compressed into 8- week time frames (Miami Dade College, 2008). Regardless of the number of weeks during which students received instruction, *all course sections required that students complete a total 96 instructional contact hours during the semester* (Melguizo, 2007). Given that all students completed the same number of semester hours, the researcher chose to exclude course length as a factor in the analyses, thus representing a limitation of the study.

Recommendations for Future Research

Notwithstanding the above caveats, it is difficult to escape the conclusion that the developmental function in community colleges is not working well. The analysis presented in this study suggests some promising areas for exploration and innovation. The researcher of this study suggests that any comprehensive strategy to improve the developmental function in community colleges should include a reform and research agenda focused on the following recommendations:

First, rethink assessment by focusing on understanding what students need in order to be successful in college rather than simply concentrating on placement within the sequence of a curriculum (Bettinger & Long, 2005; Clifford Adelman, 2005).

Second, to abandon the dichotomy between developmental and college-ready students for a wide range of students above and below current developmental cutoff scores by opening college-level courses to more students; and incorporating academic support assistance for all students who need it into college-level courses (Boylan, 2009).

The third recommendation includes opportunities to explore the level of self-efficacy and socio economic status of students within each ethnic group because these factors sometimes impede positive student outcomes (Breneman & Haarlow, 1999).

Fourth, and most importantly, we don't have enough knowledge about college students in general, let alone community college, *remedial*, and transfer students and the paths they take from level to level. Even the most basic national information about students is difficult to obtain, because there is to date no comprehensive system of student record data transfer and storage. As a result, many widely published figures are flat wrong (Adelman, 2006b). Boylan (2006) put it this way: "*In sum, we do not*

accurately know at the national and state levels how many students need remedial education, what it costs, how many take it, how many complete it successfully, and what happens to those students after they complete those courses." Guskin and Marcy (2002) stated that unless we move with urgency, today's young people will be the first generation in American history to be less educated than their predecessors. Consider this a sobering wake-up call. When it comes to college completion, the numbers can be daunting; so troubling, in fact, that some leaders may be tempted to keep the public in the dark (Boylan, 2009).

Finally, contextualization of developmental education is another way to engage students and to allow them to make progress in their areas of interest while they are still in remedial classes. Coney (2005) suggests that connecting literacy instruction to content areas has its advantages. Similar conclusions have been reached about adolescents who need remedial support.

Conclusion

The purpose of this study was to examine two methods of reading instruction TSD (Traditional skills and drills) vs. CAB (Content area based/contextualized) students' on state exit exams and final grades (GPA) in the subsequent courses of ENC1101 (Composition I) and ENC1102 (Composition II).

Results from the study found a significant difference in the passing rates between two (cohort 1 2006-1 and cohort 3 2007-2) of three contrast cohorts groups when exposed to the different instructional type (TSD vs. CAB) at the 5% significance level when CAB did better than TSD.

ENC1101 shows significant differences (*p* values = 0.043; 0.002; 0.004) in the three cohorts which is less than 0.05 level of significance, favoring TSD vs. CAB while ENC 1102 shows no significant differences for the 3 cohorts for ENC1102, so there is not enough evidence of significant differences among the factors (*p* value=.889; 0.133; 0.599). The research findings in this study indicated significant difference in outcomes between the TSD and CAB student groups. The TSD group was better prepared for the subsequent courses of ENC1101 and ENC1102, where the CAB student groups were better prepared to pass the state exit exam. The study does not favor one instructional type over the other, however it is imperative that developmental educators remain open and susceptible to new learning theories being explored, such as the content-based literacy approach discussed in this study. The study attempted to identify opportunities to add to the national developmental education debate/conversation about the effectiveness or, unfortunately, in too many cases, the ineffectiveness of remediation.

Stepping back and taking in the broad picture of developmental education, one sees an extensive system that involves thousands of dedicated professors carrying out a crucial function, but at the same time, that system is characterized by uncertainty, and a lack of consensus on the definition of "college ready" or the best instructional strategies to pursue, high costs, and varied and often unknown benefits. Many students who are referred to developmental education never enroll in courses. Overall, fewer than one half of students who are referred to developmental education complete the recommended sequence. What is more, many students who do complete their developmental course do not go on to enroll in the associated college-level courses. Much of the research on developmental education is suggestive but cannot reliably measure the effect of

remediation or differentiate among different approaches (Boylan, 2009). The handful of more definitive studies shows mixed results at best.

