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Running Head: BEST PRACTICES OF MOTIVATION IN DISTANCE EDUCATION

Pepperdine University

Graduate School of Education and Psychology

BEST PRACTICES OF MOTIVATION IN A SELF-DIRECTED DISTANCE EDUCATION

AT A COMMUNITY COLLEGE

A dissertation submitted in partial satisfaction  
of the requirements for the degree of  
Doctor of Education in Organizational Leadership

by

Hong T Hoang

October, 2019

June Schmieder, Ed.D – Dissertation Chair Person

This dissertation, written by

Hong T Hoang

under the guidance of a Faculty Committee and approved by its members, has been submitted to and accepted by the Graduate Faculty in partial fulfillment of the requirements for the degree of

DOCTOR OF EDUCATION

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## DEDICATION

This humble work is dedicated to my children who I had both during my doctoral program:

Bodhi and Autumn

who have served as my inspiration.

I dedicate this dissertation to my family and friends who have supported me throughout the process. I will always appreciate all they have done.

## ACKNOWLEDGEMENTS

I wish to thank my committee members for their expertise and patience. A special thanks to Dr. June Schmieder, Dr. Leo Mallette, and Dr. Christie Cooper for agreeing to serve on my committee and for their countless hours of encouragement and patience throughout the entire process.

I would like to acknowledge and thank my school division for allowing me to conduct my research and providing any assistance requested. Special thanks to the staff members of the dept for their continued support. Many thanks to Dr. Bob Livingston for your guidance and continued support throughout this process.

## VITA

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- Assist instructional design team for collaboration in developing online course content.
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  - Encourage learner collaboration and knowledge acquisition.
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- Cal Polytechnic San Luis Obispo** September 2016 – Present  
*Lecturer*
- Taught 20-92 upper-division undergraduate and graduate students per quarter.
  - Utilized student-centered approach, flipped classroom, experiential learning, and active learning.
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*Consultant, HR Job Analysis Project*

- Collected, analyzed, and prepared occupational information to facilitate personnel, administration, and management functions of organization.
- Consulted with management to determine type, scope, and purpose of study.
- Analyzed occupational data, such as physical, mental, and training requirements of jobs and workers, and developed written summaries, such as job descriptions, job specifications, and lines of career movement.

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- Processed workers' compensation cases and liens for work-related injuries.
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*Quality Control Analyst*

- Performed and prepared quality assurance audits.
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## ABSTRACT

The purpose of the study was to identify predictors that influence a learner's motivation in a self-directed online business administration course in learning contexts by collecting a sample size population, sample of demographics, and indicators from online students from Business Administration Department at a Southern California Community College. The study explored significant correlation between students' motivation and learning strategies in a self-directed online business administration course using demographics. Results from this study show demographics including age, education, and ethnicity were statistically significant, but none of the gender differences were statistically significant. This research also explored the educational needs of adult learners by examining motivation, self-efficacy, existing learning models, adult learning theories, and constraints of adult learners that affect students' performance in computer-based instruction (CBI) format such as the andragogical approach versus the pedagogical approach to education. Since prior studies have since used both the Motivational Strategies Learning Questionnaire (MSLQ) and Online Technology Self-Efficacy Survey (OTSES) instruments that was used in this study, a pilot study was not conducted. Additionally, distance education courses are increasing rapidly and this study supported the type of students who are enrolling in these courses such as re-entry of adult learners.

**Descriptors:** Motivation, Distance Education. Learning Styles, Self-Efficacy, Self-Regulatory, Adult Learning Theories, Motivational Strategies Learning Questionnaire, Online Technologies Self-Efficacy Survey

## Chapter 1: Introduction

### Overview

In ancient times, teachers like Socrates and Plato had theories about the ends of adult education but nothing about the means of adult learning. Because of the scholars' experiences with adults, educators developed a different approach to the teaching and learning process than what dominates formal education today (Knowles, Holton, & Swanson, 1998). Adult learners learn differently than children do. Adult learners need to understand the reason for learning and the learning needs to be meaningful because they are self-directed, independent, and intrinsically motivated. When adult learner students enter education, they draw on a volume of experiences that are valuable resources for their learning.

Higher education is shifting rapidly. Technology is changing every day. Enrollment of distance learning students is on the rise. Institutions are adopting online programs to tap the growing market for distance learning to meet the needs and demands. Some colleges successfully incorporated distance education, while others have failed to develop online programs to fit the needs of non-traditional adult students and distance learners. Institutions must establish best practices to identify key factors in distance learning. According to Allen and Seaman's (2014) survey of institutions, at least 7.1 million students had taken at least one online distance class. Many distance learners are also "non-traditional" in some way they might be "older, working adults, or ethnic minorities" and these "non-traditional" learners are estimated to make up 85% of the growth in higher education over the next century both online and on-ground (as cited in Kamenetz, 2010, p. xi).

The purpose of the study was to identify predictors that influence a learners motivation in a self-directed online learning environment. The study also aimed to project whether there is a



significant correlation between students' motivation and learning strategies in a self-directed online distance education. Motivation and learning strategies of student learners in an online distance environment will be further expanded.

