

THE RELATIONSHIP BETWEEN COLLEGE STUDENT ATTITUDES TOWARDS ONLINE  
LEARNING BASED ON READING SELF-EFFICACY, ETHNICITY, AND AGE

by

Felecia Rena Edwards

A Dissertation Presented in Partial Fulfillment  
Of the Requirements for the Degree  
Doctor of Education

Liberty University  
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## **ABSTRACT**

The convenience of online programs has revolutionized education to make it available for more people interested in seeking to further their education. Students enrolling into various online, higher education programs have different aptitudes and factors that play a role in their experiences and successful completion of the program. The study aims to determine relationships between factors that may influence the students' attitudes towards online programs. The factors include reading self-efficacy, ethnicity, and the age of the college students. The present study examines these relationships between self-reported self-efficacy, ethnicity, and age, as related to attitudes toward online learning. The participants consisted of 295 post-secondary students enrolled in online courses. Multiple regression analysis was used to analyze the data and determine which variables had the greatest amount of impact on the students' attitudes toward online learning. The analysis of the data found a significant relationship between reading self-efficacy and a student's attitude toward online learning. No statistically significant evidence was found for the relationships between age nor ethnicity.

**Keywords:** Self-efficacy, online learning, Post-Secondary, Reading.

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## **List of Abbreviations**

American College Test (ACT)

Computer self-efficacy (CSE)

Constructivist Learning Survey (CLES)

Distance Education Learning Environment Survey (DELES)

Information and Communication Technologies (ICT)

Institutional Review Board (IRB)

National Association of Development Education (NADE)

National Center for Education Statistics (NCES)

Reading Self-Efficacy Survey (RSES)

Technology Rick Outcomes Focused Learning Environment Instrument (TROFLEI)

Texas Center for Educational Technology (TCET)

The Test of Scientific Related Attitudes (TOSRA)

## **CHAPTER ONE: INTRODUCTION**

### **Overview**

This quantitative, correlational study was designed to examine student's attitudes toward online learning and the relationship between reading self-efficacy, age and ethnicity. Using the Reading Self-Efficacy Survey (RSE) to test for personal belief of reading skills and achievement, personally and academically, and the Distance Education Learning Environment Survey (DELES) measures student distance education/online education experiences. p Can online college students' attitudes toward online learning be predicted from a linear combination of reader self –efficacy, age, and ethnicity? This study will assist educational institutions by being proactive in examining reading deficiencies, to help increase retention, performance, and degree completion in online programs. This chapter will examine some background elements related to reading self-efficacy and student's attitudes toward online learning.

### **Background**

The process of learning today is not limited to the traditional classrooms, and today virtual learning environments play a major role in educational system. Online learning was once considered by the average person, scholar, or instructor as a passing fad because it was believed that social interaction was the pinnacle of the educational experience from kindergarten to college. However, people who manage, work, family, as well as people with monetary constraints consider online programs as a boon that has fulfilled their educational needs. Online classrooms have gained a lot of importance in educational system based on their financial, social, ideological, and pedagogical aspects in comparison to the traditional, physical classroom environments (Wu & Hwang, 2010).

The merger of technology, education and virtual social interaction has created a platform for advancement in education and increase the reach of education across numerous demographic and life situations who may not previously have been able to attend or even consider taking classes at a university or college. People coming from different backgrounds like different work schedules, raising children, driving distances and even physical disabilities and health conditions limit people from attending colleges, and thus, their pursuit of a degree and to develop as scholars is nullified. With online options, there are a variety of degree programs available, the time taken to attend each class is more convenient and this makes further their education, less complicated than heading to campus.

The Internet serves as a platform that motivates top learning institutions to heavily invest in online educational programs. The rising investments in online technology by more and more learning institutions are due to the fact that online classes from accredited institutions are preferred over other similar institutions. The online classes provided by accredited learning institutions provide availability and flexible options for many who otherwise would remain a part of populations marginalized due to a different set of conditions and needs (Jethro, Grace, & Thomas, 2012; Wu & Hwang, 2010). Similar to any corporation, increased enrollment and retention are vital for success and expansion. Therefore, top educational institutions adopt corporate models to be used in marketing to individuals who sought to expand their knowledge, challenge their cognition, and expand the opportunities in their career. The implementation of online learning increases recruiting efforts and the focal point is shifted on student retention in online programs until graduation. In 2012, fifty-percent of students in higher education programs dropped out before completing campus-based programs; however, with the online option as a solution to the

retention issue, the number of students that have left educational programs in higher learning has presumably decreased (Seidman, 2012).

Jethro, Grace, and Thomas (2012) defined online learning and described it as a learning process that is created through the interaction with network-based content delivered through digital platforms. According to Tubaishat and Lansari (2011), effective online learning may be best achieved by thorough understanding of the educational needs of students and specifically of those who want to take advantage of the Internet and the number of applications and technological devices which can be used to enhance their learning experiences. Jaggars (2011) emphasize that online learning can be extremely beneficial because it promotes wider access to college education with reduced time and cost in commuting. The Internet gives students the liberty to choose the learning facility and the schedule most convenient for them as far as time, distance, flexibility, and money are concerned. Overall, the major questions in the debate on the validity of online learning has been answered; with the help of the technologically advanced forms of learning through computers, related devices, and internet. Also, the effectiveness of online programs to educate and retain students is similar to the traditional classroom learning format (Mahanta & Ahmed, 2012).

Research studies have been conducted to determine the effect of online learning on students; this body of study has accumulated to further assist educational institutions in retention, improving the performance, and degree completion of online students. However, the graduation rate of current distance education facilities is one-quarter less than the conventional educational institutions. However, the concept of online schools has only been popular for the last ten years between 2006 and 2016. If the online post-secondary institutions have a graduation rate that is 75% of the traditional school rate, then the growing number of online students verifies that

online teaching has become as a more conducive choice than the physical institution alone. (Simpson, 2013).

Different studies compare the achievement, performance, and overall grades of students in distance learning programs and no differences were found. Spooner, Jordan, Algozzine and Spooner (1999) studied two special education courses on and off campus with electronic media. The overall course means for the on-campus and off-campus students were examined. The researchers found no significant differences were found in the overall rating concerning the thoroughness of information, the actual pedagogy of the instructors, or the level of interaction (comparing actual to virtual socialization). Allen, Bourhis, Burrell, and Mabry's (2002) meta-analysis indicated a slight student preference in using the traditional format instruction in comparison to distance education and no difference in the satisfaction levels were found. Considering the 2002 was a year in early online development, the technology was fairly new and students were generally familiar with traditional educational programs; however, in recent years, there is a comparably large group of online students who are beginning to show student preferences for nontraditional, online programs.

Muilenburg and Berge (2007) addressed student attitudes towards online learning and satisfaction with online learning and their overall satisfaction in an exploratory factor analysis. The researchers found that gender, age, ethnicity, type of learning institution, self-rating of online learning skill, online enjoyment and other variables were primary factors in student success in overcoming barriers to succeed academically. Boling, Hough, Krinsky, Saleem, and Stevens (2012) conducted a study that addressed the appreciation that both instructors and students had concerning online education. Six instructors from separate institutions along with ten students revealed that online classes addressed means to keep students involved by applying

course study to actual real-life scenarios or activities in our given field. Retention was a subject of interest based on how it is accomplished, arranged into a system within the pedagogy per online facility, and the notion that administrators have concerning student interests and sense of convenience. Considering the obvious benefits of an online program as far as convenience, once students had more experience in taking online courses, their attitudes toward online learning was more proactive, more independent, and more exploratory in relation to their given field of study.

Technological advances and social changes have added to the increasing demand for online programs. Hayes (2010) stated that sixty-Six percent of U.S. educational institutions saw an increase in demand for new courses and programs online. Institutions witnessed a seventy-three percent increase in current online course and program enrollment (Hayes, 2010). Colleges and universities continue to adjust and adapt to marketing, recruiting, pedagogical, and consumer trends to meet the growing demands for online programs. Not only has online technology allowed the student body to grow globally, but allowed students globally to learn and experience instructors, programs, technology, and other students they may never experience at a physical location. The aforementioned opportunity enhances student perception concerning the panoramic view of variety that online learning offers including means to find employment for American interests in foreign countries or merely opportunities to experience the world from the comforts of home (or merely off campus). However, as students are acclimated to the atmosphere of online educational programs during orientation, students need to learn the needed skills and socialization to perform better in online educational programs (Taormina, 2010).

Beard, Harper, and Riley (2004) noted that even though many students benefit from the off-campus online format, there are still others that benefit from the traditional arrangement of face-to-face exchanges and interaction along with limited technological ability to engage in

classes online. Social presence and connectedness are valuable factors in students' attitudes toward online learning; both factors serve as predictors of online learning satisfaction (Laffer, Lin, & Lin, 2006). When designing curricula for online learning instructions, the tools, the learners, and the tasks need to be aligned as far as how each of these factors interact in order for a functional educational program that is scholastically and socially satisfying. Although a cavalcade of theoretical benefits exists concerning the advancements in education through online learning programs, there is a considerable amount of focus necessary to address imagery, interests, and inclusiveness along nationality, gender and cognitive learning-based lines. One particular aspect of cognitive ability and interests involves reading comprehension observed as reading self-efficacy; that is more detailed as an aspect of reading comprehension. Reading self-efficacy is more than the basic pronunciation, understanding and interpretation of words. Reading self-efficacy involves the fact that one is independently studying for the majority of the time when in an online class. In addition, reading is the primary mode of learning and interaction than aural, visual, or spatial information seen at physical locations. Therefore, how well a number of individuals read and interpret information thereof needs to be considered during the design of an online curriculum (Graff, Davies, & McNorton, 2004).

According to Bandura (1997) individuals interpret or identify their experiences by the difficulty of the task, level of effort, assistance received, conditions, emotional and physical state and their perceived improvement over time. When considering reading self-efficacy as a primary means to even interact and receive instruction online, Bandura's theory serves as plausible framework to address the difficulty of maintaining academics and social interaction online. Bandura's theory is a means to discover and observe the various levels of exertion individuals experience based on how well their skills align with the specifications or demands of

the curriculum concerning the individuals 'performance'. Moreover, the skills of each student differ due to exposure to technological advances such as computer use, specifically online navigation and document submission; such skills can be dependent on age, technological aptitude, or profession. These differences must be considered when addressing how reading self-efficacy develops and is maintained through a student's educational experience.

How well a student performs, the solutions they develop to overcome the difficulties, the strategies they use for assistance from emailing professors and students to discussing matters on-board with educators and education support such as tutors, as well as personal efforts to discover assistance such as research, changes in students' psycho-emotional state, and the improvements that students make over time while engaging in the online educational experience determine students' attitudes toward online learning. With this in mind, utilizing Bandura's theory, reading self-efficacy can be further analyzed through the role it plays in the design and implementation of an effective online program. Although it is not obvious to a number of people, the student's role in the online learning environment is becoming more active with a diversity of tasks that traditional students do not experience based on simple things such as handling instructor documents, face-to-face contact in class, and visits in the office whereas students online experience issues with drop boxes (submitting documents), engaging the instructor and students on discussion boards, navigating the interactive syllabus for assignments and exams, and the constant flow of emails back and forth between students and instructors versus just meeting in the instructor's office. Palloff and Pratt (2009) suggested that the desired outcomes of the online courses should be driven by the needs of the participants (the students themselves) versus dependence on the technology alone due to the difficulties a number of demographic populations face when online courses are the only educational option they have. Students have different

learning styles and needs that require knowledgeable educators who are able to implement multiple pedagogical strategies and techniques for the online instruction to be effective (Gayton, 2007; Mupinga, Nora, & Yaw, 2006).

Reading self-efficacy plays a major role in the academic performance of any subject in which language, specifically the written word is used. Therefore, if an individual has limited reading capability due to a disability (cognitive or learning), limited use of the language (among multi-lingual students, or they received poor instruction early as aggraded school student, the individual performs poorly. It is not a matter of having a lackluster attitude toward a subject and purposely not performing that lies at the root of failure courses that utilize reading. With continuous failure comes the lackluster attitude. Therefore, low self-efficacy can contribute to a student's lack of motivation in academics. Having difficulties and challenges in reading can weaken a student's self-efficacy and can contribute to them not completing the online program unless instructors, students, advisors, family, or friends are there to support the individual to keep pursuing educational achievement (Schunk, & Mullen, 2012). The diverse, non-traditional student populations include a vast number of individual learning needs, challenges, and expectations. With those, the aspects of the aforementioned students in mind, there are a number of different factors to determine if the educational institutions online curriculums are adequately meeting the needs of a diversity of non-traditional, online students. Factors such as increased or decreased confidence in reading fluency, age differences , ethnicity, technological exposure, and the student's overall attitude toward online learning plays a composite role in the students' success and completion of the online program.

## **Problem Statement**

In considering the increase in non-traditional students, and the interest in online studies, online educational institutions need to address the educational needs or ineptitude that are vital to students in online programs such as reading comprehension. Considering the fact that reading is the prime means to interact and learn content in online other than webcams, webcasts, and podcasts, online educational institutions need to provide learning development courses for students who may display difficulty in reading literacy. Many online schools only have an entrance exam, that may not fully assess individuals' aptitudes in various areas that may play a role in a student's success in online learning specifically. This identifies that there is a need to mitigate issues such as reading comprehension, and other areas that may be vital to their online success, by providing learning development courses to prepare for the successful completion of their online studies.

Atchley, Wingenbach, and Akers' (2013) study found that there was significant statistical difference in course completion rates between online and traditional course students. Traditional courses included learning development courses and core subject courses that prepared students before they entered their major. Once students completed their degree program preparation courses, their reading comprehension matched their reading self-efficacy, both were high. However, among students who had low self-efficacy most did not complete the program and did not like reading. The online schools had a lower course completion rate than students enrolled in traditional schools. This helps to identify the needed for learning development courses in online studies.

Online schools also need to consider in their learning development and core courses to best address the diversity of students, to include gender, age and other areas of diversity. Alobiedat and Saraierh's (2010) study identified a significant difference in attitudes towards using online platforms based on gender, owning a personal computer, and having access to the internet. Essentially, there are significant differences in how people respond to the use of computers, primarily along age and computer usage, based on a diversity of interests or values of key autonomous groups. This study identifies how the diversity of gender and age played a role in the students success and perception of online learning. Graff, Davies, and McNorton's (2004) study identified that students' attitudes toward online learning are different, taking in account their nationality, gender and cognitive learning styles. This assisted in the development of content to establish curricula that retain students till the completion of programs. In some fashion, there are individuals who cannot separate fun experiences with computers and have an engaged and more focused experience in being face-face to receive an education. The research study conducted by Okuwumabua et al. (2010) identified that the attitudes of African American students had increased levels of anxiety when using computers for learning and they experienced lower level of anxiety and more positive attitude when computers were used for recreational use.

Gross's (2011) study identified the success rate of students enrolled in online college-level courses. While enrolled in remedial writing courses, individuals with low reading self-efficacy scored low in the remedial reading/writing course and other courses. Very few studies have identified the level of self-efficacy students possess and their reading literacy (Cantrell, Correll, Clouse, Creech, Bridges, & Owens, 2013). The study identified that students who exhibit lower levels of self-efficacy in reading in academic contexts are usually readers who meet comprehension challenges which makes them feel as if they are deficient and often leads to

them leaving an online program. Campbell, Floyd, and Sheridan's (2002) study identified that students in online courses learned as much as students in traditional onsite courses. Online students were noted as being satisfied with the course and instructions; however, the mechanisms in which both classifications of students experienced satisfaction demanded more specific data to analyze such as such as age, major and grade point average, differences in motivation and ability.

Research in the area of students' attitudes toward online learning is extensive but research has not identified and specifically investigated the relationship that reading self-efficacy, ethnicity and age may have a significant effect on student's attitudes toward online learning. The study identifies that reading literacy has a large impact on student attitudes towards online learning. The study attempts to provide educational institutions that utilize online curricula a better understanding of the significant impact of reading literacy and its role in student's attitudes toward online learning. The implications of the research study are considerable with regards to their impact on the future research and will prove helpful in designing better online course programs.

### **Purpose Statement**

The purpose of this study is to address the need for higher educational institutions with online programs to address any deficiencies that may prevent a positive online learning experience and the successful completion of the program. A key factor is reading self-efficacy. The findings of this quantitative, correlational study can highlight the increased need for learning development courses and other resource options specifically in reading comprehension (reading self-efficacy) in online programs. This study examines if online college students' attitudes toward online learning be predicted from a linear combination of reader self –efficacy, age, and

ethnicity? The predictor variables that were compared were ethnicity, age, and reading self-efficacy. Reading self-efficacy is defined as college students' individual beliefs concerning their reading fluency (Schkullaku, 2013). Age is based on the students' age from date of birth. Ethnicity is based on participants' self-identified race (e.g., African American, Caucasian, Asian, Hispanic or Other). The criterion variable is students' attitudes toward online learning. Students' attitudes toward online learning is defined as a student's perception, to include the success or challenge of the online learning experience (Bolton, 2017). The sample was among these ethnic groups, ages 18 years old and above, male and female, within the southeast, attending online classes in pursuit of an Associate to bachelor degree.