This uncertainty is reflected in the bewildering plethora of assessments and cutoff points used around the country (Calgano, Bailey & Jenkins, 2007a). Perhaps even more important, there is no break or discontinuity in assessment test scores that clearly differentiates developmental from college-level students. Many students who test out of remediation nonetheless struggle in their college courses, and educational outcomes for such students are too low.

Introducing other needed reforms will be an extremely difficult task , but, at the end of this first decade of the twenty-first century may be a good time to work on improving the developmental education function of community colleges. The last few years have seen a dramatic growth of interest in strengthening weak academic skills of college students and indeed in college learning of all types (Baker & Brancard, 2008).

A growing number of private foundations and the federal government have turned their attention to this problem, and colleges all over the country are trying new approaches to developmental education. Developmental education is a core part of Achieving the Dream, a 100 million dollar initiative, funded by the Lumina Foundation for Education and many other funders, to improve student success at eighty-four community colleges (www.achievingthedream.org) around the country.

The U.S. Department of Education's Institute of Education Sciences has funded a National Center for Postsecondary Research (NCPR, www.postsecondaryresearch.org). The Bill and Melinda Gates Foundation has started a major initiative designed to improve college opportunities for low-income youth and young adults. These initiatives illustrate

the growing focus on developmental education in policy, practice, and research. Moreover, there is also a growing commitment on the part of colleges, state agencies, and researchers to provide a more detailed analysis of student progression through their college years and to provide a more systematic and rigorous evaluation of program interventions (Conley, 2005). All of these developments provide an opportunity for a major and much needed effort to strengthen and rethink developmental education.

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Appendix A

Procedural Steps

For each individual file, please check the following items in order:

Reading Completers (REA0003) MDC Cohorts (Fall 2006) Group 1

1. Assign each participant with a code
2. Assign each participant a code for either paired class/accelerated, learning communities, semester long (traditional)
3. Check the students' age.
4. Check the students' gender.
5. Check the students' enrollment status PT/FT
6. Check the students 'progression grade in ENC1101
7. Check the students' progression grade in ENC1102

Reading Completers (REA0003) MDC Cohorts (Spring 2007) Group 2

1. Assign each participant with a code
2. Assign each participant a code for either paired class/accelerated, learning communities, semester long (traditional)
3. Check the students' age.
4. Check the students' gender.
5. Check the students' enrollment status PT/FT
6. Check the students 'progression grade in ENC1101
7. Check the students' progression grade in ENC1102

Reading Completers (REA003) MDC Cohorts (Fall 2007) Group 3

1. Assign each participant with a code
2. Assign each participant a code for either paired class/accelerated, learning communities, semester long (traditional)
3. Check the students' age.
4. Check the students' gender.
5. Check the students' enrollment status PT/FT
6. Check the students 'progression grade in ENC1101
7. Check the students' progression grade in ENC1102

Appendix B

Archival Data Form

Fall 2006-1
(Miami Dade College INSTITUTIONAL RESEARCH IC 2009-06C June 2009 by Silvio Rodriguez)

For each individual file, please check the following items in order:

Reading Completers (REA 0003) MDC Cohorts (Fall 2006) Group 1

Student(s)

Ethnicity
Age _____
Gender _____ Male _____Female
Enrollment Pattern _____FT _____PT

REA0003 (Instructions)

Learning Community _____ (Contextualized instruction)
Paired Classes _____ (Contextualized instruction)
16 weeks (traditional) _____ (Traditional skill and drills)

Achievement for REA0003:

Exit Score range _____

Progression GPA:

ENC1101 _____
ENC1102 _____

Appendix C

Archival Data Form

Fall 2007-1
(Miami Dade College INSTITUTIONAL RESEARCH IC 2009-06C June 2009 by Silvio Rodriguez)

For each individual file, please check the following items in order:

Reading Completers (REA 0003) MDC Cohorts (Spring 2007) Group 2 Students

Ethnicity
Age _____
Gender _____ Male _____Female
Enrollment Pattern _____ FT _____PT

REA0003 (Instructions)

Learning Community _____ (Contextualized instruction)
Paired Classes _____ (Contextualized instruction)
16 weeks (traditional) _____ (Traditional skill and drills)

Achievement for REA0003:

Exit Score Range _____

Progression GPA:

ENC1101 _____
ENC1102 _____

Appendix D

Archival Data Form

Fall 2007-2
(Miami Dade College INSTITUTIONAL RESEARCH IC 2009-06C June 2009 by Silvio Rodriguez)

For each individual file, please check the following items in order:

Reading Completers (REA 0003) MDC Cohorts (Fall 2007) Group 3

Students

Ethnicity
Age _____
Gender _____ Male _____Female
Enrollment Pattern _____ FT _____PT

REA0003 (Instructions)

Learning Community _____ (Contextualized instruction)
Paired Classes _____ (Contextualized instruction)
16 weeks (traditional) _____ (Traditional skill and drills)

Achievement for REA0003:

Exit Score Range _____

Progression GPA:

ENC1101 _____
ENC1102 _____

Appendix E

Miami Dade College
Course Objectives and Policies and Procedures
ENC 1101
English Composition 1

ENC 1101 - English Composition 1
Miami-Dade College

Catalog Description:
This is the first required general core course in college-level writing. Students will compose essays and other works using various methods of development. *This course fulfills 8,000 words of the Gordon Rule requirement.*

Note: This course must be completed with a grade of "C" or better. *3 Credits*

Prerequisites: Scholastic Assessment Test (SAT) score of 440 or more on the verbal subtest; American College Testing (ACT) score of 17 or more on the English subtest; Computerized Placement Test (CPT) score of 83 or more on the English subtest; or ENC 0021 with a grade of "S."

Course Competencies:

Competency 1: The student will produce writing by

a. choosing and limiting a subject that can be sufficiently developed within a given time, for a specific purpose and audience.
b. developing and refining pre-writing and planning skills.
c. formulating the main point to reflect the subject and purpose of the writing.
d. supporting the main point with specific details and arranging them logically.
e. using appropriate transitional devices.
f. writing an effective conclusion.

Competency 2: The student will write well-developed essays by

a. writing an introductory paragraph.
b. constructing a thesis statement.
c. developing the thesis by:
   - ✓ providing adequate support that reflects the ability to distinguish between generalized and concrete evidence.
   - ✓ arranging the ideas and supporting details in a logical pattern appropriate to the purpose and focus. Patterns may include descriptive, narrative, and evaluative writing, process analysis, comparison and contrast, cause and effect, exemplification, and others.
   - ✓ writing unified prose in which all supporting material is relevant to the thesis.
   - ✓ writing coherent prose and providing effective transitional devices.
d. writing a concluding paragraph.

Competency 3: The student will proofread, edit, and revise by

a. recognizing and correcting errors in clarity.
b. recognizing and correcting errors in unity and coherence.
c. using conventional sentence structure and correcting sentence errors such as fragments, run-ons, comma splices, misplaced modifiers, and faulty parallelism.
d. recognizing and correcting errors in utilizing the conventions of Standard American English including:
   - ✓ using standard verb forms and consistent tense.

Appendix F

Miami Dade College
Course Objectives and Policies and Procedures
ENC 1102
English Composition 2

ENC 1102 - English Composition 2
Miami-Dade College

Catalog Description:
This is the second required general core course in college-level writing. Observing the conventions of Standard American English, students will compose informative and persuasive essays, write responses to a variety of literary genres and/or non-fiction, and produce a documented paper based on research. ***This course fulfills 8,000 words of the Gordon Rule requirement.***

Note: This course must be completed with a grade of "C" or better. ***3 Credits***

Prerequisites: ENC 1101 or equivalent with a grade of "C" or better.

Course Competencies:

Competency 1: The student will compose essays that explain an idea, belief or attitude by
a. choosing and limiting a subject that can be sufficiently developed within a given time, for a specific purpose and audience.
b. formulating a thesis reflecting the subject and purpose of the essay.
c. supporting the thesis with specific details and arranging them logically.
d. using appropriate transitional devices.
e. writing an effective conclusion.

Competency 2: The student will present writing that seeks to persuade an audience to accept a belief, attitude, value or course of action by
a. using logical, ethical, and/or emotional appeals appropriate to audience and purpose.
b. demonstrating logical reasoning.
c. providing sufficient evidence to support the thesis.
d. clearly acknowledging any sources by using a standard form of documentation.

Competency 3: The student will write responses to a variety of literary genres and/or non-fiction by
a. reflecting a literal and critical comprehension of the reading.
b. providing suitable support and organization.
c. articulating the author's point of view.

Competency 4: The student will write a documented research paper by
a. limiting a topic.
b. using library and electronic resources to fulfill research objectives.
c. taking notes, paraphrasing, summarizing, and quoting sources.
d. articulating a thesis that demonstrates a logical connection between research and argumentative techniques.
e. organizing the text to be congruent with the subject and purpose of the paper.
f. using sources in the text to substantiate the thesis.
g. using a standard form of documentation (APA, MLA, Chicago, etc.).