This paper presents on each of these literature streams (Barron, 2014) with a discussion of distance learning, adult learning theory, motivation, self-efficacy learning, self-directed learning (SDL), self-regulatory strategies, and learning style instruments. Adult education and distance learning are two separate but related topics that are explored to help gain insight into the growing popularity of distance education. Moskal, Dziuban, Upchurch, Hartman, and Truman (2006) stated: “[a]lthough online learning has been a part of the educational landscape for only a few years, the evidence to date suggests that distance education is rapidly becoming an important component of higher education” (p. 29). The study of these objectives may create new hypotheses or theories that may contribute to additional research toward students' success in higher education.

## **Background**

The California Community Colleges is the largest postsecondary school system in the nation. The system's primary missions are preparing students to transfer to 4-year universities, workforce development and training, and basic skills and remedial education (California Community College System [CCCCS], 2017). In 1979, California community colleges first introduced and delivered distance education programs to the public. A CCCS summary report from the academic year 1992-1993 to 2013-2014 noted that full-time equivalent status (FTES) credited distance education enrollments jumped from 5,660 to 119,502, while distance learning instruction almost doubled from 21,414 sessions in 2005-2006 to 41,354 in 2011-2012 (CCCCS, 2017).

Distance education has provided opportunities for learners who typically have minimal access to higher learning. Approximately 12.3% of distance education courses are offered at California's community colleges, and it is estimated that nearly half of all classes have some online component. In the academic year 2011-2012, 2.4 million students enrolled in the California community college system and only 621,501 participated in at least one online distance course (CCCS, 2017). Based on these figures, distance education has demonstrated a rapid growth in popularity.

A significant number of adults aged 25 and older, are seeking options in higher education and an increasing number of these adults are making the decision to return to school. In 2011-2012, the average course load of all California community college pupils was 12 units, while the average class load of students who participated in distance education was 15 units (CCCS, 2017). In 2011, convenience was one of the contributing factors for 37% of students who registered for distance education. About 51% of California's community colleges offer certificates and degrees without attending on-campus. Web-based delivery provides 94% of learners with distance education offerings. The data include both distance online and television courses. After web-based delivery, television is the second most frequent delivery method (8%), followed by correspondence (2%), and video conferencing (1%) (CCCS, 2017).

The quality of distance education courses is improved by evaluations, which are conducted to ensure that high-quality programs are offered in higher education settings. Assessments provide critical information to meet the needs and demands of the pupils and institutions. For instance, traditional methods that work in a traditional classroom may not work in an online distance education course. The online distance environment and traditional classroom courses are dissimilar enough warrant different evaluation procedures. By seeking

feedback from the administration, pupils, and educators, the quality of online education can continue to improve, thereby providing an adequate learning environment for students.

It is the utmost important for higher education communities to clearly define distance learning, adult learning, self-efficacy learning, and learning strategies, and to understand how these factors can influence learners' motivation in a self-directed online learning environment in community college institutions.

### **Statement of the Problem**

The study aimed to test the following conceptual framework within a community college context: To what extent are measures of motivation, technology skills, self-efficacy learning, and self-regulated learning predictors of a learner's motivation to higher education in a self-directed distance online learning environment? The hypothesis was developed because these predictors are associated with a learner's attribution to motivation in CBI. For instance, what factors of motivation are more likely to be the driven predictors for online learners to successfully earn their degree? By testing this hypothesis motivation, self-efficacy, SDL, self-regulated learning, and learning strategies were studied together to fully comprehend how the domains affects a learner's motivation in online distance learning.

### **Purpose of the Study**

As noted above, the purpose of the study was to identify predictors that influence a learner's motivation in a self-directed online business administration course. The learning methods, self-regulatory and self-efficacy learning, motivation, and technology skills students bring to web-based online learning environment are vital. The study also sought to project whether there is a significant correlation between students' motivation and learning strategies in

a self-directed online business administration course. Motivation and learning strategies of student learners in an online distance environment were explored.

The Motivated Strategies for Learning Questionnaire (MSLQ) instrument measures motivation and learning strategies. The second instrument, Online Technologies Self-Efficacy Survey (OTSES), measures online students' self-efficacy beliefs with communication technologies such as discussion boards, electronic mail, a browser application, and computer conferencing. For this study, the demographic factors assessed included age, gender, dependent status, marital status, and employment status.

### **Significance of the Study**

Distance education nearly doubled from 2005-06 to 2011-12, and nearly tripled 2016-2017. In the academic year 2011-12, two age categories (18- to 19-year-olds and 20- to 24-year-olds) accounted for 61% of students registered in online learning classes (CCCS, 2017). Based on these statistics, a growing number of California community college pupils are registering in distance education. Due to this demand, community colleges are delivering more online courses to students. By 2017, approximately 28% of California community college pupils enroll in at least one course offered through distance education, an increase from 17% in 2005-2006 (CCCS, 2017).

Table 1

#### *California Community College Distance Education Sessions*

	Academic Year 2005-2006	Academic Year 2011-2012
Sessions	21,414	41,354

This study was not intended for the sole purpose of generalizing findings though the information discovered is of great importance for post-secondary educational institutions interested in fostering the continuing success of their organization. The success of distance education programs can be studied more effectively to understand what predictors contribute to the success of online programs. Therefore, the topics of distance learning, motivation, adult learning, learning styles, learning strategies, self-regulated learning, and self-efficacy learning are explored.