### **Significance of the Study**

The significance of this study was to provide online educational institutions a better understanding of how reading comprehension, ethnicity and age play a role in student's attitudes toward online learning. These factors play a composite role in online program as far as its success in retaining a learned and successful student body. In order to address the gaps in the existing literature concerning the reading literacy of online students, it was important to collect data that shows how student's attitude towards online learning and their success in online learning was based on the reading self-efficacy (Barkley, 2006). Naseri and Zaferanieh (2012) stated that students who possessed high levels of self-efficacy would adopt a more successful approach to a program rooted in developing the confidence necessary to further improve their reading abilities.

A number of studies reveal that ethnic and cultural differences influence the experiences and general perceptions and attitudes of students towards online learning (Ashong &

Commander, 2012). This study addressed the need for greater retention of non-traditional online students in educational programs from matriculation to graduation. One main issue that has challenged retention was and remains reading self-efficacy among students. This study among the related studies featured in the literature review addressed how to improve not traditional students in online programs through learning development classes, followed by related core classes Through course management software and related technologies (including online apps) led to the improvement of the reading competencies of students taking online courses (Nelson, 2010; McCarthy, 2011).

Various studies revealed that the age factor did not have a significant correlation with regard to the perspectives and attitudes of the students towards online learning (Park & Choi, 2010; Xu & Jaggars, 2013). The research did find that the majority of those who perform more successfully in the academics are older students who are more mature and developed in their thinking in handling online courses. Even though there remains a conventional belief that older individuals often have trouble with technology, it is a matter of maturity that enables the older student to out perform many younger students who are unprepared for online programs primarily in areas of reading comprehension (reading self-efficacy) (Xu & Jaggars, 2013; Colorado & Eberle, 2010). With consideration of age not being a primary factor, ethnicity may hold the origin of a number of differences in preparedness for online programs as far as reading ability based on socioeconomic status and technological exposure (computer use) per individual. Both socioeconomic status and computer use correlate with ethnic/racial differences among individuals; however, clear distinctions of preparedness are not primarily based on ethnicity alone. This research will help to identify how reading self-efficacy in correlation with age and ethnicity plays a role in student's attitudes and success in completing of online educational programs. Although,

there is little evidence about the relationship between students' attitudes towards online learning and self-efficacy, age and ethnicity, in the current literature, but few research studies and empirical research suggest that reading self-efficacy impacts the students' attitudes towards online learning. Moreover, it is also found that age of the students that enrol also play a role in determining their attitude towards online learning. Considering the demographic characteristics, it is observed that ethnicity is one factor which influences student attitudes. Hence, despite the lack of evidence in current literature, considering the importance of reading self-efficacy, age and ethnicity in students choices, it can be induced that these factors might also influence the students' attitudes towards online programs.

This study potentially equips administrations with data so that they are effectively engaging the diverse, online student population with remedial and core class programs. Such remedial and core class programs include meeting student needs through the presentation of effective curriculums and resources to help with the content understanding and the mastery of career-related skills.

### **Research Question**

This study was designed to address the following research question:

**RQ1:** Can online college students' *attitudes toward online learning* be predicted from a linear combination of *reader self-efficacy*, *age*, and *ethnicity*?

### Definitions

1. *21<sup>st</sup> century learning* – refers to skills, content knowledge, expertise and literacies with innovative technology to help prepare students for the 21st century (Trilling & Fadel, 2009).
2. *ACT* -The ACT is a national college admissions examination that consists of English, mathematics, reading and science subject areas (ACT, 2014).
3. *Age* – A person’s numeric age from date of birth in years (Jarvik, 1975).
4. *Achievement Gap* – Gaps that appear amongst different gender, race/ethnicity, cultural and socioeconomic backgrounds in areas such as standardized test scores, grade point averages, school dropout rates and admissions to college (Wan, 2010).
5. *Ethnicity* – A person’s descent, social identity or self-identification as African American, White, Asian, Hispanic and other (Phinney, 1990).
6. *Non-traditional student* - A person that does not directly proceed to college after school, works full-time while enrolled, is financially independent or has a child (NCES, 2012).
7. *Online learning* - Online learning or more commonly noted as e-learning, is defined as learning facilitated online via computer, networked and web technologies (Garrison, 2011).
8. *Self-efficacy* - An individual’s perception or their confidence or lack of confidence to execute courses of actions to be successful in a given task (Bandura, 1977; 1995).

9. *Reading fluency* – The decoding, vocabulary recognition, reading fluency, reading rate and the synthesis or the general comprehension of texts (Ferrara, 2005),
  10. *Reading self-efficacy* - One's individual belief about their reading fluency (Solheim, 2011).
  11. *Student's attitude toward online learning* – A student's perception, to include the success or challenge of the online learning experience (Bolton, 2017).
- Traditional instruction* – refers to face-to-face classroom instruction delivered by a teacher through textbook knowledge (Mathison, n.d.).
12. *Traditional student* - A person that proceeds to college after high school (NCES, 2012).

## CHAPTER TWO: LITERATURE REVIEW

### Theoretical Background

Students enroll into online programs because of the convenience of the programs in conjunction with the other time-consuming tasks which they have to complete while studying in traditional colleges. Considering the complexities of adult life, today, online courses prove to be more appealing as a means for receiving the degree without the commuting and other physical school hassles. In 2010, the National Center for Education Statistics, noted that the University of Phoenix-online campus had the highest enrollment of any postsecondary institution (NCES, 2012). The enrollment trend showed an increase in the number of students ages 25 and over, between 2000 and 2010. Many students opt for college education later after military service, years in the workforce or after raising their families because now they feel this is their opportunity to complete their educational goals. This confidence to go back to school for some, is consistent with the need for students to have a positive perception of and confidence in online learning programs. According to Festinger (1957) the Theory of Cognitive Dissonance dissonance occurs when two or more beliefs do not fit together. So, the development of user-friendly web services, online sources and collaborative learning systems that effectively meet their needs is important because student's negative attitudes or self-efficacy will keep them from experiencing and completing online learning programs.

In the 1990s, during the Pony Express time, distance learning was primarily a matter of taking courses via a book and course materials were sent to the student who then returned the materials for test results so as to earn the degree. However, today the e-mail, instant messaging and other features like discussion forums, drop boxes, have made the concept of online learning a leading advancement in the concept of pedagogy at the postsecondary level. Currently, the

advancements in technology have and continue to play a major role in the mindset students seeking higher education. Awareness among the students and educators concerning the social and environmental forces that affect student success is a vital link between education and the students' perception of their performance and programs' overall value (Parkay, Anctil, & Hass, 2010). Forces that can affect students in college are rooted within the student's background and current environment. Essentially, parents, friends, neighbors, and religious figures are part of a student's background and the current number of students, administrators, and instructors, in addition to individuals in one's personal life make up the student's current influential environment (Parkay, Anctil, & Hass, 2010).

Elements that establish a correlation between the student's background and his or her environment include: learning exposure and social, demographic and technological forces that shape the way their world functions. Hence, it is important for the institutions to shift their focus from teaching strategies (pedagogy) and materials (instruction) towards motivating the students so as to retain students for online courses as well as attract new students. In order to motivate students, the administrators, instructors, and other educators have to explore better means for incorporating the needs, along with the concerns and interest of the students (Simpson, 2013). Considering the psychosocial and technological factors in the construct of online learning, specifically among non-traditional students, the Online Learning Interaction Theory, the Communication Multimodal Theory, the Digital Media Theory, the Transactional Distance Theory and Self-Efficacy and Reading Efficacy support the concept of online learning.

There are a number of significant theories that have been linked with online learning. Michael Moore's, *transactional distance theory*, centers on the idea that distance education is a basic pedagogical concept that is more than the geographic separation between the teachers and

the learners (Moore, 2007). Moore entertained the thought that even vis-à-vis education can place a student in a psychological position in which, he or she feels the instructor is not clear with instruction, not involved with actual teaching, and does not engage students through proactive social interaction; in other words the element of distance may also exist in face-to-face teaching. Moore (2007) stated that distance education refers to a specific kind of teaching environment in which there is a specific communication gap between the teachers and the learners; therefore, specific techniques and strategies in teaching and learning are required to provide the student similar experience which equals the educational experience of a student on-campus (Gokool-Ramdoo, 2007).

- The Online Learning Interaction Theory states that there are different forms of student interaction that are interchangeable substitutes for each other. However, the effectiveness and impact that substitutes provide is dependent upon the content, costs, technology, learning objectives, and time afforded to complete a course or program for a degree (Anderson & Dron, 2011). With this theory in mind, the ultimate challenge for the teachers and educators is to construct a learning environment that is student-centered pedagogically and psychologically, content-centered and assessment-centered as far as the curriculum, and community-centered and learning-centered socially and cognitively (Anderson & Dron, 2011). The Online Learning Interaction Theory states that it is imperative for teachers to devise strategies in which their pedagogical skills meet the needs effectively. In order to meet the diversity of student needs, Anderson and Dron (2011) stated that it should be the goal of every teacher to develop the precise activities and techniques to facilitate online learning. The Communication Multimodal Theory focuses on online learning multimodal perspectives in communication. Online learning features a number of

multimodal perspectives and functions based on the use of an interface, serving as a portal or mean to engage in numerous tasks such as reading, writing, viewing, and listening in real time. Essentially, this theory delves into the connection or relationship between learning, multimodality, and the use of new technologies to facilitate online learning (Andrews, 2011). As per The Digital Media Theory, the importance of using visual modes of learning through the use of moving and still images is paramount to comprehension, analysis, implementation assessment, and revision in all pedagogical and aptitude-based activities online. The digital media theory solely focuses on the single communication mode that is digital media. The center of the theory is the concept of exploring new modalities of media that are ideal for online learning phenomena. These modalities or forms of digital media include the use of hand-held devices (phones and tablets), laptop and desktop computers, interactive television, recording devices, and portable radios (Andrews, 2011). The Digital Media Theory asserts the significance of using visual modes of learning such as digital and interactive devices is paramount to student learning and performance (Andrews, 2011).

The Transactional Distance Theory highlights the importance of applying different learning techniques and strategies in order to facilitate effective online learning environment. Transactional Distance Theory addresses the distance that exists between learners and teachers on a geographic, social, and technological level (Gokool-Ramdoe, 2010). Conversely, the Online Learning Interaction Theory centers on the idea that there are different forms or modalities of student interaction, in correlation with the different modalities and the teachers need to apply the most appropriate techniques and activities that will best facilitate student's online learning

experiences (Anderson & Dron, 2011). The Communication Multimodal Theory addresses the structure and function of the relationship or correlation between the multimodal nature of online learning and the use of various technologies in order to facilitate online learning (Andrews, 2011).

Self-efficacy is defined as the capability of one to resolve his or her own challenges and complete tasks proficiently and independently. Self-efficacy involves an individual's perception of his or her confidence or lack of confidence in the specific skills which affects how proficiently an individual performs academically to succeed with assigned given tasks (Bandura, 1977 ; 1995). Self-efficacy is noted as the primary component of Albert Bandura's Social Cognitive Theory (Bandura, 1977). The Social Learning Theory states that through the reciprocity of the individual and society, psychologically and socially, individuals learn and select the best means to survive and thrive based on their ability to adapt to learning in given situation and accessible resources. Individuals that possess a stronger perception of their self-efficacy devote more effort to key tasks or life events so as to succeed in life. . Individuals interpret or identify their experiences by the difficulty of the task, level of effort, assistance received, conditions, emotional and physical state and their perceived improvement or "learned success" over time (Bandura, 1997).

Students' academic beliefs or their self-perception of how they will perform is largely related to their motivation levels. Motivation is a key component in success. Motivation is not only required during the initial stages but also it is required to drive the effort till end. Motivation is essential to deal with stress, boredom, lethargy, stagnation, or obstacles that occur throughout an experience between an endeavor and meeting its goals (Quirk, Schwanenflugel, & Webb, 2009). The mastery experience can be described as the summation of success or lack thereof within a previous experience related to the current task in hand. The individual's multiple successes raise their self-efficacy; multiple failures decrease their self-efficacy (Bandura, 1997). Developing

strategies based on the beliefs that individuals can achieve a specific objective, it is possible to anticipate the outcome and accordingly take appropriate action. Throughout the aforementioned series of psychological, cognitive, and social changes an individual undergoes, motivation is an important factor which allows the individuals to move from one aspect to another (Bandura, 2008).

The expectations of the students from online programs include, timely communication with the professors, feedbacks from the instructors, and challenging online tasks. The students' needs include technical help, flexible instructors, and course information in an advanced and timely manner along with assignment examples (Mupinga et al., 2006). Students' attitudes toward online learning play a major role in retention and successful completion of online programs. Current data that includes the different needs and expectations of the students remains vital in generating and establishing online courses along with preparing instructors for implementing strategies pertinent to successful online studies programs.

### **Reading Self-Efficacy**

The general definition of self-efficacy describes this concept as the beliefs of learners with regard to their capacity to succeed in correlation with their actual abilities to perform accordingly as well as complete a specific activity or task with an expected performance level (Naseri & Zaferanieh, 2012). In other words, self-efficacy is a phenomenon in which aligning skills with determination in correlation with the task at hand, results in a means for one to gauge their own potential to meet further challenges. In the aspect of reading, the students' self-efficacy or efficacy beliefs affect their academic performance and that includes their ability to think about their productivity and performance, resulting in a number of positive and negative outcomes in correlation with the student's success and perception of their ability to succeed (Naseri &

Zaferanieh, 2012; Maguire, Reynolds, & Delahunt, 2013). For example, students who possess high levels of self-efficacy significantly differ in their confidence level and approach to reading tasks from those with lower self-efficacy levels. Students who possess high levels of self-efficacy adopt a more successful approach in reading based on their confidence and efforts they take for improving their reading abilities (Naseri & Zaferanieh, 2012).

Students who possess high levels of self-efficacy in reading often believe that their strategies and efforts in improving their reading skills will be rewarded successfully; in other words, the student feels that the strategies used guarantee success. With the concept of guaranteed practice leading to achievement, an individual will effectively adopt practice, and incorporate it into every aspect of the student's life. Hence, it can be said that self-efficacy arises from one's ability to be self-determined, to implement strategies for personal success and therefore, it is clear that practice and the level of efficacy correlate. If a student reads before a test and succeeds, the practice is recognized as a pattern with the end result of success. This motivates one to make the practice a part of his or her routine.

Self-efficacious students often possess a positive view on mistakes and errors and perceive them as means of acquiring knowledge, and derivative strategies of resolving an issue; therefore, mistakes and errors are important parts of the learning process (Naseri & Zaferanieh, 2012; Maguire, Reynolds, & Delahunt, 2013). This is in contrast to the students who have low self-efficacy levels; these students believe that they possess a little to no ability to improve their reading skills, leading many amongst them to fail and not establish the capacity to take their reading knowledge to a higher level. This is in contrast to the students who have low self-efficacy levels; these students believe that they possess a little to no ability to improve their reading skills, leading many amongst them to fail and not establish the capacity to take their reading knowledge to a

higher level. Moreover, there is a tendency among these students to not exert any effort that will highlight or emphasize their lack of reading ability. In other words, because low-efficacy students do not exert any real effort to perform, and their problems related to lessons or means of study at hand are not evident. They cannot receive the assistance they need; therefore, they continue to fail or simply perform at a stagnant level that eventually leads to failure (Naseri & Zaferanieh, 2012; Maguire, Reynolds, & Delahunt, 2013). Solheim (2011) stated that students with low-efficacy levels in reading often struggle when faced with complex tasks in reading or tasks that involve time management, a large amount of reading, and specific detail explanation.

Based on a study conducted by Oden, Ebuta, and Nta (2011), the self-efficacy beliefs of the students were found to have a positive correlation with their reading comprehension skills (students' expectation for themselves were aligned with their proficient reading comprehension capacity). Oden, Ebuta, and Nta concluded that the reading self-efficacy may be considered as a reliable predictor of their literary performance. Oden, Ebuta, and Nta (2011) also present data that suggests that the efficacy beliefs are directly related to increased performance. Hence, it can be said that if a student believes that he or she has a better chance to achieve, he will perform better at tasks. As the students' self-efficacy beliefs play an important role in boosting the confidence levels of the students, and also in enhancing the learners' performance capacity, student efficacy beliefs may be considered as an effective and plausible predictor of the students' desire for growth and success in the area of reading. . The galvanation of diligence, development, and determining of strategies so as to employ or improve performance for reaching set goals is the foundation of successful performance (Oden, Ebuta, & Nta, 2011). Naseri and Zaferanieh (2012) establish that there is a direct correlation between student reading self-efficacy and the course of action students

are willing to take to pursue a grade (improving study techniques, comprehension skills, and means of proactive time management).