### **Statement of the Research Questions**

1. What motivates or inhibits learning in a self-directed distance education environment?
2. What influences a learner's motivation in a self-directed online business administration course?
  - a. To what extent do the demographic characteristics of age, gender, dependent status, marital status, and employment status predict a learner's motivation for an online business administration course?
  - b. To what extent does technology skills predict a learner's motivation for an online business administration course?
  - c. To what extent does self-efficacy learning predict a learner's motivation for an online business administration course?
  - d. To what extent does self-regulatory strategies predict a learner's motivation for an online business administration course?

### **Key Definitions of Terms**

Throughout this study, terms were used to discuss the measures of motivation, learning strategies, and self-efficacy as predictors of a learner's motivation to higher education.

**Academic self-efficacy.** An individual's belief (conviction) that they can successfully achieve an academic task at a designated level or attain a particular education goal (Bandura, 1997; Eccles & Wigfield, 2002; Linnenbrink & Pintrich, 2002).

**Adult learning.** The process of adults acquiring knowledge and experience. Learners universally need to obtain control over their learning process, which increases as a result of adult education (Knowles, Holton, & Swanson, 2011).

**Asynchronous learning.** All students have the flexibility to access the course at any time. Moreover, all students do not need to be present at the same time.

**Blended learning.** The appropriate mix and use of face-to-face instructional methods and various learning technologies to support planned learning and foster subsequent learning outcomes.

**Computer-based instruction.** The computer programming of content and lesson design that considers the individual differences of the learner to achieve the learning goal levels delivered by the computer (Knowles et al., 2011).

**Computer self-efficacy.** The individual's belief in his/her capabilities to successfully engage in CBI (Knowles et al., 2011).

**Demographics.** For the purposes of this research, demographics were defined as age, gender, dependent status, marital status, and employment status.

**Distance education.** The use of technology to deliver instruction to learners who are separated from the instructor. Moore and Shin (2000) stated, "the teaching occurs in a different

place from where the learning occurs, so that the normal or principal means of communication is through an artificial medium, either printed or electronic” (p. 215).

**Distance learning.** A method where educators and students meet virtually to access and provide course instruction.

**Hybrid course format.** An intermingling of on-campus and distance learning environments (Twigg, 2001).

**Learning styles.** An individual’s preferred or habitual ways of processing information (Honey & Mumford, 1992; Kolb, 1984).

**Motivation.** The processes that account for an individual’s intensity, direction, and persistence of effort toward attaining a goal (Robbins & Judge, 2011). Motivation theory is concerned with the processes that describe why and how human behavior is activated and directed.

**Non-traditional adult learner.** A learner aged 25 or older. The National Center for Education Statistics (NCES; Waits & Lewis, 2003) identified the term *non-traditional student* as a student with the following characteristics:

- entry to college delayed by at least 1 year following high school,
- having dependents,
- being a single parent,
- being employed full time,
- being financially independent,
- attending part-time, and
- not having a high school diploma.

**Online learning.** A learning environment or any online experience in which students can partake of courses via web-based technology as the primary delivery mode of communication.

**Post-secondary education.** Two and four-year schools that provide academic training with the goal of awarding a degree or certification.

**Student engagement.** Harper and Quaye (2009) stated the following definition: “Characterized as participation in educationally effective practices, both inside and outside the classroom, which leads to a range of measurable outcomes” (p. 2).

**Self-efficacy.** Bandura (1997) provided a theoretical of definition:

Perceived self-efficacy refers to beliefs in one’s capabilities to organize and execute the courses of action required to produce given attainments. Such beliefs influence the course of action people choose to pursue, how much effort they put forth in given endeavors, how long they will persevere in the face of obstacles and failures, their resilience to adversity, whether their thought patterns are self-hindering or self-aiding, how much stress and depression they experience in coping with taxing environmental demands, and the level of accomplishments they realize. (p. 3)

**Synchronous learning.** Simultaneous instruction that requires all students and instructors to be “present” at the same time and location.

### **Key Assumptions**

As with any study, assumptions were addressed. This study made the following assumptions:

1. One of the primary goals of this research was to obtain a better understanding of the key predictors of students’ motivation in an online learning environment at the



- community college level, not to understand all predictors in distance online learning universally.
2. This study emphasized learning strategies, self-efficacy learning, and self-regulatory strategies for students' motivation to higher education, but not toward degree completion.
  3. Research has indicated that when a person has high self-efficacy, s/he develops feelings of calmness in attempting challenging tasks, while low self-efficacy may result in a person perceiving a task as being more difficult than it is in reality. As a result, the individual may develop stress, anxiety, and a narrower idea of the best technique to solve a problem (Downey, Eccles, & Chatman, 2005).
  4. Self-efficacy learning is considered to be situational rather than viewed as a stable trait (Linnenbrink & Pintrich, 2002).
  5. Self-efficacy is a task-specific evaluation and should not be confused with self-esteem or self-concept, which reflect more general affective evaluations of self (Linnenbrink & Pintrich, 2002).
  6. Online learners have significant technology skills and experience with online distance education.
  7. All participants would answer the questions from the surveys truthfully and accurately.

### **Limitations**

The following limitations were identified:

1. The grading system in every course may have been inconsistent between courses because no two grading rubrics are identical.