Naseri and Zaferanieh (2012) emphasized that the students' efficacy beliefs in reading influence their individual choices as well as their courses of action, especially with regards to the learning process they intend to adopt for improving their reading abilities and skills. Student self-efficacy enables individuals to either actively take part in specific tasks that would make them feel confident and competent to perform and it is also the students' efficacy beliefs which make them avoid the tasks they feel would only highlight their weaknesses (Oden, Ebuta, & Nta, 2011; Naseri & Zaferanieh, 2012). In addition, self-efficacy helps determine the amount of effort that students will put into a particular activity. In a way, self-efficacy serves as a critical motivational factor for students to expend much effort on an activity (Oden, Ebuta, & Nta, 2011).

Self-efficacy enables students to persevere and improve or develop their reading skills despite facing failures and obstacles along the way (Oden, Ebuta, & Nta, 2011; Naseri & Zaferanieh, 2012). Moreover, as self-efficacy provides students a means to gauge and reinforce resilience that enables them to prove their strength, commitment, and dedication so as to improve their learning and meet new challenges despite facing frequent and extremely adverse situations. Another critical benefit of student self-efficacy is that it enables individuals to overcome significant amounts of anxiety and stress related to reading, study, and assessments, especially when they engage in a task that tests their skills and accomplishments. In other words, students that exercise positive self-efficacy, have the combination of adjustment, incorporation of new information, and addressing challenges in a strategic, proactive manner (Oden, Ebuta, & Nta, 2011). As stated previously, students' efficacy beliefs have a proactive versus reactive effect on students initiative and success

in reading comprehension. Therefore, student activity serves as effective predictor of success due to the following tendencies:

- Student efficacy beliefs influences readers' individual choices with respect to the course of action so as to improve needed reading skills and capabilities;
- Student efficacy beliefs boost individuals' confidence in performing necessary activities that are significant for developing their reading skills and competencies;
- Student efficacy beliefs increase the amount of effort individual's expend on a particular reading activity;
- Through perseverance, student efficacy beliefs enable individuals to improve or develop more proficient reading skills despite facing failures and obstacles,
- Student efficacy beliefs allow individuals to get the right amount of resilience needed to prove individual reading strength, commitment as well as the dedication needed to improve learning and performance (Oden, Ebuta, & Nta, 2011; Naseri & Zaferanieh, 2012).

An individuals' self-efficacy or perception is task specific. Essentially, every individual's experience in reading determines the level and proportion of skills needed to be successful as a student in regards to reading comprehension. Individuals develop skills through exhibiting control over knowing when to start seek assistance through references or human resources that can provide guidance, instruction, and support in order to help students to continuously move forward in their learning development. Self-control leads to conscientiousness and awareness of how self-regulation functions and can be implemented per reading experience (Schunk, 2000). With consideration of Bandura's Social Cognitive Theory, the beliefs and expectations to complete a task (reading self-efficacy) and reading fluency (regarding this study) can be augmented through

advancing the organization of setting goals, anticipating the outcome, and regulating one's thoughts as a student (a learner). According to Bandura (2006):

Social Cognitive Theory plays a central role in the classification, assignment, and integration of self-regulatory functions. Most people do not behave just to suit the preference of others; they have a vested interest in either avoiding or curbing negative experiences while supporting and increasing positive experiences for the necessary outcomes (personal growth and professional gain). Much of their behavior is motivated and self-regulated by internal standards of self-evaluation which correlates with assessing the outcomes that follow the individual's thought process of analysis, problem-solving, and decision-making. Once a student's personal standards have been adopted concerning learning tasks (e.g. reading), discrepancies between performance and the relative performance standard can be measured to address evaluative self-reactions that influence subsequent behavior (p. 20)

Students enrolled in college are self-regulated by their standard of acquiring a degree; therefore, their level and intensity of motivation plays a primary role in recognizing and rectifying any discrepancy concerning reading fluency. According to the 2012 National and State scores, the ACT reading scores in Southeastern states ranged between 19 and 21, with the highest attainable score of 36. (ACT Improve, 2014). Being consistent with Bandura's Self-Efficacy theory, students with low reading self-efficacy or low performance scores in the past can be instructed to help them understand how best to control themselves and manipulate tools and resources to maintain an environment that enhances self-efficacy in relation to reading experience outcomes.

### **Reading in Higher Education**

The review of literature suggests that students graduate from high school without proper preparation for further education, this is largely due to the diversity in values and exposures to technology, time management and application of learning skills in specific areas. Therefore, the developmental educational programs are pertinent to the success of vast majority of college students who wish to graduate post-secondary program, but they are underprepared. The lack of preparation is majorly due to lack of positive and quality education. The below satisfactory levels of student experiences are largely attributed to the qualifications of the faculty members. It is found that the inadequacy of the faculty members ill-equip, undermine and disable the students' attempts to acquire knowledge and reading competency (Powers, 2014). Students that do not meet college level English (writing) and/or reading often has a lower success rate in online courses (Hyllegard, Deng, & Hunter, 2008).

Essentially, testing at the college level only determines preparedness versus actual intelligence. It is found that often students attempt to use their competency they have in one field in another field regardless of the difference in the subject matters. This is a skill that college level students exhibit as far as comprehension and deductive reasoning is concerned. The aforementioned skills result in competent choices. However, students that are not ready for the college experience (namely online learning) do not make competent choices due to low preparedness, which leads to adverse outcomes. According to the Academy Administration Practice (2013), there has been an increase in digital educational material usage due to the increased popularity in the use of laptop computers, desktop, smartphones, tablets, and other electronic, socially-interactive devices to review new media such as ebooks, podcasts, webcasts, video, even 3D technology (Nelson, 2010).

McCarthy (2011) asserted that the concept of e-reading was introduced only a decade ago when new technologies and devices entered the public market; this presented the students with an array of creative means to further enhance their reading skills through human-to-machine interactive learning. This was promising, yet many students have begun to be depleted in other areas of acquired intelligence due to reliance on electronic machines. Nevertheless, a majority of individuals do excel with the use of both natural talents or drives and acquired competencies thus improving the outcome of their endeavors in education as well as other areas of their life.

Considering students who have not been exposed to such software, new forms of software and device must be aligned with each student's personal method of learning and the means by which the student can implement what he or she has learned (McCarthy, 2011; Nelson, 2010). Due to the limited capabilities of e-learning to meet the needs of students that either have challenged literacy skills, computer navigation skills, or both, the permanent shift to the e-reading trend will more likely take longer. In fact, reading devices such as the iPad and other brands of e-reading tablets and devices are still unable to completely satisfy the most important requirements necessary in creating a sustainable digital reading environment in which content, written, visual, and aural are arranged to allow greater interactive capability to students and educators involved in higher learning (McCarthy, 2011; Nelson, 2010).

According to the ACT (the American College Test), student's level of reading fluency is a predictor of their preparedness and success in college (ACT, 2013). Across all disciplines and pedagogical practices that involve interaction and technology-enriched teaching, learning online are currently implemented as a means to prepare learners to adequately move through schools and graduate successfully in a post-secondary program (Moore, Fowler, & Watson, 2007). Student preparation is improved through adequate developmental educational courses that address long-

term academic performance in college; such classes potentially remediate students with learning deficiencies. There are few studies that examine reading proficiency and self-efficacy at the post-secondary level. However, a common theme among the articles available is the need for proficient reading skills. Successful online students are those that can comprehend and evaluate the course materials (McCarthy, 2011; Nelson, 2010).

Similar to offline reading in traditional classrooms, reading in online studies requires identifying important questions, critically evaluating information, synthesizing the information, and communicating the information effectively (Leu, O'Byrne, Kiili, Zawilinski, Everett-Cacopardo, & Forzani, 2011). A number of national college admissions have reported that African American males produce weak scores on entrance exams, primarily in reading. Even though, a multitude of students may graduate from college with proficient career skills, many still face literacy challenges based on the lack of preparedness in courses concerning reading efficacy (Leu, O'Byrne, Kiili, Zawilinski, Everett-Cacopardo, & Forzani, 2011).

Early in the 20<sup>th</sup> century, colleges started to incorporate developmental courses, to prepare the students that were underprepared for college. These were remedial courses currently referred to as learning development courses. Developmental courses are commonly adopted by colleges and universities to help prepare students that scored low in certain subjects. By passing the test, the student starts the new course off with the same expertise as the other students. However, there is the consideration that a test only has a portion of the knowledge needed to perform efficiently in order to succeed in college-level reading. A student's basic reading literacy/reading skills include vocabulary recognition (comprehension), inference, and the synthesis or of texts (following the analysis). Developmental education is not limited to students at a particular reading level; it also includes adults returning to school after raising a family, English as Second Language

students, or even a senior math major seeking assistance to pass the English Competency Exam (Casazza, 1999). Since 1976, The National Association of Development Education (NADE) and members have provided the necessary resources required to assist students in reaching their full potential through developmental education. Developmental education includes, but is not limited to, the forms of learning assistance, such as tutoring, mentoring, and supplemental instruction, personal, academic, and career counseling, academic advisement, and coursework.

Developmental education is a field of practice and research within higher education. As a supportive pedagogy with regards to advanced courses per field, a theoretical foundation in developmental psychology and learning theory assists in the needed growth for students to advance and compete with other students. Developmental education promotes cognitive and emotional growth of all postsecondary learners. Cognitive and emotional growth lead to the maturity necessary at all levels of the learning continuum. Developmental education involves instructors being sensitive and responsive to individual differences and special needs among learners. Developmental education programs and services commonly address academic preparedness, diagnostic assessment and placement, development of general and discipline-specific learning strategies, and affective barriers to learning. Diagnostic assessment and placement is a matter of individuals being assessed via test (online) then placed in class according to academic performance within strata as per the ranking of the student (NADE, 2013).

Research finds that students that successfully pass effective developmental reading courses experience significantly greater success in college compared to others that did not take or pass the course. The reason why performance is enhanced is because such classes are not meant to undermine self-worth or any psycho-emotional effect that often has come with the concept of remedial or developmental class; the classes are meant to place the student alongside competing

students as well as assist the student simply in moving forward in their own cognitive and intellectual growth as far as skills, insights, and expertise are concerned within a given career position following graduating from a postsecondary program successfully (Cox, Friesner, & Khayum, 2003, p 189). Students are commonly aware that being an effective reader relates to understanding and comprehending text. Nash (2008) mentioned that developmental readers think that reading is solely the act of decoding words (p. 2). Reading does not only involve understanding the words but it also involves comprehension and finding meaning in the text.

Some of the learning opportunities made available to students before college (pre-matriculation preparation courses) has lacked the ability to be effective in teaching the students beyond that demand significant guidance and instruction to generate skills expected of students by their given postsecondary institutions. Due to low scores on the standardized reading tests, college administrators recognize the need for college-level developmental courses for comprehension in the college courses throughout the undergrad years (Weiner, 2002, p. 152). The developmental courses in colleges are designed to effectively improve skills in areas where students initially had deficiencies. Once these deficiencies are rectified the student is prepared to meet college-level standards based on improvements in student's cognitive, intellectual, and psycho-emotional developments.

Students often need improvements in phonetic decoding or translating symbols to letter sounds to combinations of vowels and consonants to form words. Students often need improvement in literal comprehension or understanding the literary meaning of words; literary meaning (denotation) must be understood in order to better understand any figurative language (connotation) based on the fact that figurative language is understood as an implied relationship between words. If a student does not know the literal meaning of words, there is no way to

understand how such words can be symbolic of other meanings as metaphors, similes, allusions, or metonyms. Traditional instruction in reading comprehension that focus phonetic decoding and literal comprehension with generic language and written assignments will not adequately prepare students for college level reading materials; therefore developmental courses are paramount to challenged students' overall achievement (Weiner, 2002, p. 152).

### **Achievement Gap**

For the past fifty years (from the 1960s to the present), postsecondary administrations have sought the reasons for the widening achievement gap between low-income students and affluent students. Unfortunately, fully understanding the factors driving this gap have not been fully successful (Borg, Borg, & Stranahan, 2011). Financial capability often affects resource capacity as far as access to computers, materials, and time to simply study and prepare for school. In a number of ways, affluence makes education appear more like a privilege when in fact it is a right. Therefore, postsecondary institutions continuously prepare developmental programs for students that need to make the necessary improvements in reading.

According to the Oregon Department of Education (2010), the ever-increasing discrepancy with regards to student performance versus academic achievement may be attributed to a number of factors/variables. Among these include the ethnicity, diversity of races, economic income levels, and the social groupings of the students. Ethnicity primarily defines individuals beyond their genetic makeup; rather, in the context of educational studies, ethnicity refers to racial centrality and values held within the student's relative or immediate culture, the student's agreement with these values and ethnic identity, and the use of technology and other resources regarding education. Diversity of races refers not to the primary races but the amass of ethnicities within the U.S. as

well as individuals from other societies that compete with American students of different backgrounds within postsecondary programs.

Economic levels refers to socioeconomic status which represents the amount of spendable and taxable income coming into the home that allow individual families to acquire resources, the essential amount of time to study, and accessories that enable greater cognitive development, intellectual growth and scholastic achievement. However, finances alone do not equate to higher intellects, but greater financial resources provide advantages for students. Social groupings are usually a matter of interests students share that potentially can be affected by racial and socioeconomic identifiers; though many times such interests such as religion, politics, athletics, or economic practices and values are not synonymous with intellectual level or performance alone. Nevertheless, all of the aforementioned factors do shape how individuals perceive and value education and potentially these factors provide means to predict how individuals will perform and what are the best means to improve performance if an individual is academically below standard (Oregon Department of Education, 2010).

Smarick (2013) also supports the assertion that the educational achievement gap among the students in higher education is caused by a number of factors. Some of these contributing factors include the following:

- **Poverty** - The existence of poverty among people in various economic classes is critically linked to the social class or race of an individual in America; in other words, in many cases poverty is considered synonymous with a community's value based on the impact of financial deficiency and the fact that this financial deficiency only allows a limited number of choices based poverty (Smarick, 2013). Poverty causes people to have differing access to basic resources such as high-quality education with highly-qualified educators/ teachers.

Poverty is reflected in the quality of resources, buildings, and staff/faculty. In addition, poverty affects other factors that may have significant impact on the kind of education students may have. Among these factors include school changes, moving from one home to another (transience), chaos in the family (often led by a single mother without consistent male role models in the position of a father), or incarceration of family members (community issues where fault may lie with individuals or opportunistic law enforcement). All of these poverty-associated factors may be directly or indirectly linked with the educational achievement of each individual student (Smarick, 2013).

- **Educational experiences of the family-** This is usually the case of immigrant families whose very limited experience of the American culture and educational norms are often important hindrances to the academic performance and achievements of first-generation immigrant children (Smarick, 2013).
- **Cultural values and norms-** The differences in the cultural practices, beliefs, and norms of each individual ethnic group also have direct/indirect effects on their educational decisions for their children. For example, while American values reinforce concepts of independence, individualism, and competition, the cultural values and norms of other cultures such as that of the Asian (including Asian Indians), Native American, and Hispanic ethnicities believe more so in collaboration and often selfless investment into the betterment of the community at large when American education promotes more individualistic displays of intellectual prowess (Smarick, 2013). In addition, segregation, prejudice, racism, and other discriminatory practices by the status quo of current administrators and instructors who possess Eurocentric attitudes and values in contrast to

the cultural values and identities of people of color, American and otherwise (Smarick, 2013).

- **School resources inequity** - Not all American students have access to quality educational experiences. A large majority of the students living in America have very limited equity and access to good education including high-quality teachers solely based on a lack of affluence (Smarick, 2013).
- **The attitudes of teachers and schools** - The manner by which the educators respond to the diversity of students potentially influences (i.e., decrease or increase) the educational achievement gap per student. The educators play a critical role in encouraging students to either excel or fail academically. The reason the instructors influence student decisions of enrolling in educational programs and completing them is based on the fact that the educational experience of students is not solely based on student interacting with material but with students and instructors. The more inclusive the learning atmosphere, the more collaborative and incorporating the educational experience, the better students perform no matter their ethnicity or socioeconomic status (Smarick, 2013).
- **Motivation of students** - There is a wide variety of reasons that may affect the psychological and emotional status of students. There are a number of factors that affect how students feel about themselves, the value of their courses, the instructors involved, and the student performance within those courses. Hence, the source of self-motivation and external motivation combining to assist the student moving forward or the combination may hinder the student if he or she does not feel completely fulfilled, understood, or connected to a class based on the instructor's endeavors. In addition, the financial, moral,

and emotional support and encouragement of the students' families also potentially affects the level of academic performance and achievement of the students (Smarick, 2013).

- **Environment in the school-** The school environment also plays a critical role in determining the level of achievement gap among students. For example, when the students do not feel valued or important to their school community as far as classmates, their instructors, and other administrators, are concerned; there is a high chance that such students will not persevere academically (cognitively and intellectually) Moreover, the presence of negative incidences and experiences of students such as sexual harassment, bullying, aggression, racial/ethnic or religious ridicule, and fighting significantly influence student perceptions of school, education's importance, and the significance of their own performance and potential to succeed (Smarick, 2013).

Hardin (1998) stated that students in developmental courses may be underprepared but that does not mean that they are incapable; that is the point of the developmental courses that place students at the expected and needed level to perform among their contemporaries (classmates in college). Some category factors that contribute to unpreparedness or achievement gaps in higher education include:

- Students making poor, misinformed or uninformed choices that adversely affect their academic future such as failure to select a college preparatory curriculum in high school or choosing to be a high school dropout and only attaining a GED;
- The adult student (above age 24 and a non-dependent) is considered non-traditional. Many display a variety of reasons for returning to school beyond those that traditional students have such as to graduate and pursue a career. Most non-traditional students are parents with dual responsibilities;

- Students with disabilities are often limited in their college preparedness due to the limits of the extent special education programs in high school;
- The developmental student has academic or physical problems that were not detected or addressed in high school because the problem is often intangible and is simply a matter of correcting issues and establishing necessary literary skills by introductory or corrective instruction;
- The student with limited English skills are students that may be weaker because they speak English as a second language or they have only been exposed to English based on dialect or a limited lexicon;
- The student attends college to avoid working or to avoid their parents, so their motivation is not to be successful in education just to avoid responsibility as an independent adult (Hardin, pp. 20-22).

Academic struggles are related to instructional methods as well as social and other environmental factors that are not being addressed. The experiences needed and exposures to information and skills necessary for success in college level reading adequacy are must and should be addressed. Social factors often include lack of exposure to materials and information at home and at school; this includes usage of Standard English spoken, read, or written. Social factors contributing to the reading achievement gap can include lack of exposure, restrictions in opportunities, funding, and racial segregation as documented in the social stratification of African American, Latino, Southeast Asian, and Muslim males in education (Bailey, 2004). Gaps in proficiency reveal that although the students may be graduating from high school and are proficient in their current job or skill, their reading literacy problems amongst other factors are deficient due to negligent or inadequate education in the students' past (Bailey, 2004).

## Online Learning

The traditional methods of instruction such as lecture and the use of the blackboard or white board exists; however, today, education is guided more by technology through the internet versus human contact/direct instruction. Instructional use of the internet should be based on instructional theories, design models (of actual tools and applications), and strategies that align instructional media tools with college-level expectations (Dillon & Zlu, 1997). Online learning is a derivative of distance learning. Distant learning was based on a teaching model devised in 1840 by an Englishman, Isaac Pitman. Pitman taught shorthand through correspondence in Bath, England. The task was to transcribe passages from the Bible into shorthand or shorthand into the original verses. In exchange for teaching, Pittman received a mailed -n fee of a few pence. In 1874, Illinois Wesleyan University awarded baccalaureate in absentia (in absence from the physical campus). In the 1890s, distance learning involved a civil service test. In order to be eligible for the test, potential employees became students by taking correspondence courses (Flores, 2004). By the 1970s, correspondence courses and degrees became an option for numerous students in remote areas of the world. In 1991, Jones International University was the first online university accredited through the North Central Association of Colleges and Schools (NCACS) (Rogers & Oder, 1999). The University of Chicago president, William Harper has been credited as the founder of learning by correspondence programs via mail or virtual distance learning (Gayton, 2007).

Currently, various terms are used for online learning such as e-learning, distance learning, distance education, computer-assisted instruction, computer-based instruction, technology based-instruction, technology-delivered instruction, computer-based simulation and simulation games (Federman & Bell, 2013). Online learning or more commonly noted as e-learning or distance learning, is defined as learning facilitated virtually through an online interface system via

computer, database, social media, network, and web technologies (Garrison, 2011; Moore & Kearsley, 1996). The course delivery differs with regards to online education versus on-campus education. Nevertheless, there are a number of facets in which to receive education via online learning such as the hybrid course. The hybrid course blends online and face-to-face content delivery on-campus as opposed online programs that have all content delivered online with no face-to-face meetings.

According to Moore, Dickson-Deane, and Galyen (2011), the concept of online learning is difficult to define; however, there are numerous concepts that are considered synonymous with to the concept such as online course, web-based learning, distance learning, and web-based training. One common definition of online learning is an educational training program via internet and computer-based media technologies (Sangrà, Vlachopoulos, Cabrera, & Bravo, 2011). Another definition of online learning states it as distance education, involving students making use of web-based communication systems for interaction (via telecommunication and social media-based technologies). Through these technologies, individuals exchange information and communicate with their educators and fellow classmates (Sangrà, Vlachopoulos, Cabrera, & Bravo, 2011). Yet another common description of online learning refers to it as a system of learning and teaching, involving the use of internet technologies and multimedia in order to facilitate quality learning and enable access to various educational services and resources (Sangrà, Vlachopoulos, Cabrera, & Bravo, 2011).

Levenberg and Caspi (2010) assert that there are many benefits and advantages to online learning. Online learning offers the flexibility which the on-campus classes do not always provide as far as scheduling of lectures is concerned. There is only a limited time for operation of classes. However, due to the convenience of teaching through online technologies and social media-based

presentation, online learning can take place anywhere, anytime. The asynchronous nature of online learning makes it advantageous for distance learners to acquire educational information depending on the most convenient time for them. Essentially, online learning offers an ideal learning environment which gives students the freedom to study anytime, download educational materials, as well as send messages to their peers and teachers concerning academic matters efficiently. The benefit in an asynchronous form of learning is that it gives students sufficient time to address core lessons within courses, understand themes and association, and to make clearer more defined responses with regards to learning exercises, assessments, and online socialization (Levenberg & Caspi, 2010).

A major advantage of online learning is that it allows operations in a self-paced learning environment. Thus, in such kind of environment the learners are relaxed rather than being pressurized as students. The online learning environment gives students the freedom to decide their feasible study time, and they complete their studies at their own pace (Moore, Dickson-Deane, & Galyen, 2011).

Online learning gives students the autonomy as well as the freedom to adopt a learning method that is most ideal for them versus a highly-structured pedagogical ideology implemented with one style or direction in mind. In other words, on-campus programs are overly-stylized versus individualized as far as time, presentation, and even interaction with classes is concerned. Instead the online classes add a sense of distance with socialization that is a balance between social interaction and independent study. In many fashions, online learning is a choice of individuals who value independence such as the non-traditional student. Online learning propagates the idea of self-directed learning, which implies that the students have the power to manage and monitor the contextual and cognitive aspects of their personal learning. The implication is that online learning

was designed with the independent learner in mind. It is also an independent kind of learning which encourages a learner-to-learner interaction through social media-formats for both interactive and independent instruction (Moore, Dickson-Deane, & Galyen, 2011).

In online learning programs, the educational institution and the students are not limited to situational barriers. The popularity of online learning has been increasing since the recent decade. According to the most recent 2010 Sloan Survey of Online Learning, surveyed from 2,500 colleges and universities nationwide, 5.6 million students were enrolled in an online course in the fall of 2009; this was an increase of 1 million students from 2008. 63% of the reporting institutions said that online learning was a critical part of their institution's long-term strategy ("Class", 2010). In addition to corporations, there is a growing demand for profit and non-profits schools and from K-12 to higher education institutions to adopt some form of e-learning. E-learning has provided the same formats for K-12 schools as colleges and universities both within school and at remote locations; however, many students who currently use such programs have neurological, mental, behavioral, developmental, or advanced learning disabilities. E-learning is growing due the desires to generate revenue, improve access and offer students scheduling flexibility primarily for young parents or individuals who take active parts in maintaining their family home and livelihood (Bell & Federman, 2013).

There are growing concerns regarding the quality of education and the effectiveness of the online programs. With this in mind, online programs are designed with an effective delivery method that does not limit the quality of education (Rovai, 2002). The convenience of technology and successful adoption of online programs still requires components that provide quality and relative instructions for numerous students who need to be acquainted with online technologies. As with traditional face-to-face programs, according to Ertmer & Newby

(1993) the behaviorist, cognitivist and constructivist schools of thought can all be applied to online learning as well; this is based on the interface of technology providing a psycho-emotional and social interaction between individuals. Based on behaviorists' strategy, social-based online programs incorporate facts, the cognitive strategy to include the process and principles, and the constructivist strategy for the higher level thinking; thus enabling online students to learn with quality that is equivalent to the on-campus experience.

Many studies have been conducted to examine the effectiveness of online education programs. Bell and Federman (2013) conducted a meta-analysis of 232 studies from 1985 through 2002; these studies compared distance education with traditional classroom instructions. The primary areas of comparison were student achievement, student attitude, and course completion to include K-12, and graduate and military programs. No significant difference was found in the area of student achievements. It was also found that students' attitudes had a small but significant difference which favored classroom instruction. Similarly course completion also showed some significant difference in favor of classroom instructions. In the area of student achievement there was no significant difference, student attitudes had a small significant difference favoring classroom instruction, and course completion showed a small but significant difference in favor of classroom instructions. In many ways the marginal factor of favoring classroom instruction is due to some of the technological limits of online classes, but as an alternative, the support for online classes continues to increase. Either way, Bell and Federman's (2013) research study found that e-learning can deliver instructions effectively in postsecondary educational institutions. The research in this area has increased in effective evaluations of online programs in regards to online instructions.

Self-efficacy involves the students' perception or confidence in a given task. Due to integrative social technology, self-efficacy is important in not only the navigation of a system but the motivation needed to engage in online learning. In online learning students are required to learn more independently through the use of the software, multimedia, and other network services versus having direct physical instruction in how to operate online and computer technologies. Proficient digital literacy's or technological perceptions are important to a student's success in online learning. All of the students enrolled in online studies may not be familiar with the numerous and at times complex uses of such technology. Due to this factor, computer anxiety often exists. Computer anxiety is defined as the fear of using computers or any electronic, socially interactive technology including certain cell phones. Some students may not have used computers for educational purposes only for gaming and social networking. Gaming is significantly different from online learning as far as interaction and navigation due to purpose and presentation are concerned (Willoughby, 2008).

### **Digital Literacy**

According to Nawaz and Kundi (2010), digital literacy describes individuals that are proficient in online interaction that involves literacy. The students and teachers do not have an option but to adopt a computer literacy level that is up-to-date with the growth and development of the digital societies. If students and instructors fail to have standard digital literacy, it is highly unlikely they will succeed in their given programs. Digital literacy is also a concept that pertains to the students' ability to perform important, yet basic tasks while engaging in activities within a digital environment. Nevertheless, digital literacy is more than simply using the physical software available; students must develop the ability to make use of digital information in order to operate in an online program (Nawaz & Kundi, 2010; Ng, 2012).

Hague and Payton (2011) state that the importance of digital literacy applies to all individuals in the present generation (society). This is because in the present digital environment, the capacity to function and negotiate effectively highly depends on the capacity to make use of a diversity of digital formats in the most effective manner possible. Due to technological advances and more services and institutions utilizing online systems, the general population is becoming more 'digitally literate.' Essentially, digital literacy relies on a composite of the right understanding, knowledge, and skills in applying digital technology-related practices that result in correct content presentation and responses as well as technical knowhow to navigate between forums, databases, dropboxes, and tutorial information such as podcasts, webcasts, and PowerPoint presentations (Hague & Payton, 2011).

Technological advances impact needed adjustments in the curriculum that incorporate computers, the internet, and mobile learning technology in order to prepare the students for the demands of the progressive world and workplace. The classrooms shift to contemporary technology as a vehicle of educational and mediation of learning and communications continues with the drive to equip students with 21<sup>st</sup> century learning skills in digital literacy and online/computer preparedness and proficiency thereof. Literacy today does not just cover the cognitive, psychological, and social sciences of reading fluency and comprehension that are necessary for reading self-efficacy and digital proficiency. Over time, this has evolved into the need for understanding digital information and communication technologies (ICT) beyond casual navigation and social interaction.

21<sup>st</sup> century consortiums have identified digital literacy skills that include basic reading or printing literacy along with scientific, economic, technological, visual, information and multicultural literacy's and global awareness that are prevalent in this digital age and necessary

for the 21<sup>st</sup> century learner to master (Lemke, 2002, p. 17-18). These literacy's are numerous and diverse; however, careful digital literacy allows for differentiation of styles and presentations of information per subject, school, or instructor. New literacy's that are necessary for online students to perform adequately include the Internet, wikis, blogs, instant messaging, email, social networking, and even gaming; these literacy's are currently incorporated in the current educational curriculums. This literacy's plays a major role in the interactions of the students in the online classroom (Bell and Federman, 2013).

The increase in e-learning technologies has gained popularity based on the demand to compete on a global level in which all situational barriers are removed. With this in mind, the relevance of reading fluency is highly important in developing ICT or digital literacies. Having confidence in the aforementioned skills and literacies directly affect one's self-efficacy and perception of online learning (Anderson, 2011).

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A student who possesses sufficient digital literacy and social awareness is someone who has sufficient knowledge, discernment and creative skills in regards to understanding advantages and disadvantages of digital technologies and how to address them responsibly and ethically (Hague & Payton, 2011; Ng, 2012).

At present, the different educational institutions in the United States are pouring out all their efforts in order to provide students the right perspective about digital literacy, as well as the

right ethical view in making use of the various e-learning tools and technologies (Hague & Payton, 2011; Ng, 2012). Institutions have the responsibility to face different hurdles with online classes such as the need to improve and maximize digital literacy among students and educators alike. In order to accomplish this revolution, schools must administer greater digital literacy awareness and skills with people's resistance to change in mind. This is essential to training, perceptual differences, diverse demographic characteristics, and others categorical conditions (Hague & Payton, 2011; Ng, 2012).

In 2012, a study conducted by the Academy Administration Practice (2013) revealed that student preference for the written word as compared to physical texts was waning. More and more students are beginning to appreciate the benefits of purchasing digital e-books over books with printed text. In fact, among the advantages realized by student readers on utilizing e-books include portability as well as find and replace functions and copy and paste. Due to the increasing popularity of using e-books installed in tablets and other digital reading devices, student readers have begun to realize that by using e-books, they can carry around multiple books all at the same time and can even download and store countless other books in one small device as well as their assignments and other pertinent text, digital, and audiovisual information (Academy Administration Practice, 2013; Nelson, 2010; McCarthy, 2011).

Besides portability, e-books also become popular in use due to its interactive features. For example, applications that help student readers pronounce words (phonetic recognition) properly and look into the dictionary meaning of specific terms and concepts (including etymology) may be easily installed and used in e-books. Also, e-book have audio, videos, animation, as well as other interactive simulation capabilities (Academy Administration Practice, 2013; Nelson, 2010; McCarthy, 2011). This critical shift to the use of e-book technology is expected to continue in the

succeeding years with new development likely to occur in the e-book devices' features such as upgrades in graphics, pictures, charts, and the reading function (Nelson, 2010; McCarthy, 2011).

Digital natives are the generation of people born in or after 1980 (Prensky, 2001). Digital natives consider computers and the internet as integral parts of their daily environment. Students growing up during this time may be more technologically savvy and readily accept online learning. However, all online students are not initially technologically savvy, appropriate instructional methods and meaningful curriculums are necessary for an effective learning environment (Parkay, Anctil, & Hass, 2010). Implementing technology to meet the needs of the students is very important. Students in the current generation are more familiar with eBooks and more commonly use iPads, android tablets, android cell phones, nook and other mobile devices. Again, the current students born after 1980 are considered 'digital natives'.

According to Bill Gates, CEO of Microsoft, the use of technology has become more significant and indispensable (Parkay, Anctil, & Hass, 2010). A study showed that some digital natives may not be as familiar with educational technologies but they are able to adopt new technologies into their learning easily because it is more prominent in their environments (Wang, 2012). All students enrolling in school today may not be as fluent or accepting of the integration of technology in education and online learning because of their exposure, interests, or simply unwillingness to utilize electronic devices and internet technology in such fashion.

### **Age Factors**

Currently, the demographics of students seeking higher education degrees do not follow the traditional student profile thirty years ago (the 1980s). The students enrolling in online degree programs do not fit in the mold of the young, full-time student that stay on-campus, have a part-time job or no job at all, and no serious responsibility other than focusing on school (Smart, James

& Cappel, 2006). According to Hardin (1998), the adult student is the non-traditional student due to the fact that they are going back to school due to lay-offs and periods of unemployment or to compete with more skill and earning power as career fields advance and demand more education and expertise (Hardin, 1998).

Unlike many, nontraditional students, the digital natives are more familiar with technology being integrated into education. Computer self-efficacy (CSE) or a student's attitude toward online learning can be closely related to their computer skill and their anxiety to use it in an academic environment. However, the anxiety might arise from ignorance about operating computers, software, and the internet; therefore, developmental courses in reading comprehension and computer/online usage will assist in digital literacy and increase reading self-efficacy (Smart et al. 2006).