2. The MSLQ and OTSES were self-reporting instruments where students are responding to what they believe to be accurate.
3. At the time of this study, the researcher volunteered as a teacher's associate for the Department of Business Administration at the community college. The researcher was not an employee of the college; hence, the findings and opinions of this research may be biased.
4. The researcher collected data in the spring semester of 2017. Therefore, if the researcher collected data in another semester, the data may yield different results.
5. The data were collected from students at the community college in the Department of Business Administration. Hence, this group of students may be different than students from other community colleges.

### **Delimitations**

1. The reliability of this research study was based on a one-time occurrence of data gathered on a volunteer basis from college level students.
2. The data collection period was limited to one academic semester of 2017 and can only be indicative data at this point.
3. This research study was limited to a sample from a southern California community college, and participants opted in on a volunteer basis. Therefore, the sampling size may not be broad enough to craft generalized findings for every post-secondary education institution, college-level students, age, and years of employment outcomes.
4. Motivation, learning strategies, and self-efficacy were only measured in one semester in multiple courses.

**Summary**

The purpose of this research study was to gain insight into ways that California community college educational institutions and students may be interested in fostering the continuing success of the organization. The study emphasized early and current studies of existing learning models, distance learning, adult education, motivation, self-efficacy, and constraints of adult learners that affect academic success in CBI format of community college-level students from postsecondary institutions. With the growing popularity of online distance enrollments, critical research about the topics continues to grow concurrently.

The following chapter presents a review of the literature from multiple sources to comprehend fully how self-efficacy, self-regulated strategies, and technology skills can potentially be predictors of students' motivation to higher education in a self-directed online distance learning environment.

## Chapter 2: Review of Literature

### Overview

This chapter explores the educational needs of adult learners by examining motivation, self-efficacy, existing learning models, adult learning theories, and constraints of adult learners that affect students' performance in CBI format. This chapter also provides a brief overview of the andragogical approach versus the pedagogical approach to education.

According to Knowles (1990), the mission of education is:

To produce *competent* people – individuals who can apply their knowledge under changing conditions, and we know that the necessary ability all people must have the jurisdiction to participate in self-directed lifelong learning. We now know, also, that the way to produce competent people is to have them to acquire their knowledge (and skills, understanding, attitudes, values, and interests) in the context of its application. (p. 19)

By examining current motivation and adult learning theories and models, education learning environment can guide self-direct adult learners to be competent people.

### History of Distance Learning

During recent decades, adult learner students often referred to as “non-traditional” have become a growing presence on community college campuses and have contributed to the increasing popularity of CBI. Allen and Seaman (2005) noted that students who choose community colleges are from a diversity of educational backgrounds and a variety of ages, ethnicities, and cultures. Shea, Motiwalla, and Lewis (2001) conducted a study of 251 institutions and outlined characteristics of distance education programs, including that distance online programs are targeted at non-traditional students and faculty and that students who utilize a variety of forms of communication for asynchronous and synchronous media believe there was

no uniformity in online learning programs. Instructors and institutions preferred an asynchronous type of distance courses mainly web-based courses due to lower costs and flexibility (Holcomb, King, & Brown, 2004).

According to Christensen (2001) and Smith (as cited in Grandzol, 2004), distance online students find many features of online learning appealing, including convenience, technology experience, flexibility, and accessibility. With the growing popularity of online enrollment, colleges are enhancing the content of distance education platforms to accommodate working adult students by also delivering accelerated course formats and hybrid and blended learning environments.

In 2008, NCES data indicated nearly two-thirds of community colleges offer distance education programs that include blended and hybrid courses and other forms of web-based instruction. As reported by 68% of responding institutions, flexibility is one the factors most commonly cited as affecting the decision to offer distance education programs to meet student demand (Parsad & Lewis, 2008).

### **Conceptual Framework**

Research studies have explored the predictors of motivation and learning strategies for adult learner students in college courses by providing substantial but inadequate support for assumptions linked to the contexts of adult education. Ross-Gordon (2003) mentioned that much of what is written about adapting to adult learners in higher education focuses on ways in which institutions and programs can modify student services, course delivery formats, and systems to accommodate the needs of reentry students. Adult education research also provides insight into understanding the characteristics of these learners within the classroom or distance learning environment. Thoms (2001) stated the following:

Adult learners have set habits and healthy tastes; have a great deal of pride; have established a rational framework (values, attitudes, etc.) by which they make decisions; have a strong need to apply what is learned – and apply it now; want to be competent in their application of knowledge and skills. (pp. 5-6)

The education goal of distance learning programs is to create better learning environments and opportunities akin as those offered in traditional environment. Distance learning allows flexibility for students to study at their convenience. For instance, a student can reside in the state of Florida and be enrolled in online distance courses in California. For a student who is employed full-time and cannot attend on-campus courses, the ability to enroll in online courses provides the learner with access to education.