The U.S. population consists of the G.I. generation (1901-1924), the Silent Generation (1925-1942), the Baby Boomer (1943-1960), Generation X (1961-1981) and the Millennial's (1982- present) (Howe & Strauss, 2000). The values and expectations of the different generations differ due to their exposure. As far as technology is concerned, Baby Boomers still used handwritten letters but had the computer punch card, Betamax, color TV and VCR. Generation-X had personal computers, calculators, video games and the internet. The millennial's had the DVD, internet with social media, cell phone and YouTube (Mascone, 2009). Some Baby Boomer and early Generation X students that are enrolled in online studies are not as familiar with technology and collaborating online as millennial students (digital natives). Millennial students are more familiar with communicating through technology and working in groups due to early exposure during their primary and secondary education (Elam, Stratton, & Gibson, 2007).

Helmich (1999) completed an ex post facto study and determined how age was a primary demographic that potentially served as a predictor for student satisfaction. Students' of ages 18 to 24 years were more likely to be full-time day students and part-time evening students. Due to work commitments and family responsibilities, the availability of the evening course was more convenient for older students (Helmich, 1999). According to Didia and Hasnat (1998) and Wojciechowksi and Palmer (2005), older students perform better in comparison to younger students within the classroom versus online. Murray (2008) investigated the variable age and the relationship with grade achievement in online classes. Murray discovered that age was a primary factor in achievement within online classes based on the fact that online classes are still unfamiliar to the less technologically-adept Generation X and Baby Boomers.

According to Park and Choi (2010), age is a significant factor that determines the likelihood of growth and success of the online students/ learners. The age range of majority of online learners is from age 25 to 50. Over the years, the number of online learners from this age range has steadily increased. Interestingly, the findings of the study revealed that the age factor does not have a significant correlation with regards to the perspectives and attitudes of the students towards online learning (Park & Choi, 2010). However, a different study conducted by Xu and Jaggars (2013) revealed that age does not have a direct correlation with the students' performance or satisfaction in online learning. Therefore, it can be deduced that age is not a factor in perceiving success in online learning; however, the matter of being technically adept to succeed potentially may be an area in which an individual needs improvement.

It was found out that older students, especially those older than 28 years are more likely to be able to completely finish their online learning courses as compared to the younger learners (Xu & Jaggars, 2013). Colorado and Eberle (2010) who argued that the rate of online learning

success among older students is greater than those who are younger and this may be because of the significant increase in the learners' critical thinking, elaboration, rehearsal, and self-regulation when it comes to taking online coursework. Nevertheless, a number of the aforementioned studies reflect that the key area in which older learners succeed and younger learners lack a more prominent performance is determination. Even though digital natives may be younger than many non-traditional students, non-traditional students are far more driven to learn and succeed than to simply give up and not complete lessons or courses. A major reason for the difference is that personal and family responsibilities that many younger students may not have experienced or ever had to consider; therefore, where younger students have the technological prowess, older non-traditional students have the determination to learn and move forward (Xu & Jaggars, 2013; Colorado & Eberle, 2010). Xu and Jaggars (2013) stated that further development of online technologies in conjunction with college-level courses should be designed to address the needs of the growing, non-traditional population of online students, aged 28 and above.

### **Ethnicity Factors**

The different cultures focus differently on facilitating online learning due cultural perspectives of educational and pedagogical perspectives, technology, distance learning, schedule flexibility, and social interaction impact students' expectations (Bodycott & Walker, 2000; AAUP, 1997). Okwumabua, Walker, Hu, and Watson (2010) conducted a study with 124 African American students concerning their attitudes toward online learning. The study sought to find out if African American students' have favorable or unfavorable attitudes toward online learning, are African American student anxious or confident about online learning experiences and do African American students believe that online learning experiences are useful to them. The key findings from the study was that there was anxiety, lack of confidence, and few with online experiences

and 64.5% reported negative attitudes toward online learning. The model in one's environment is an important source of information for measuring and finding the root of one's self-efficacy; essentially, whatever is displayed, modeled, or explained to an individual in the home and specifically as a child impresses on one's values and focus for future endeavors or related need or interest. Parents and other influential people are models in their social environments. The parents, coaches, or teachers that have academic and social expectations from the child and the child's own academic accomplishments affect overall self-efficacy. Language Arts course, reading self-efficacy must be substantial in order for students to succeed by performing accordingly (Bandura, Barbaranelli, Caprara, & Pastorelli, 1996).

Upon entering college, some African American and other students of color experience difficulty in reading comprehension primarily based on challenges in vocabulary, analyzing text, problem solving, and critical thinking. In addition to reading fluency, online studies require other independent learning strengths and motivation that are not reflected in gaming and social networking and are not often presented to students in public schools. Study habits and focus needed to accomplish tasks in online classes are not presented in a number of schools that do not have a large use of computers due to money concerns. In many cultures, physical socialization is far more efficient for communication and comprehension; therefore, there is a need for greater research to present information online with a greater sense of socialization, conversation, and technological ease for all ethnicities to enjoy.

According to Murray (2008), there is a statistically significant relationship between the variable ethnicity and the relationship with grade achievement in online classes. In the study, Hispanic students had the highest percentage of passing online courses in comparison to Caucasian, African American, and Asian students who were less likely to pass. The reason

Hispanics may perform better is a matter of English being a second language and therefore, students read the language with a more exact message for deeper understanding in mind. In other words, these students often have more exposure to scholastic-based English vocabulary and usage, thus and online class is more about reading than focusing on pronunciation and idioms. The written word is far more exact in definition to present information for universal audiences that would get lost in idioms and colloquialisms. With this in mind, Caucasians and African Americans have become more aural and social with less focus on lecture, note taking, and other writing. Education in the native language can be far more effective in aural and social presentations than writing alone, but for students that are not as familiar with social customs, historical and popular allusions, along with cultural idioms respond better to written, standard English.

Seyal, Ali, Mohamad and Roman (2010) conducted a study that investigated 220 students at a technical and vocation institution in Malaysia to assess their attitudes toward online learning, based on factors such as gender and age. The majority of the students were between the age of 20 and 25. There was no difference in the attitudinal scores for the males and females, but there was a significant difference in the attitudes of students in the age group below 20 and above 25.

According to Ashong and Commander (2012), the ethnicity factor has an important impact on the students' individual perceptions and attitudes toward online learning. Several studies previously conducted revealed that cultural background and ethnicity has an effect on the views of students with regard to web-based learning. For example, in one study, it was found out that students with an Anglo-Saxon background were more confident when it came to online learning compared to their Asian counterparts. Potentially, the level of comfort among Anglo-saxon students came from the material being presented in a language and cultural standpoint of education synonymous with their cultural perspectives and beliefs (Ashong & Commander, 2012). Because

of these significant differences in the perceived level of difficulty of the two races/ethnicities, it is necessary to develop a unique online learning approach that will address the appropriate online learning needs of the two races/ethnicities (Ashong & Commander, 2012).

Another study found that a majority of Singaporean student's preferred personal interactions (face-to-face interaction) more than online interaction. In fact, Singaporeans practice a custom of meeting people to collaborate face-to-face interactions (Ashong & Commander, 2012). This is in contrast to the Australian students who generally prefer to carry out their coursework and school activities through online interaction. Within the aforementioned studies, there lies support for consideration of ethnic and cultural differences influencing student perception, usage, and value of online and computer technologies concerning online learning (Ashong & Commander, 2012).

### **Self-Efficacy and Academic Performance**

According to Schkullaku (2013), self-efficacy has a significant influence on the commitment, choice, energy, and effort spent as well as on the overall performance level of students when it comes to their academics; self-efficacy and academic performance. In fact, students who possess higher levels of self-efficacy are more likely to put in effort in their academic studies and thus perform well academically (Loo & Choy, 2013). Apart from abilities, the general attitude of students based on their academic performance is what motivates them to excel and become successful in their studies (Schkullaku, 2013). By definition, self-efficacy refers to the students' personal confidence and trust in their ability to successfully accomplish or complete certain tasks (Schkullaku, 2013).

Loo and Choy (2013) stated that since the levels of self-efficacy of students are directly related to the way they perform their academic-related activities, then most likely, students with

high self-efficacy will be able to perform well in their academics as compared to those who have low self-efficacy. Despite the numerous claims concerning the positive correlation between the self-efficacy of students and their academic performance, there are still other researchers who continually argue that the attitudes of students may not be considered as an important predictor of their academic performance; however, it is found that attitude shapes perception. Perception can be limited by emotion; therefore, attitude affects performance and determines self-efficacy (Li, 2012).

Schkullaku (2013) further argued that self-efficacy significantly influences the academic performance of students because there is a great tendency for students who possess high levels of self-efficacy to set goals that are higher than usual thereby challenging themselves to put more effort into their academic performance. It is the expectation of oneself that fuels the attitude one has defining self-efficacy. Typically, they are individuals that put more effort and have more willingness to accomplish goals that are otherwise too high to achieve in the minds of the unmotivated or those that accept a certain status quo (Schkullaku, 2013; Li, 2012; Loo & Choy, 2013).

### **Students' Attitudes toward Online Learning**

Based on the findings of the study performed by Wong (2012), the students' attitudes towards online learning is generally positive; nevertheless the students still preferred that the delivery of their classroom lectures be made face-to-face and only with the assistance of technologies, a primary "face-to-face", secondary "technological" pedagogical construct. Online lecture viewing proved to be most preferred by students when it came to online learning. However, a majority of them negatively perceived the viewing of the recorded tutorial videos. This phenomenon can be explained based on how individuals process information from a cultural-

pedagogical perspective. Listening to a lecture is passive learning; dealing with tutorials is active. Feedback is necessary among cultures that respond from immediate reaction or explanation provided in a social context versus other cultures in which education procedures are far less social and more individualistic (Adewole-Odeshi, 2013; Wong, 2012).

Knowles and Kerkman (2007) and Trinidad, Aldridge, and Fraser (2005) confirmed that online learning helps in increasing the interaction of the students not only with their instructors but also with their fellow learners. In a different study performed by Mehra and Omidian (2011), it was revealed that 76% of the students possessed a positive view towards online learning and 82% of the students perceived the usefulness of online learning in maximizing the development of their knowledge and skills. According to Adewole-Odeshi (2013), a number of factors influence the students' positive perception towards online learning and among these factors are, self-discipline, knowledge and technical skills, patience, time management and the ease in use of software. These factors confirm that most likely, majority of the students at present and in the future will appreciate the effectiveness of online learning in maximizing their learning processes (Trinidad, Aldridge, & Fraser, 2005; Cantrell, Correll, Clouse, Creech, Bridges, & Owens, 2013).

Trinidad, Aldridge, and Fraser (2004) asserted that there are numerous factors which influence a student's learning experience and among these are, the quality of the learning content, the quality of the support system and infrastructure used by the educators. Communication or actual animosity potentially is rooted in the infrastructure and support system the teacher uses in presenting lessons, receiving assignments, holding discussions, and sharing emails. The more comfortable an educator is with the online technology and formats, the more helpful and effective the educator potentially be while interacting with students online.

Trinidad, Aldridge, and Fraser (2004) stated that an e-learning environment may definitely support and enhance student learning; however, to achieve the best learning outcomes, it is necessary to promote online learning through exercise of the best learning practices. It was further asserted that traditional learning and teaching are not sufficient to maximize and accelerate the students' learning specifically with regards to operating within an online learning format (Trinidad, Aldridge, & Fraser, 2004; Trinidad, Aldridge, & Fraser, 2005).

Wong (2012) stated that the main purpose of online learning is to augment or improve the student learning process. The significant changes in the nature of communication and information technologies led to the increased demand for the use and incorporation of technology into the students' learning. Similar to Adewole-Odeshi (2013), Rhema and Miliszewska (2014) stressed that students' online learning attitudes are largely influenced by their personal perceptions concerning the quality and ease of various online learning tool utilization.

Wong (2012) also confirmed that students from the developing countries generally possessed positive attitudes with regard to online learning due to their familiarity and sense of detail when reading in English. However, foreign students often feel that their performance in online classes are highly important to them and and poor performance negatively impacts their self-esteem as well as performance.

Demographically, it was found out that male students possessed higher levels of positive attitudes and perceptions in using e-learning tools as compared to female students (Wong, 2012). However, other studies also confirmed that gender-wise, both male and female students generally possessed positive attitudes towards online learning; this is due to the use of information and communication technologies that promote a more advanced and convenient means of learning (Chu & Chu, 2010). Moreover, the students who were more exposed to the use of technologies in

line with their education including those who had improved access to technology possessed stronger and more positive attitudes with regard to online learning (Papaioannou & Charalambous, 2011).

In the study performed by Kybartaitė, Nousiainen, and Malmivuo (2009), it was confirmed that the most effective and useful online learning elements that help maximize the students' learning process include learning materials that are in animation and video formats. A great majority of the students also agreed that modern technologies such as the use of personal computers and other mobile devices help support their education. Video lectures, which can be downloaded from the Internet were also found to be effective as a learning supplement to students (Kybartaitė, Nousiainen, & Malmivuo, 2009). Interactivity inside the classroom is also significantly enhanced by online learning tools which is also an important reason why many students possessed positive attitudes towards e-learning; many of the digital natives have been exposed to e-learning experiences at younger ages than non-traditional students. Nevertheless, non-traditional students' level of maturity, determination, and reasons for returning to school help them excel in online learning (Siau, Sheng, & Nah, 2006).

### **Summary**

The review of recent and previous literature suggests that students perceive e-learning and other learning tools as important in the process of teaching and learning because they largely enhance social communication, an essential component of classroom lectures, discussions and assignments (Kybartaitė, Nousiainen, & Malmivuo, 2009). Various factors influence the positive students attitudes towards online learning. A major factor is the ability of online learning method to effectively facilitate social interactions and communications that are essential components of

the learning process (Kybartaitė, Nousiainen, & Malmivuo, 2009; Trinidad, Aldridge, & Fraser, 2005). Other important factors include the ability of online learning tools in improving the self-esteem and motivation of students when it comes to their studies and its ability to provide a more convenient means of gaining knowledge (Wong, 2012; Kybartaitė, Nousiainen, & Malmivuo, 2009). It is also seen that reading self-efficacy, age, and ethnicity also largely contribute towards shaping the students' perceptions towards online learning. The review of literature supports that online learning is beneficial and largely contributes towards increasing performance of students that enroll in online learning courses.

## CHAPTER THREE: METHODS

### Overview

The purpose of this study is to identify factors that could prevent a student's success in an online program, by specifically examining if deficiencies in reading self-efficacy (reading comprehension), ethnicity and age exist. Being proactive in assessing and identifying any deficiencies, would help to increase retention, performance and graduation rates if they are addressed and the student's attitude online learning is positive. This study will examine student's attitudes toward online learning and the relationship between reading self-efficacy, age and ethnicity. Using the Reading Self-Efficacy Survey (RSE) to test for personal belief of reading skills and achievement, personally and academically, and the Distance Education Learning Environment Survey (DELES) measures student distance education/online education experiences. This chapter will address the design of the study to include the research question, participants and settings, instrumentation, procedures and analysis.

### Design

The design of this quantitative study was a correlational research design that addressed students' attitudes towards online learning. The correlational design was used because it examines the relationship between predictor variables and a criterion variable (Gall, Gall, & Borg, 2007). The three predictor variables included: (a) *reading self-efficacy*, (b) *ethnicity*, and (c) *age*. Reading self-efficacy in this study is defined as one's individual belief about their reading fluency (Solheim, 2011). Ethnicity is defined in this study as a person's descent, social identity or self-identification as African American, White, Asian, Hispanic and other (Phinney,

1990). Age in this study is defined as a person's numeric age from date of birth in years (Jarvik, 1975). The criterion variable is students' attitudes towards online learning. It is defined as a student's perception, to include the success or challenge of the online learning experience (Bolton, 2017).

### **Research Question**

This study was designed to address the following research question:

**RQ1:** Can online college students' *attitudes toward online learning* be predicted from a linear combination of *reader self-efficacy*, *age*, and *ethnicity*?

### **Null Hypothesis**

The null hypothesis for this study was:

**H<sub>0</sub>1:** Online college students' *attitudes toward online learning* cannot be predicted from a linear combination of *reader self-efficacy*, *age*, and *ethnicity*.

### **Participants and Setting**

There were 295 students that volunteered for this study. The students included in the population for this study were post-secondary students enrolled in online courses, either full-time or part-time, at a nationally accredited college in the southern United States. The sample was selected through convenience sampling from one nationally accredited college that offers online and campus degree programs. The presentation of the study was through an online, anonymous survey. Students had to be at least 18 years of age. The status of students as full-time or part-time was not considered; students only had to be enrolled in an online course currently or within

the last six months to participate in the study. The Student Director and Program Director, posted the researcher's study details on the student SharePoint site, informing students of their participation request. The researcher did not have direct communications with the participants during the study at any time.

Students were enrolled in various courses for different degree programs. Some students were full-time online students and some were students in blended studies, which include online and campus courses. These programs included but were not limited to Business Administration, Human Resource Management, Accounting, Criminal Justice and Public Administration. The age among participants was from 25 to 34 years old. The ethnicity distribution of the final sample was: 46.8% African American, 40% Caucasian, 4.7% Hispanic, 7.5% percent, and 1% Asian. By gender, the sample consisted of 248 females (84.1%) and 47 males (15.9%). Out of the population,  $N = 295$  volunteers participated in the surveys which according to Gall et al. (2007)e exceeded the required minimum for a medium effect size with statistical power of .7 at the .05 alpha level.

### **Instrumentation**

#### **Distance Education Learning Environment Survey (DELES)**

Originally, the Distance Education Learning Environment Survey (DELES) was developed by Scott Walker in conjunction with the Texas Center for Educational Technology (TCET) in 2003. The initial study involved the design, development, and validation of a learning environment survey instrument; the survey instrument's use was to observe student performance in post-secondary distance education courses The DELES measures student distance education experiences in six scales (psychosocial learning environment items) and one (affect) scale-

- Instructor Support (Scale I) which contains 8 questions.
- Student Interaction and Collaboration (Scale II), which contains 6 questions.
- Personal Relevance (Scale III), which contains 7 questions.
- Authentic Learning (Scale IV), which 5 questions.
- Active Learning (Scale V) which contains 3 questions.
- Student Autonomy (Scale VI), which contains 5 questions.
- Enjoyment (Scale I), which contains 8 questions

Each of the 34 now 42 (later expanded with eight question to 42 for Enjoyment scale) DELES questions or items are answered through one of five responses: Never, Seldom, Sometimes, Often, and Always established in a Likert Scale (Walker & Fraser, 2005). The additional 8 items added to the original 34 items involves student within a study conducted by Walker and Fraser (2005) , the DELES served as a means of observing and measuring psychosocial aspects within learning environments in regards to distance learning (online education programs).

DELES development took place in three stages. These three stages included: the identification of salient scales, the development of survey items, and field testing and analyzing data using item analysis and validation procedures (Cantrell et al., 2013). Following these three stages of development, Walker and Fraser (2005) researched the association between the psychosocial learning environment and students' enjoyment of distance education.

Initially, the DELES began with a literature review within a study by Moos' (1974) concerning student experiences, attitudes, and opinion the student had of the student's performance. Moos' study generated 14 scales: 5 represented Relationship Dimension, 4 represented the Personal Development Dimension, and 5 scales related to the System Maintenance and Change Dimension. These 14 scales were submitted to and reviewed by a panel

of distance education researchers and active practitioners. Later, the 14 scales were streamlined into 6 scales: 2 scales represented the Relationship Dimension, 3 scales represented the Personal Development Dimension, and 1 represented the System Maintenance and Change Dimension (Walker & Fraser, 2005).

The initial analysis of the DELES included data collected from 680 students (Fraser, 1986). This data was found to be both valid and reliable based on the study design's generalizability which led to the DELES full development in 2003 and the 2005 study. The initial study was conducted in 1986. It was found to be statistically significant in terms of the relationship between the distance education learning environment and student enjoyment or sense of fulfillment while experiencing distance education. In terms of validation, originally 55 items for the DELES were a part of the overall test development; later, these items were distributed to a panel of distance education degreed practitioners for their comments on each individual item as far as suitability, face validity, readability, and freedom from ambiguity (Fraser, 1986; Jegede, Fraser, & Fisher, 1998).

In terms of reliability each DELES scale, was assessed for internal consistency. From the sample of 680 students, the coefficient alpha ranged from 0.75 to 0.94 (Walker, & Fraser, 2005). This range was considered acceptable to excellent. The alpha reliabilities for the scales of Student Interaction and Collaboration (0.94) and Personal Relevance (0.92) were considered 'excellent'; the reliabilities for the scales of Authentic Learning (0.89) and Instructor Support (0.87) were considered 'good'; and the remaining scales of Student Autonomy (0.79) and Active Learning (0.75) possessed 'acceptable' reliability. Likewise, the attitude scale of Enjoyment had an alpha of 0.95, which can be considered 'excellent'.

According to the Walker and Fraser (2005), the DELES exhibited strong factorial validity and internal consistency reliability. The instrument has and continues to be utilized in numerous studies (Biggs, 2006; Ferrer-Cascales, Walker, Reig-Ferrer, Fernández-Pascual, & Albaladejo-Blázquez, 2011; and, Ng & Confessore, 2011; Lee & Tsai, 2010; Fraser, 2011). The approval to use DELES for this study was received from the Texas Center for Educational Technology site (Appendix B).

The survey takes approximately ten minutes to complete. The survey consists of 42 Likert-scaled items or statements which included 6 statements for the Student Interaction and Collaboration scale, 8 statements for Instructor Support scale, 7 statements for the Personal Relevance scale, 5 statements for the Authentic Learning scale, 5 statements for the Student Autonomy scale, and 3 statements for the Active Learning scale. The Likert response options established included: 1=Never, 2=Seldom, 3=Sometimes, 4= Often and 5=Always. The combined possible score for the DELES ranges from 42 to 210 based on the points given for the response options. A score of 42 is the lowest possible score, which meant that the respondents selected a majority of 'Never' for each item; 210 is the highest possible score, which meant that the respondent selected 'Always' for each item. Scores are also provided for each subscale on the survey. See APPENDIX C, Distance Education Learning Environment Survey for a sample of the DELES, including the instructions for the completion and submission of the online survey.

### **Reader Self Efficacy Survey**

The reader self-efficacy survey was used as the author intended, it measured student reading self-efficacy beliefs. Permission to use the reader self-efficacy subscale of the survey was received (Appendix D). The reading self-efficacy survey used a Likert scale with a six-point

metric, ranging from 1 (Not at All Confident) to 6 (Extremely confident). The reader self-efficacy survey scales consist of 4 subscales related to reading self-efficacy; these scales included: reading skills/strategies, academic reading, personal reading, and reading achievement. This reader self-efficacy survey includes the 7 question items originally devised from Piercey (2013), and 16 items established by Cantrell et al. (2013). The reader self-efficacy study includes, the skills/strategies subscale included 7 items that addressed the students' confidence in skills that include annotating text (summarize), analyzing text features, and identifying the most important information in a passage. The academic reading subscale included 6 items that addressed student confidence related to how well perform as far as read for classes. The personal reading subscale included 7 items that addressed student confidence related to non-academic reading materials such as newspapers, internet blogs, and instruction manuals. The achievement subscale included 3 items designed to address student confidence related to their literary performance on reading-related tasks such as standardized reading tests and receiving advanced marks (higher grades). The survey took approximately 10 minutes to complete. (See Appendix E: Reader Self-Efficacy Questionnaire for a sample of this instrument, including the instructions for the completion and submission of the survey).

The internal consistency reliability (Cronbach's alpha coefficient) for the subscales: reading skills/strategies .78, academic reading .84, personal reading .80, and reading achievement. The RSES 26-item reader self-efficacy survey employed by the researcher in the study was originally developed by Cantrell et al. (2013). The RSES 26-item (or question) reader self-efficiency survey has been considered valid and reliable in properly measuring the self-efficacy of college students in regards to online literacy and related performance in online courses (Cantrell et al., 2013).

## Procedures

Prior to collection of student data, the researcher received approval from the Liberty University Institutional Review Board to conduct this study (See Appendix A for IRB approval). Data for this study was collected from students attending one, post-secondary, nationally accredited college with online and campus courses. The specific college offers on-site education within multiple campuses throughout the Southeastern United States. Due to its online programs, it offered opportunity for a convenience sample of participants, due to the amount of campuses and online students served within the Southeast. Once IRB permission was granted, the researcher executed the research procedure presented.

The researcher did not have direct communications with the participants. The student's participation was completely voluntary. For the Fall Term 2016, the Program Director provided the details for the Student Director, to post the initial researcher's study details on the student SharePoint site that includes information and announcements for all of the students when they first login to the school website. The post informed students of their participation request (Appendix A). The email informed students about the study, the criterion, and provided the link to the website in order for information submission on the survey the reader self-efficacy survey, and the Distance Education Learning Environment Survey (DELES) instruments that would be addressed through survey monkey. Moreover, the email informed the students that all information received would be kept confidential and used solely for the purpose of this study; following the study, all student data would be properly destroyed after the three-year requirement. The email instructed student participants in addressing all major and minor facets of

survey and eligibility data with the confidence that student responses would be voluntary and anonymous (Appendix A).

The information portion of the survey consisted of demographic questions regarding gender, age, ethnicity, and their current enrollment status. The survey was “active” for a month in order for participants to conveniently reply and complete the survey as time permitted. The research provided a random drawing of four \$25 gift cards. The drawing and gift cards themselves served as incentive for the students’ participation and online survey completion by the deadline.

After the drawing, The Program Director was provided with the online e-gift card link in an email for the participants that were chosen (random selection). The fact that school officials were used in the emailing of the students and the maintaining of this relationship in regards to conducting the study protected the liability of the institutions and the student privacy. Students that chose not to participate were not be penalized and were not required to fill out the surveys on the website. The anonymous data was safely stored on a computer hard drive with a password and only the principal investigator (the researcher) of this research had access to the data.

### **Analysis**

This quantitative, correlational research study included 295 participants enrolled in online courses at a regionally and nationally accredited college. A multiple regression was used to analyze the data. Multiple regression is based on three assumptions, the assumption of bivariate outliers, assumption of multivariate normal distribution, and the assumption of non-multicollinearity (Salkind & Green, 2011). Histograms were used to test the assumption of

multivariate normal distribution by looking for the cigar shape. And the variance inflation factor (VIF) statistic was examined to test for the absence of multicollinearity.

According to Creswell (2003), multiple regression is used to examine the relationship of multiple predictor variables with the single criterion variable. The Product-Moment Correlation Coefficient  $r$  or Pearson  $r$  coefficient was used. Pearson  $r$  is commonly used to measure the strength and direction of a linear relationship between variables (Green & Salkind, 2011). To explore the linear relationship, a scatterplot was used with the predictor or  $X$  variables and the criterion or  $Y$  variable. The main analysis for this data included conducting a multiple regression analysis to test the hypothesis to determine if there is a linear relationship between students' attitudes toward online learning (criterion variable) and reading self-efficacy, ethnicity, and age (predictor variables). The researcher used multiple regression to explore the interrelationship among variables and the effects of different predictor variables on the criterion variable. In this way, the researcher was able to gather and explore information about the interrelationships and examine how the predictor variables (reading self-efficacy, ethnicity, and age) are related to the criterion variable (student attitudes toward online learning). The multiple regressions was tested at the 95% confidence level.

## CHAPTER FOUR: FINDINGS

### Research Question

This study was designed to address the following research question:

**RQ1:** Can online college students' *attitudes toward online learning* be predicted from a linear combination of *reader self-efficacy*, *age*, and *ethnicity*?

### Null Hypothesis

The null hypothesis for this study was:

**H<sub>0</sub>1:** Online college students' *attitudes toward online learning* cannot be predicted from a linear combination of *reader self-efficacy*, *age*, and *ethnicity*.

### Data Coding and Cleaning

Data was collected from 424 respondents who participated in the online survey. The data were first cleaned and coded. All categorical responses were dummy-coded in SPSS. Then, respondents who did not meet the inclusion criteria were identified and excluded from all analyses. The criterion for inclusion specified that the research sample only included students who had attended online studies within the last six months, were at least 18 years of age, and attended an accredited, two or four year college or university. Of the 424 respondents' answers to the question asking whether they have been enrolled in online studies in the past six months, 58 (13.70%) reported that they had not, and currently were not enrolled in an online class. Of the 424 respondents' answers to the question asking whether they currently were or had been enrolled in an accredited two or four-year degree program, 46 (10.80%) responded indicating they were not

enrolled in an accredited two or four-year degree program. After excluding respondents who did not meet the inclusion criteria, 342 respondents remained. More in-depth inspection of the remaining data revealed that many respondents had answered all of the demographic questions at the beginning of the survey, but failed to answer all of the items from the instruments measuring reading self-efficacy and college students' attitude toward online learning. Respondents without any data for at least one of these scales (i.e., they either omitted all answers on the DELES, the reading self-efficacy scale, or both scales) were then identified and excluded from all future analyses. A total of 295 respondents remained for analysis following the exclusion of the cases with incomplete data for at least one of these variables.

### **Computation of Composite Scores**

Composite scores were computed and saved as new variables for the constructs reading self-efficacy and college students' attitude toward online learning. This was done in order to:

- 1) avoid multicollinearity in the multiple regression analyses due to the highly correlated items from the scale measuring reading self-efficacy, which was to be used as a predictor variable; and,
- 2) avoid increasing the likelihood of committing a Type I error by conducting several multiple regression analyses for each of the individual subscales from the DELES. Calculating composite scores from the individual survey items for each scale facilitated the inclusion of each of the variables in the analyses as single scores representative of each construct.

Prior to computing composite scores, the interrelationships of all individual items for each subscale (Student Interaction & Collaboration, Personal Relevance, Authentic Learning, Active Learning, Student Autonomy, and Enjoyment) were assessed. The purpose of this assessment was to determine the efficacy of creating composite scores for the subscales, as well as to simplify the analyses. Cronbach's alpha ( $\alpha$ ) was the statistic measurement used for this assessment, because  $\alpha$

assesses the internal consistency of the items that was aggregated to create the composite scores. The  $\alpha$  statistic was also calculated for all items within the Distance Education Learning Environments (DELES) survey, regardless of subscale, in addition to all items within the Cantrell self-efficacy scale. Table 1 below, details the Cronbach's alpha analyses for each subscale and total. As demonstrated in the table, all alphas were very high for each subscale of the DELES (between  $\alpha = .814$  and  $\alpha = .948$ ). These results demonstrate that the internal consistency is strong for all scales and subscales, and thus composite score calculations are warranted for items related to students' attitudes toward online learning.

Individual composite scores were then computed for each subscale, by calculating the average of scores for all items within each subscale for the DELES to create one variable representative of the broader construct. The table below also demonstrates that the subscale with the lowest composite score was Student Interaction & Collaboration ( $M = 3.41$ ,  $SD = 1.05$ ), while the subscale with the highest composite score was Student Autonomy ( $M = 4.57$ ,  $SD = .54$ ). The lowest reliability statistic was identified for the total of all DELES subscales ( $\alpha = .706$ ). The highest reliability statistic was identified for the total of all self-efficacy items ( $\alpha = .951$ ).

Last, internal consistency was calculated across composite scores for all DELES subscales. This calculation ( $M = 4.19$ ,  $SD = .51$ ) produced  $\alpha = .706$ , which was lower than that of any of the individual subscales. Similarly, internal consistency was also calculated for the self-efficacy items. This calculation ( $M = 5.43$ ,  $SD = .65$ ) produced  $\alpha = .951$ , the strongest internal consistency of all scales.

Table 1

*Assessment of Subscales Categories*

Subscales and Totals	Number of Items Assessed	Composite Score	SD	count	$\alpha$
Instructor Support	8	4.55	.60	295	.890
Student Interaction & Collaboration	6	3.41	1.05	295	.903
Personal Relevance	7	4.17	.76	295	.913
Authentic Learning	5	4.29	.74	295	.894
Active learning	3	4.13	.84	295	.861
Student Autonomy	5	4.57	.54	295	.814
Enjoyment	8	3.64	1.03	295	.948
DELES Total	7	4.19	.51	295	.706
Self-Efficacy	25	5.43	.65	295	.951

**Descriptive Statistics**

The demographic and respondent-characteristics (i.e., age, gender, and race) are summarized in Tables 2-4 below, which demonstrate that the majority of respondents (35.9%) were between the ages of 25 to 34 years old. Additionally, the large majority of respondents (84.1%) were female. Last, the majority of respondents were either African American (46.8%) or Caucasian (40.0%).

Table 2

*Descriptive Statistics - Respondents*

	Categories	Frequency	Percent
Age	18 to 24	54	18.3
	25 to 34	106	35.9
	35 to 44	85	28.8
	45 to 54	37	12.5
	55 to 64	12	4.1
	65 to 74	1	.3
Gender	Female	248	84.1
	Male	47	15.9
Race	African American	138	46.8
	Asian	3	1.0
	Caucasian	118	40.0
	Hispanic	14	4.7
	Other	22	7.5
Total		295	100

**Inferential Statistics**

Correlational analyses and multiple regression analyses were conducted to evaluate the relationships between reading self-efficacy, age, ethnicity, and college students' attitude toward online learning.