### **Distance Learning**

**Definition.** Distance education has many connotations and denotations, and as such, it is necessary to examine the key terms associated with the theory of distance education. Some definitions are simple, while others are more involved. However, it is defined, distance learning has many different identifying characteristics that set it apart from traditional education settings. Below are a few definitions of distance education from early researchers who studied distance learning. In 1967, Dohmen defined distance education as:

A systematically organized form of self-study in which student counseling, the presentation of learning the material and the securing and supervising of students' success is carried out by a team of teachers, each of whom has responsibilities. It is made possible at a distance by using media, which can cover long distances. The opposite of 'distance education' was 'direct education' or 'face-to-face education': a type of

education that takes place with direct contact between lecturers and students. (as cited in Keegan, 1986, p. 41)

In addition, Moore (1972) defined distance learning as:

The family of instructional methods in which the teaching behaviors are executed apart from learning behaviors, including those that in contiguous teaching would be performed in the learner's presence so that communication between the learner and the teacher must be facilitated by print, electronic, mechanical, or other devices. (p. 76)

Also, Moore (1972) understood that if distance learning was going to expand, the principles must be grounded:

As we continue to develop various non-traditional methods of reaching the growing number of people who cannot or will not attend conventional institutions, but who choose to learn apart from their teachers, we should direct some our resources to the macro-factors: describing and defining the field; discriminating between the various components of this field; identifying the critical elements of the various forms of teaching and learning; and building a theoretical framework which will embrace this whole area of education. (p. 661)

### **Distance Education Theories**

Distance education theory has been defined by several researchers. Holmberg (1986) defined distance education as an individual experience that is different from, but not inferior to traditional types of education. Moreover, Holmberg (1986) went on to state:

Distance education is a concept that covers the learning-teaching activities in the cognitive and psycho-motor and affective domains of an individual learner and a supportive organization. It is characterized by non-contiguous communication and can

carry out anywhere and at any time, which makes it attractive to adults with professional and social commitments. (p. 168)

**Transactional distance theory.** Similar to Keegan's (1986) characteristic of separation of the teacher and learner, Moore's (2010) transactional distance theory is based on the principle that the distance in distance education is more than a separation of instructors and students. For effective learning to occur, the delivery of instruction must be addressed in every educational transaction by the instructors, students, and institutions including at a distance. Transactional distance is the pedagogical range of understandings and perceptions produced by the geographic separation of students and instructor.

The theory is an effective measure of the relationship between the instructor and student regarding the requisite course structure, the dialog provided by the instructor, and the autonomy required by the student. Dialog and structure are two principal components, and both are measured in transactional distance theory to understand the distance between pupils and teachers (Moore & Kearsley, 1996). Dialog signifies the interaction between learners and educators. For instance, a video or audio conference course is a dialogic process. If there is more structure and minimal dialog, there is more transactional distance. On the other hand, if there is more dialog and less structure, there is minimal transactional distance.

### **Major Characteristics of Distance Education**

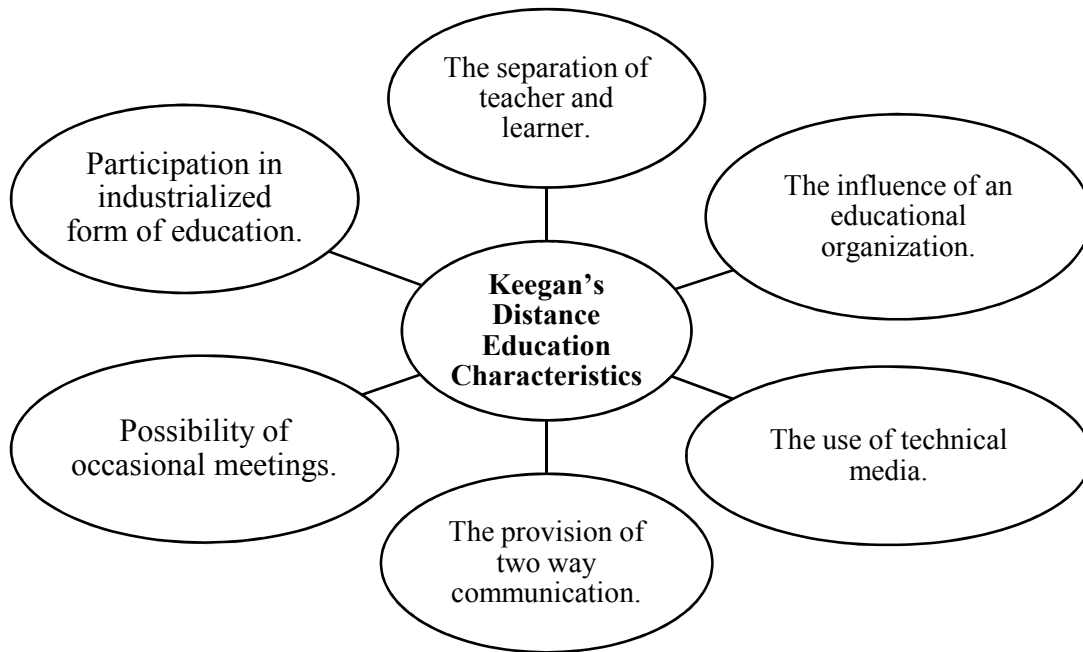
The goal of distance education (also known as distance learning, e-learning, online education, or online learning) is to provide education for every level of population. In recent years, and especially in higher education, distance learning has become a vital force due to the growing demand for educational opportunities. Distance learning provides a second chance at a college education, especially for working adults who finds distance learning attractive because



they are unable to attend courses in a traditional classroom setting. In 1986, Keegan outlined six major characteristics of distance learning (as cited in Spooner, Jordan, Algozzine, & Spooner, 1999):

1. The separation of the instructor and learner. For instance, separation versus face-to-face in the same location.
2. The influence of an educational organization such as the department or college in the planning, preparation, or delivery of material versus a stand-alone on-campus professor responsible for the content generation and delivery of course information which is the technological medium.
3. Use of technical media. Historically, in most cases this has been print, but as technology advances, electronic media (computers, television studio delivery, and computer software presentation packages) contribute to a list of special options.
4. Delivery for two-way communication. For instance, a prearranged web conference with a single student or group of students at a central location at the same time.
5. The possibility of an occasional seminar, which could allow students working independently, perhaps to view prerecorded video tapes, to receive paper assignments via regular mail, or to watch the lecture via cable or satellite television in their own homes, to assemble as a group in the presence of the instructor of record for the class.
6. Evidence of a division of labor. A team of individuals involved in the preparation and delivery of course content. Members of the team might include a content expert (e.g., a faculty member in elementary education for a course offered from that program), graphic illustrators (who for all practical purposes have no knowledge of the content but bring it to life with related illustrations), and a television personality (i.e., an

individual trained to work in the presence of the camera and the voice of a television or radio announcer to deliver the content. (p. 132)



*Figure 1.* Illustration of Keegan's six characteristics of distance education.

Keegan's six characteristics above must be used in conjunction with the first characteristic to understand distance education.

According to Gasper and Thompson (1995), distance education incorporates web-based instruction, and teaching and learning aids include computer assisted instruction, audio and visual activities, mass media, social interactions among learners and instructors, and other forms of technologically-advanced programs. There are two learning approaches to distance education: one is based on computers' communication functions, and the other relies on structure and pre-programmed learning materials (Bates, 1986). The approaches are not mutually exclusive; if combined, they can become a powerful medium for distance education.

According to Draves (as cited in Holcomb et al., 2004), distance education gained popularity due to a more flexible learning environment, even better than face-to-face instruction.

Draves' list of distance learning benefits includes:

1. Students learn on their own time.
2. Students set their own pace for learning.
3. Students learn at a faster rate.
4. The interaction between student and instructor can be more personable.
5. Topics are readily accessible while working online.
6. A student can gain expertise with diversity by interacting with learners around the world.
7. Distance education opportunities provide students with easy accessibility to the authorities and experts.
8. Distance education has become more affordable and readily available.
9. The number of online resources is abounding.
10. Virtual communities are created through online courses.

**Technology characteristics.** In the fall of 2006, almost 3.5 million students nearly one out of ten of college students in the U.S. enrolled in at least one online learning course (Allen & Seaman, 2008). The level of technological competence and confidence of individuals also impacts learning (Barron, 2014). Technology is one of the major forces shaping adult learning in the 21st century; it is also a force that is consistent with andragogy (Knowles, Holton, & Swanson, 2005). Meyer (2002) noted that technology in the workplace will require the continuous a professional development of adults and either retraining or career changes for many workers in the country.

The arrival of technology into higher education has left higher education administrators and faculty trying to understand the traditional role of higher learning and the implementation of technology in the instruction of their student populations (Calis, 2008; Cohen & Brawer, 2008; Dabbagh & Bannan-Ritland, 2005; Duderstadt, 2003, 2007; Greer, 2010; Matt, O'Reilly, & Williams, 2014). First, technology maximizes adult learners' SDL experience. Second, well-developed CBI enables adults to cater the online learning experience to fit their knowledge and understanding because technology-based learning allows users to select alternative paths through learning based on their prior knowledge and experiences. Third, if properly designed, technology-based instruction provides learners with the ability to tailor their learning to real-world situations. Because technology was frequently used in the learner's essential work and life settings, students can immediately apply that knowledge to situational settings (Knowles et al., 2005).

There is a selection of methods of communication in distance education, including electronic emails, internet chat programs, video-based conferencing, and telephone-based audio conferencing, and discussion boards. Riding and Rayner (1995) identified six technological characteristics that are useful to understand distance education:

- Control of the mode of delivery and the presentation rate;
- Control of the order of presentation, the pace of instruction, and selection of learning activities;
- Monitoring of learning performance, storing responses, and conducting assessments;
- Provision of simulations, which supply learning experiences in a selection of minimal cost and risk topics;

- Formation of a collaborative learning group by linking the students to the teacher and the learners for support; and
- Access to learning resources and assessment materials.

### **Characteristics of Community College Students**

**Demographics.** The diversity of students from various ethnic and cultural backgrounds continues to expand in higher education. These changes and technological advances have led educators to reevaluate traditional uniform instruction methods to improve the delivery and design of educational content to improve student's satisfaction.

**Age.** Urtel (2008) conducted a study at a local mid-western urban university that was comprised of 269 online and 116 traditional face-to-face university undergraduate students. The average age of online students was 27 years old, while the average age of face-to-face students was 24 years old. Urtel (2008) found no correlation between age and grade earned, but the female learners in the traditional course significantly outperformed female students in the distance learning environment even though both groups accomplished the same level of academic success.