First, bivariate correlational analyses were conducted and assessed for the variables: age, gender, race, the composite for attitudes toward online learning (DELES), and the composite scores for reading self-efficacy. Cases with missing data were excluded pairwise.

Table 3, below displays the correlations among these variables. Only one significant correlation emerged, between reading self-efficacy and attitudes toward online learning ( $r = .494$ ,  $p < .001$ ,  $N = 295$ ). This was a strong positive relationship. Age does not show significant correlation between its categories and attitudes toward online learning. Finally, race is not included in assessing correlation due to its multi categorical nominal nature.

Table 3

*Bivariate Correlations*

		Age	College students' attitudes toward online learning	Reading self-efficacy
Age	<i>r</i>	-	-	-
	<i>p</i>	-	-	-
	<i>N</i>	-	-	-
College students' attitudes toward online learning	<i>r</i>	.026	-	-
	<i>p</i>	.662	-	-
	<i>N</i>	295	-	-
Reading self-efficacy	<i>r</i>	-.010	.487**	-
	<i>p</i>	.868	.000	-
	<i>N</i>	295	295	-

\*\* . Correlation is significant at the 0.01 level (2-tailed).

A multiple regression analysis was then conducted to determine the extent that the predictor variables can predict a college students' attitude toward online learning.

The composite score for reading self-efficacy, age, and ethnicity were utilized as predictor variables. Reading self-efficacy and attitudes toward online learning were computed composite variables that were derived from Likert-type items, while age was an interval variable, and race was a nominal variable. The criterion variable in this analysis was the composite score for college students' attitude toward online learning.

To conduct the multiple regression, all cases with missing data were excluded pairwise, and the enter method was used with the predictor variables. Age and race were included indicator variables (five indicator variables for the six categories in each). The data were then tested to ensure they met assumptions of multiple regression analysis including the following: Existence of no extreme outliers, linear relationship between the criterion variable and the predictor variables, normality, and absence of multicollinearity.

**RQ1:** Can online college students' *attitudes toward online learning* be predicted from a linear combination of *reader self-efficacy*, *age*, and *ethnicity*?

**Criterion variable:** Student's attitudes toward online learning

**Predictor variables:** Reader self-efficacy, age and ethnicity

First, to test for the assumption of multivariate normal distribution, histograms are used as presented in figures 1, 2 and 3 as examined for each variable. Attitudes towards online learning exhibited a normal distribution with no visual deviation from normality, this is the same case for age. Regarding race, it is assumed to come from normal distributions with no visual figures as it is a categorical variable like age. However, it is different for reading self-efficacy. Kolmogorov-Smirnov test is also used and all the variables show normality. As shown in table 4.

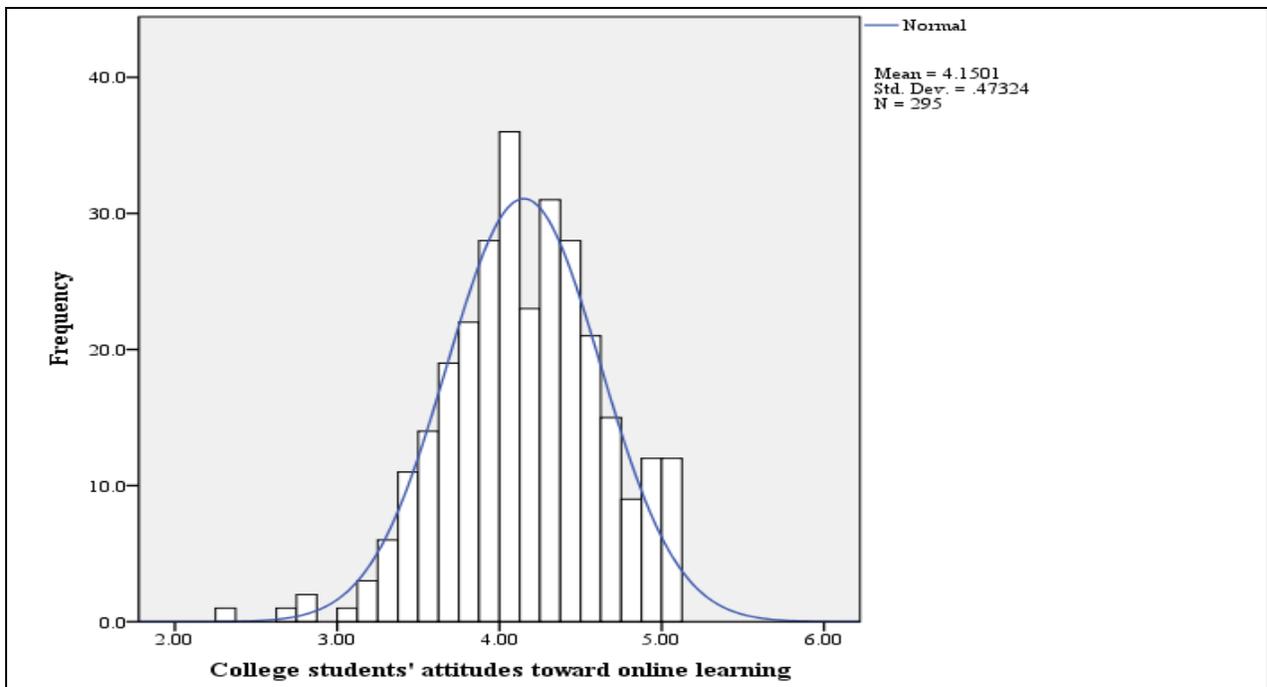


Figure 1. Histogram – Attitudes towards online learning.

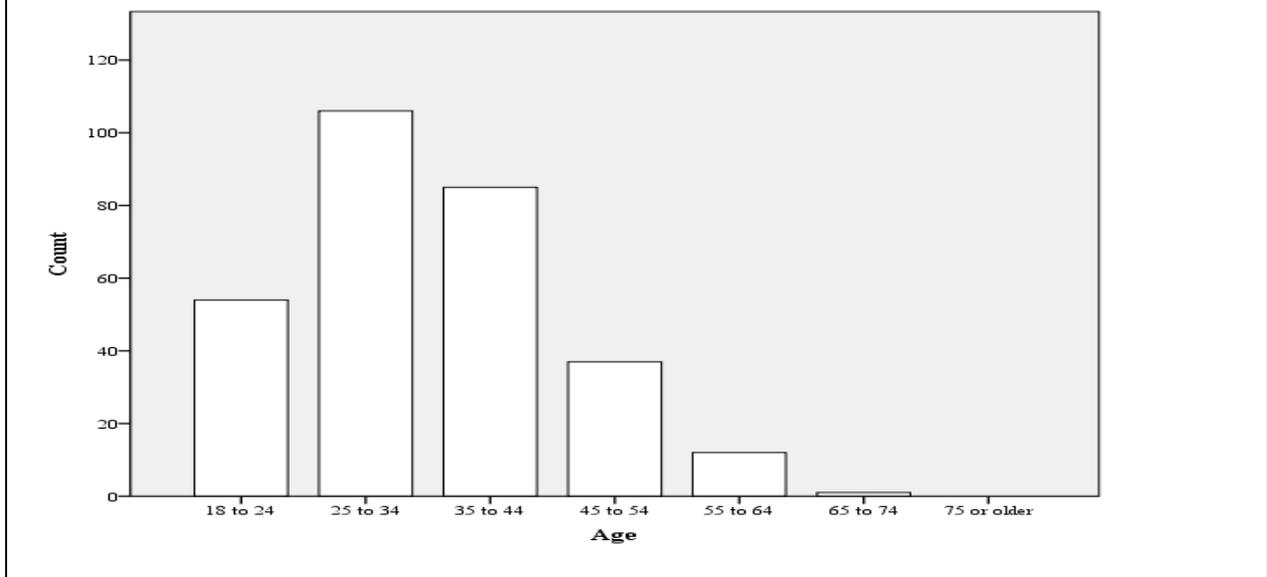


Figure 2. Histogram – Age.

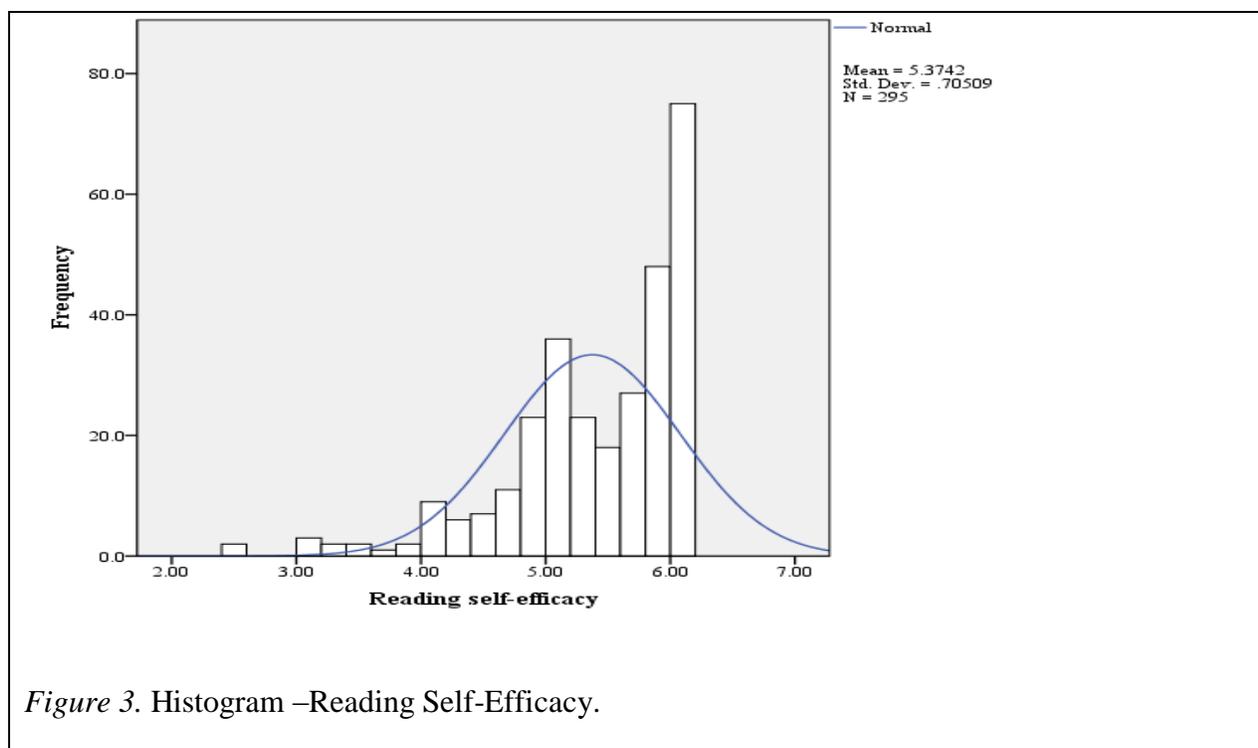


Table 4

*One-Sample Kolmogorov-Smirnov Test*

		attitudes toward online Reading self- learning efficacy Race			
		Age			
N		423	363	362	423
Normal	Mean	2.43	4.1391	5.3504	2.34
Parameters <sup>a,b</sup>	Std. Deviation	1.088	.52252	.79825	1.490
Most Extreme	Absolute	.220	.050	.208	.288
Differences	Positive	.220	.050	.208	.288
	Negative	-.135	-.041	-.163	-.192
Test Statistic		.220	.050	.208	.288
Asymp. Sig. (2-tailed)		.000 <sup>c</sup>	.031 <sup>c</sup>	.000 <sup>c</sup>	.000 <sup>c</sup>

a. Test distribution is Normal.

b. Calculated from data.

c. Lilliefors Significance Correction.

Second, to test for the assumption of bivariate outliers, scatter plots were used as shown in figure 4 below. Some plots show some points that can be seen as outliers but they are not

considered extreme. The linear relationship is very apparent between attitudes towards online learning and reading self-efficacy while it is less apparent among other variables as shown in the figure 4.

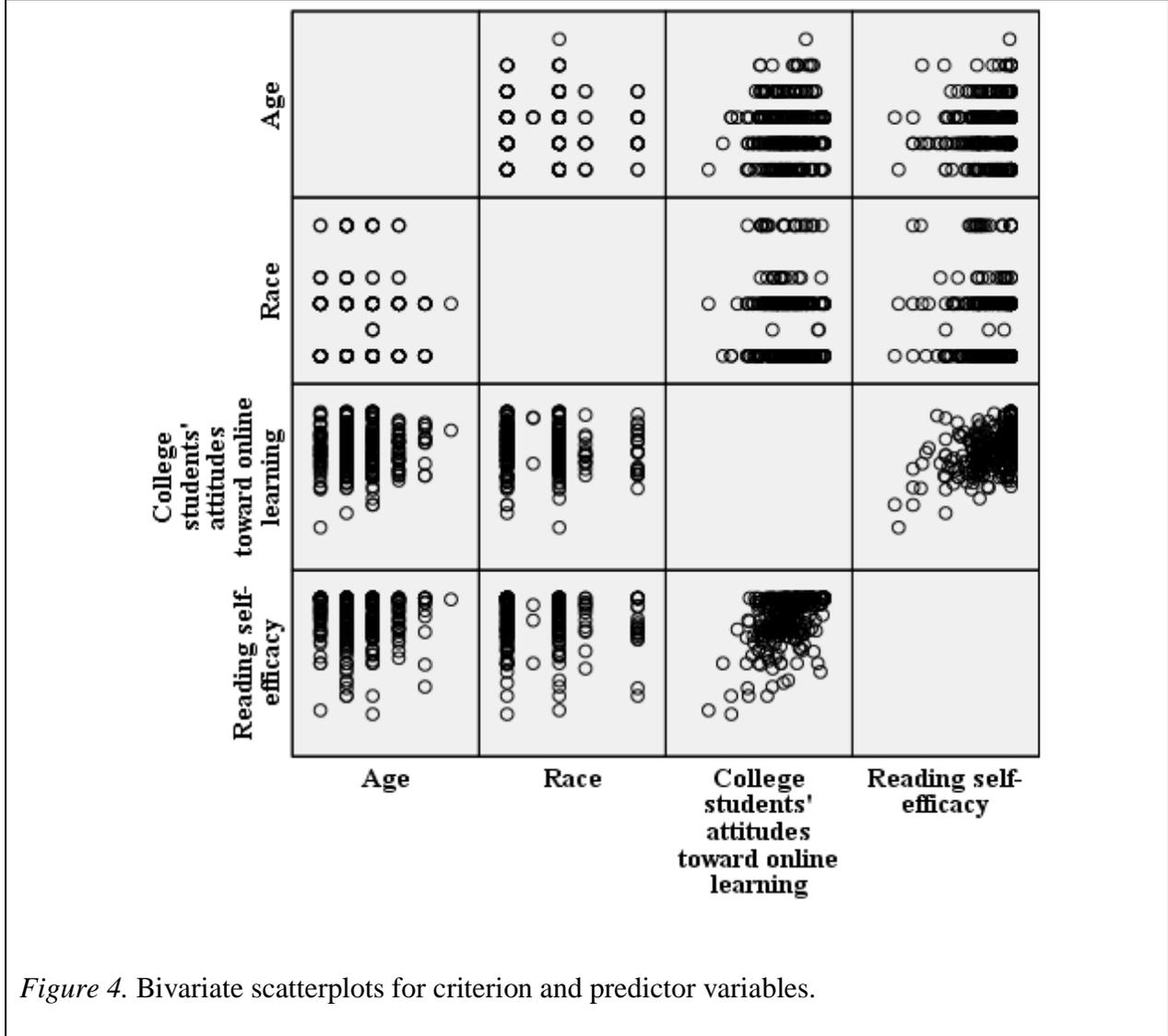


Figure 4. Bivariate scatterplots for criterion and predictor variables.

Third, to test for assumption of non-multicollinearity is the variance inflation factor (VIF) statistics was examined. All VIFs were below the cutoff of 10, therefore indicating that there was no issue of multicollinearity. In addition the tolerance values were examined and found to be

higher than the cutoff value of .20, further indicating that there are no issues with multicollinearity. See table 5 for Collinearity Statistics.

Table 5

*Collinearity Statistics*

Model	Tolerance	VIF
Reading self-efficacy	.981	1.019
Age Category 35-	.516	1.939
Age Category 45-	.529	1.890
Age Category 55-	.677	1.478
Age Category 65-	.848	1.179
Race Asian	.980	1.021
Race Hispanic	.964	1.038
Race other	.884	1.131

The results of the final multiple regression analysis are detailed below. The descriptive statistics in table 6 display the mean scores and standard deviations for the new total count of students (N = 295).

Table 6

*Descriptive Statistics*

	Mean	Std. Deviation	N
College students' attitudes toward online learning	4.1501	.47324	295
Age	2.49	1.075	295
Reading self-efficacy	5.3742	.70509	295

\*\*Correlation is significant at the 0.01 level (2-tailed).

Table 7 shows that combined, age, race, and reading self-efficacy significantly predict college students' attitudes toward online learning,  $F(10, 284) = 10.146, p < .0001$ , adjusted  $R^2 = .24$ . The predictors in this model account for approximately 26% of the variance in students' attitudes towards online learning. Table 8 shows the output for the ANOVA analysis,  $p < .005$  with the significance value of .000. Which means it is a good fit of the data.

Table 7

*Model Summary<sup>b</sup>*

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.513 <sup>a</sup>	.263	.237	.41330

a. Predictors: (Constant), Reading self-efficacy, Race 3 indicator variables), Age(4 indicator variables)

b. Dependent Variable: College students' attitudes toward online learning

Table 8

*ANOVA<sup>a</sup>*

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	17.332	10	1.733	10.146	.000
	Residual	48.511	284	.171		
	Total	65.843	294			

a. Dependent Variable: College students' attitudes toward online learning

b. Predictors: (Constant), Reading self-efficacy, Race (3 indicator variables), Age (4 indicator variables).

Table 9

*Coefficients<sup>a</sup>*

Model		Unstandardized Coefficients		Standardized Coefficients		95.0% Confidence Interval for B		
		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound
1	(Constant)	2.318	0.200		11.611	0.000	1.925	2.711
	Reading self-efficacy	0.334	0.035	0.497	9.670	0.000	0.266	0.402
	Age category 35-	0.106	0.070	0.107	1.516	0.131	-0.032	0.243
	Age category 45-	0.030	0.073	0.029	0.408	0.683	-0.114	0.174
	Age category 55-	0.000	0.088	0.000	-0.001	0.999	-0.174	0.174
	Age category 65-	0.171	0.132	0.072	1.293	0.197	-0.089	0.431
	Race Asian	0.303	0.418	0.037	0.724	0.470	-0.520	1.126
	Race Hispanic	0.482	0.244	0.102	1.974	0.049	0.001	0.963
	Race other	-0.036	0.052	-0.037	-0.683	0.495	-0.139	0.067

a. Dependent Variable: College students' attitudes toward online learning

Table 9 demonstrates that, controlling for age and race, reading self-efficacy ( $p < .001$ ) significantly predicts students' attitudes toward online learning. Race and age were not significant predictors of students' attitudes toward online learning. However, reading self-efficacy ( $p < .001$ ) was a significant predictor of student's attitudes toward online learning with a strong positive relationship ( $r = .497$ ).

### Summary

The purpose of the study was to assess students' attitudes towards online learning based on reader self-efficacy, age and ethnicity. The study help to identify if there are any other variables

that best assess reading self-efficacy for the purpose of assisting individuals in engaging in a progressive, online, post-secondary program. Two-hundred and ninety students were included in the study. The data analysis suggests that the null hypothesis should be rejected. It is found that there is a significant relationship between reader self-efficacy and students' attitudes towards online learning. It was found that there was no significant relationship between age or ethnicity and students' attitudes towards online learning.

## **CHAPTER FIVE: CONCLUSIONS**

### **Overview**

There are some factors and influences that academic institutions need to consider in order to identify and assess any deficiencies or limitations that would hinder a student's success in an online program. This chapter five will cover discuss the findings and results, any implications, the limitations of the study, and recommendations for future research.

### **Discussion**

The purpose of this correlational study is to determine if a predictive relationship exists between the predictor variables, reader self –efficacy, age, and ethnicity and the criterion variable, student's attitudes toward online learning. This study sought to find out if online college students' attitudes toward online learning can be predicted from a linear combination of reader self – efficacy, age, and ethnicity. The study attempts to provide educational institutions that utilize online curricula a better understanding of the significant impact of reading literacy and its role in student's attitudes toward online learning. In assessing the predictor variables, reader self-efficacy, age and ethnicity, the study found that reading self-efficacy (reading literacy) has an impact on student attitudes towards online learning. In consistency with the Online Learning Interaction Theory, it is important for teachers to devise strategies that meet the needs effectively in online learning environments (Anderson & Dron, 2011).

The implications of the research study are considerable with regards to their impact on future research and will prove helpful in providing development courses and other resources, and designing better and more comprehensive online course programs. Given the increasingly high enrollment in online postsecondary programs, it is important to consider the role of providing

technology literacy as well as access to additional resources and developmental programs to increase reading efficacy for online students. As stated by Loo and Choy (2013), the levels of self-efficacy of students are directly related to the way they perform their academic-related activities, so educational institutions should make sure that any area of low self-efficacy be assessed, and implement courses and resources to help students in those areas, to include reading self-efficacy.

In assessing if online college students' attitudes toward online learning can be predicted from a linear combination of age, this study found that there was not a significant impact on a student's attitude toward online in comparison to Helmich's (1999) ex post facto study determining how age potentially served as a predictor for student satisfaction and Murray's (2008) discovery that age was a primary factor in achievement within online classes. In assessing if online college students' attitudes toward online learning can be predicted from a linear combination of ethnicity, there was not a significant impact. These results were not consistent with the Okwumabua, Walker, Hu, and Watson (2010) study, which identified that there was anxiety, lack of confidence, and few with online experiences in a study of attitudes toward online learning conducted with 124 African Americans. From the assessment, 64.5% reported negative attitudes toward online learning. According to Ashong and Commander (2012), their study with Anglo-Saxon and Asian found that there was an important impact on the students' attitudes toward online learning. From the significant differences found in the two races/ethnicities, they identified that it is necessary to develop a unique online learning approach that will address the appropriate online learning needs of the two races/ethnicities (Ashong & Commander, 2012).

This study concluded that reading self-efficacy has an effect on attitudes toward online learning irrespective of age, or race. From these findings, it is important for online learning developers to note how an individual's perception of their confidence or lack thereof to execute

reading, online reading and digital tasks efficiently, influences one's ability to be successful in the in online learning. If an individual has a stronger perceived reading self-efficacy, but little experience in computers, the negative cross-over in the area of technology and online learning may be seen as well. Being strong in reading and technology has value. As Oden, et al (2012) discussed in their research, reading self-efficacy may serve as an effective predictor of success.

### **Implications**

The research study will add to the literature related to online learning. It is evident that significant research studies addressing the issue of online learning and its significance in improving student performance and other variables are required to assess the impact of online learning in students' performance and achievements. It is also believed that online learning also impacts the cognitive and social development of students. Studies in which student self-efficacy scores are compared to actual student learning outcomes such as reading assessments would be beneficial to the overall body of research in this area.

A major implication of the study, is the impact of the study on the classroom interactions, online or on-campus. The study supports the notion that students judge their capabilities based on issues such as reading tasks, skills, and different contexts. This will allow the instructors to add value or importance to the concept of self-efficacy for improving assessment and course developments. This study will allow the instructors to assess students' beliefs with the emphasis on specificity and individual needs in mind rather than, assessing students' in the general area of reading. Thus, if teachers understand and are interested in understanding their students' self-beliefs about their capabilities on standardized tests, then they could further analyze their students' in order to address and help improve the student's self-belief/self-efficacy resulting in improved

performance. This study will be helpful in improving the interactions among teachers and help them better assess their students, and fulfill their learning needs.

Students' level of self-efficacy across reading tasks should also be considered as an important predictor of their achievements. Students may be less proficient online readers compared to when reading on paper, and therefore, they feel more confident in one mode over another. Similarly, reading self-efficacy may also be content-specific, as some students may be more confident in reading literature rather than science or mathematics. Thus, the study supports the idea that instructors and professors should understand the differences in perceived student capabilities by asking students about their overall reading self-efficacy or via assessments.

Students' reading attitudes and beliefs may be based on the reading content. Some students may not be confident about certain types of academic reading, like a science passage, but confident in their abilities to read a comic book, graphic novel, or selections in a literature course which indicates that a student may perform well in a math course over a literature course or vice versa depending on their reading ability attitudes toward the given subject. With consideration of non-traditional students, instructors should ask students if they feel confident as readers since initial assessments may not provide a complete picture of their reading capabilities. Early assessments that address basic reading skills and digital aptitude would be beneficial and more accurate in identifying student online course competency. Initial assessments would enable the administration and instructors to implement strategies necessary to improve reader self-efficacy resulting in possibly increased student success, retention, and higher graduation rates in the online degree programs.

### **Limitations**

The research was used to determine if a relationship existed between college student attitudes toward online learning based on reading self-efficacy, ethnicity and age. A significant relationship was found between reading self-efficacy (predictor variable) and student's attitude toward online learning (criterion variable). There were no history, treatments, no pre-test or post-test, selection bias, maturation, statistical regression or mortality to affect internal validity. The RSES and DELES instruments were used to test for reading self-efficacy and student's attitudes toward learning. In addressing internal and external validity, the analyses of data from the DELES exhibited strong factorial validity and internal consistency reliability (Walker & Fraser, 2005).

External validity, or the degree to which these findings can be generalized to other students and situations is assessed. The study was completed by a diverse group of students, in multiple locations geographically. The ethnicity distribution was: 46.8% African American, 40% Caucasian, 4.7% Hispanic, 7.5% percent, and 1% Asian. And by gender, the sample consisted of 248 females (84.1%) and 47 males (15.9%). A voluntary, convenience sample of participants was used for the study; all attending one college. A factor that might have influenced the results of this study and external validity, involves the sample of participants was from only one college. Using a sample of participants from one college is a limitation because students at different colleges and universities may not have the same experience. The curriculum, instructors and online culture at other post-secondary institutions offering two and four year degree programs may yield different results.

The RSE instrument was used to measure reading self-efficacy and their individual perceptions. In considering assessments, the results of actual student assessments in literacy such as ACT, SAT or GRE scores would have been helpful in measuring student's attitudes toward

learning and their reading aptitude from test scores. Using only one reading self-efficacy to assess reading self-efficacy may be a limitation. When implementing developmental programs, the administration and postsecondary educators are more likely to place students based on testing scores. Including an assessment online and would have provided more information to determine if student self-efficacy could be tied to achievement scores. For the ACT, SAT, and GRE assessments, validity is documented. These assessments provide traditional outcome measures, but these types of assessments alone do not always provide a complete picture of the multiple ways that reading proficiency or self-efficacy can manifest in a student's behavior in online learning.

### **Recommendations for Future Research**

The regression model applied in the study explained a significant but relatively large percentage (26%) association between students' attitudes towards online learning. This study did not measure gender but the data was captured from the participants, there may be a significant correlation that exists between reading efficacy, gender and attitudes toward online learning. Future research should be conducted to investigate gender, and other factors such as, full-time or part-time enrollment, degree program, traditional and non-traditional, and other related variables to determine which combination of factors best predicts student's attitudes towards online learning; either positively or negatively. Environmental and behavioral factors such as early reading skills, socioeconomic status, exposure to online reading abilities at a younger age, amount of time spent reading (either online or on paper), and English proficiency may also have an important impact on a student's attitude towards online learning. These types of covariates were not included in this study; however, they potentially account for additional impacts on student reading self-efficacy with regards to online learning.

The future research potentially includes variables from other motivation theories. For example, an expectancy-value perspective of motivation would allow reading researchers to examine how students' expectancies for success influence their academic behaviors (Wigfield & Eccles, 2000). This concept could be studied within the online learning environment, as a way to broaden what is known about attitudes toward online learning and thereby provide a clear picture of this important issue.

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**APPENDIX A**  
IRB Approved Consent Form

The Liberty University Institutional Review Board has approved this document for use from June 25, 2015 to -- Protocol # 2151.062515

*This survey will be available from July 2015 - August 2015*

**CONSENT FORM**

Exploring Student's Attitudes toward Online Learning Based on Reading Self-Efficacy, Ethnicity, and Age of Online College Students

Felecia R. Edwards

Liberty University

School of Education

You are invited to be in a research study of students' attitudes toward online learning. You were selected as a possible participant because you are age 18 or older, registered in an online or blended program within the last six months at an accredited university or college. I ask that you read this form and ask any questions you may have before agreeing to be in the study.

Felecia R. Edwards, a doctoral candidate in the School of Education at Liberty University, is conducting this study.

**Background Information:**

The purpose of this study is to determine if college student's attitudes toward online learning have a significant relationship based on the student readers' self-efficacy, age or ethnicity. Technological advances and social changes have increased the demand for online programs. As colleges are adapting to meet the growing demands for admissions and the successful completion of online programs, making sure that students have good perceptions and can adequately adapt and understand the curriculum is important to know when developing programs and providing resources to meet the needs and expectations of online students.

**Procedures:**

If you agree to be in this study, I would ask you to do the following things:

Go to the provided survey link

Complete the screening questions

Complete the survey and place a check mark in the answers that apply

Provide an email address only if you desire to be in the gift card drawings for completing the survey (For anonymity, emails submitted will not be collected with the survey answers. They will only be used for the drawing.)

**Risks and Benefits of being in the Study:**

This anonymous survey will not require a login or submission of names or school names, so any possible risks are minimal. The risks are no more than the participant would encounter in everyday life. The Liberty University Institutional Review Board has approved this document for use from June 25, 2015 to -- Protocol # 2151.062515

The participants should not expect to receive any direct benefits. This study will contribute to the growing body of knowledge in higher education by:

- exploring background factors that may contribute to student's attitudes toward taking online courses
- addressing factors that may contribute to the strategic planning and implementation of effective curriculums for online degree programs
- addressing factors that may contribute to the strategic planning and implementation of sustainable online degree programs
- researching factors that help to ensure effective teaching and learning online in an evolving digital age

**Compensation:**

You will not receive payment for your participation. Your participation is truly appreciated. At the end of the survey, if you desire to be in a drawing to win (1) of four \$25 gift cards, you will be asked to voluntarily provide an email address. The email address will be used solely for the drawing and to respond to the winners, and the survey results will not be matched in any way with the emails provided.

**Confidentiality:**

The records of this study will be kept private. In any sort of report I might publish, I will not include any information that will make it possible to identify a subject. The participants will not be required to include a login or name for the survey. Research records will be stored securely and only the researcher will have access to the records. My access to SurveyMonkey results is password protected. I will un-publish the survey at the end of my study and properly store the data in a password protected file and shred the research survey results according to federal regulations at the end of the three year minimum requirement. Upon completion of my study, the use of this data is not anticipated for future use.

**Voluntary Nature of the Study:**

Participation in this study is voluntary. Your decision whether or not to participate will not affect your current or future relations with Liberty University. If you decide to participate, you are free to not answer any question or withdraw at any time without affecting those relationships.

**Contacts and Questions:**

The researcher conducting this study is Felecia R. Edwards @ fedwards@liberty.edu, (205) 601-1824. You may ask any questions you have now. If you have questions later, you are encouraged to contact her Advisor Dr. Shante' Austin-Moore @ somoore@liberty.edu. The Liberty University Institutional Review Board has approved this document for use from June 25, 2015 to -- Protocol # 2151.062515

If you have any questions or concerns regarding this study and would like to talk to someone other than the researcher(s), **you are encouraged** to contact the Institutional Review Board, 1971 University Blvd, Suite 1837, Lynchburg, VA 24515 or email at [irb@liberty.edu](mailto:irb@liberty.edu).

**If you would like a copy of this document for your records, feel free to print one.**

**Statement of Consent:**

I have read and understood the above information. I have asked questions and have received answers. I consent to participate in the study.

(NOTE: DO NOT AGREE TO PARTICIPATE UNLESS IRB APPROVAL INFORMATION WITH CURRENT DATES HAS BEEN ADDED TO THIS DOCUMENT.)

Proceed to taking the survey.

**APPENDIX B**

## Permission to use DELES survey

Approval Received

Permission to use DELES

Edwards, Felecia

Sent: Sunday, November 16, 2014 9:00 PM

To: martha.peet@unt.edu

Attachments:

11/16/2014

Texas Center for Educational Technology

Martha Peet@unt.edu

3940 North Elm Street

Denton, TX 76207-7102

To Whom It May Concern:

I am a doctoral student from Liberty University writing my dissertation tentatively titled, "Exploring Student's Attitudes Toward Online Learning Based on Reading Self-Efficacy, Ethnicity, and Age of College Students" under the direction of my dissertation chaired by Dr. Shante' Austin-Moore.

I would like permission to use your survey instrument, Distance Education Learning Environment Survey, in my research study. I would like to use and print your survey under the following conditions:

- I will use this survey only for my research study and will not sell or use it with any compensated or curriculum development activities
- I will include the copyright statement on all copies of the instrument

Please indicate if there are any other conditions that may apply. If these are acceptable terms and conditions, please indicate so by signing one copy of this letter and returning it to me via mail or e-mail:

Felecia R. Edwards, 4734 Renwood Drive, Pinson, AL 35126 or fedwards@liberty.edu

Sincerely,

Felecia R. Edwards

Doctoral Candidate

Permissions Editor/Author Signature \_\_\_\_\_

\*Electronic signature is acceptable if received from the Permissions Editor/Authors email account.