In another 3-year research study, Wojciechowski and Bierlein Palmer (2005) studied 179 students enrolled in an online business course at a rural community college in Western Michigan indicated that the older the student, the higher the grade in the course they earned. The age range for the study was 16 to 53 years of age, and average student was 25 years old.

**Gender.** A survey conducted by Halsne and Gatta (2002), compared the demographic characteristics of approximately 1600 students in both distance education and traditional face-to-face courses to examine differences between learners' characteristics. One of the findings was

that women between the ages of 26 and 55 with dependent children prefer to enroll in distance online courses instead of traditional face-to-face classroom settings.

**Marital status.** Findings from a Florida community college study conducted by Coleman-Ferrell (2001) suggested that marital status was a significant predictor of course outcomes. In Coleman-Ferrell's sample of 100 students registered in web-based delivery courses, married students performed above average by at least one letter grade compared to single students.

### **Generational Groups**

William Strauss and Neil Howe created the Strauss-Howe generational theory, which identified how each generation was shaped by its social environment. Matt et al. (2014) stated, "This social environment is a collection of social events experienced by individuals who share common birth years" (p. 35). Dabbagh and Bannan-Ritland (2005) stated that student populations are diverse in age, cultural traits, and educational background in distance education. Twenge (2006), who conducted research on the millennial generation, described generational cohorts at length:

Everyone belongs to generation. Some people embrace it like a warm familiar blanket, while others prefer not to be lumped in with their age mates. Like it or not, when you were born dictates the culture you will experience. This includes the highs and lows of pop culture, as well as world events, social trends, economic realities, behavioral norms, and ways of seeing the world. The society that molds you when you are young stays with you the rest of your life. (p. 2)

Howe and Strauss (2000) explained that generational groups share environmental, economic, political, and social awakenings given the timeframe associated with their birth group:

Generation can define as a society-wide peer group, born over a period roughly the same length as the passage from youth to adulthood, who collectively possess a common persona. The length need not be always the same. Generation can be a bit longer or shorter, depending on its coming-of-age experience and the vagaries of history. Of the nine American generations born over the past two centuries, none has been less than 17 years or longer than 24 years in length. Generational birth years should indicate the boundaries for each generational persona. What is a generational persona? It is a distinctly human and variable creation embodying attitudes about family life, gender roles, institutions, politics, religion, culture, lifestyle, and the future. (pp. 40-41)

**Traditionalists.** Traditionalists are the first true innovators who believes in earning through hard work.

**Baby boomers.** The first generation who experienced television and were exposed to uniform mass messages while growing up. Baby Boomers value face-to-face interactions as the mode of communication.

**Generation X.** Baby Boomers were the first generation to grew up with television, but Generation X was the first generation to experience the profound impact of technology developments such as computers.

**Millennials.** Millennials, also known as Generation Y, grew up with computers and also experienced the adoption of mobile devices and the internet.

Each generation group features different learning styles. The chart below provides a specific grouping of ages.

Table 2

*Generation Chart*

	Traditionalists	Baby Boomers	Generation X	Millennials (Generation Y)
Birth Years	1900-1943	1944-1960	1961-1980	(1977-1994) 1981-2000
Current Age (For 2016 only)	71-116 yrs. Old	52-70 yrs. old	28-43 yrs. old	16-35 yrs. old

**Adult Learning Theories**

In 1920, adult education was founded as a professional field but it was not until the mid-20th century that researchers provided more emphasis in the area of adult learners and integrated the framework of adult learning. The area of adult learning theories is continually being explored and practiced. Malcolm Knowles was the first to argue that adult learners are different from traditional students. Knowles explained the principle of andragogy in the context of psychological theory (Knowles et al., 1998) but he relies heavily on older theories, including the ideas of Kurt Lewin, Abraham Maslow, and B. F. Skinner to support his beliefs (as cited in Houde, 2006).

Knowles (1990), the founder of andragogy describes adult learners as a neglected species. Knowles (1990) defined “an adult” using four categories:

First, the *biological* definition: we become adult biologically when we reach the age at which we can produce which at our latitude is in early adolescence. Second, the *legal* definition: we become adult legally when we reach the age at which the law says we can vote, get a driver’s license, marry without consent, and the like. Third, the *social* definition: we become adult socially when we start performing adult roles, such as the



role of full-time worker, spouse, parent, voting citizen, and the like. Finally, the *psychological* definition: we become adult psychologically when we arrive at a self-concept of being self-directed. (p. 57)

Knowles defined andragogy as “the art and science of helping adults learn”; this art and science “is built upon two central, defining attributes: first, a conception of learners as self-directed and autonomous; and second, an understanding of the role of the teacher as a facilitator of learning rather than the presenter of content” (Pratt, 1988, p. 12) emphasizing learner choice more than expert control (Knowles et al., 2011). Andragogy is in contrast to pedagogy, or “the art of and science of helping children learn” (Knowles et al., 1998, p. 310), which concerns helping children learn (Knowles, 1984).

Knowles (1992) provided a theory of andragogy that is comprised of two conceptual frameworks: learning theory and design theory. Learning theory is based on the adult’s desire to become and express themselves as an individual human, and it has six components (Knowles et al., 2011, p. 330).

1. The Need to Know: Adults need to know the reason for learning. “Adults need to know why they need to learn something before undertaking it” (Knowles et al., 1998, p. 64).
2. Experience: Adults use their experiences to aid their learning. They take responsibility and have a deep need to be self-directing. The adult has individual needs as a learner, and that needs to be taken into consideration. Adult learners need to understand why a change is occurring or why does he/she need to do something.
3. The Self- Learners Concept: An adult need to be responsible for their decisions on education, and they need to be involved in planning and evaluating their instruction.

“Adults have a self-concept of being responsible for their choices, for their lives”

(Knowles et al., 1998, p. 65).

4. Readiness: The learning readiness of adults is related to the assumption of new social roles. When adults are competent about the need to know or understand, they are ready to learn something in order to execute more efficiently in some aspect of their life.
5. Orientation: As a person learns new knowledge, he or she wants to apply it immediately to problem-solving. For instance, adults’ orientation to learning is around life situations for which they seek solutions to their problems.
6. Motivation (later added): As a person matures, he or she receives their motivation to learn from internal factors. Adults are more internally than externally motivated (Knowles et al., 2011). The concept of motivation will be further discussed in the next section.

According to Knowles (1984), the design theory is based on an example used to apply the principles to personal computer training:

1. The explanation of why skills, functions, or commands are taught.
2. Task oriented instead of memorizing. Tasks should be everyday tasks.
3. Take diversity into play. Acknowledge different learning levels and experiences.
4. Allow adults to learn on their own and take responsibility for their mistakes.

Knowles (1990) stated that “a new institution forms of education – lifelong learning resource system or Learning Community” (p. 171). Knowles provides eight assumptions that a model of lifelong learning community should be based on:

1. Because of the effects of the global changes, learning becomes a lifelong process.

2. Learning is a dynamic force, and the learner is the core initiator of that force.
3. The primary goal of education is to assist the development of learners' skills and abilities that are required in life situations.
4. Because of the diversity of learners' backgrounds (education, life, and work experiences, learning goals, learning styles, etc.), educational programs need to become as close a match as possible with learners' uniqueness.
5. An educator's responsibility is to identify relevant resources and supply them to the learners.
6. Educators need to focus their attention on creating a community of self-directed learners.
7. Educators need to create systems of enhanced cooperative learning.
8. Learning becomes more organized and more efficient when it follows a clear learning plan.

“Adults become ready to learn those things they need to know and be able to do to cope effectively with their real-life situations” (Knowles et al., 2005, p. 67). According to Knowles et al. (1998), andragogy is not an actual theory of adult learning, but is instead essentially a “model of assumptions” which is about the characteristics of adult learners, and these assumptions are different from the traditional pedagogical assumptions about child learners.

Knowles mentioned adults are self-directed; instruction should allow learners to discover things and knowledge for themselves without depending on others, but they will be provided guidance and help when mistakes are made (Knowles et al., 2005). Blair (2010) suggested faculty can incorporate theory and research on adult learners into their classrooms and advocate

for adult education programs and services on campus by leading as change agents to create supportive learning environments for adult students.

When adult learners are given a purpose to learn, they have the readiness to educate themselves. Once they have the readiness to learn, adult learners have the motivation to learn. Since adult students learn differently, the adult student may prefer task-oriented instructions and activities versus memorization. Because adult learners feel safer when engaging in groups, participating in practice sessions, and the need to understand why particular things are being taught, it is critical to take into consideration that adult learners are from a wide range of backgrounds. Online facilitators are trained to encourage a continual stream of dialogue concerning the subject matter in a constructivist atmosphere where meaning is created with student's prior experience and knowledge (Truman-Davis, Futch, Thompson, & Yonekura, 2000).

Adult learners are divided into three categories: employed, unemployed, and retired. There are intrinsic and extrinsic motivational characteristics in each of these categories toward engaging in adult learning in each of these categories. For instance, unemployed adults are motivated by their own desire to gain new skills to compete in the job market, whereas retired adults are motivated by a desire for personal fulfillment and remaining occupied. The adult student's purpose for learning creates the motivation to engage in learning. Every stage in life provides adult learners a purpose and own reason for participation in adult education.

<b>About</b>	<b>Pedagogical</b>	<b>Andragogical</b>
<ul style="list-style-type: none"> <li>• Concept of the learner.</li> <li>• Role of the learners' experience.</li> <li>• Readiness to learn.</li> <li>• Orientation to learning.</li> <li>• Motivation.</li> </ul>	<ul style="list-style-type: none"> <li>• Dependent personality.</li> <li>• To be built on more than used as a resource.</li> <li>• Uniform by age level &amp; curriculum.</li> <li>• Subject-centered.</li> <li>• By external rewards and punishment.</li> </ul>	<ul style="list-style-type: none"> <li>• Increasing self-directed.</li> <li>• A rich resource for learning by self-and others.</li> <li>• Develops from life tasks &amp; problems.</li> <li>• Task or problem centered.</li> <li>• By internal incentives curiosity.</li> </ul>

*Figure 2.* Andragogical assumptions.

## **Motivation**

What is motivation? What motivates adult learners to return to school? Adult education encompasses several educational theories, including andragogy. Adult learners are internally motivated by learning experiences and they are usually voluntary learners. Adults' motivations for learning differs from those of children. For educators to obtain optimum results, instructors need to comprehend the motivating factors of adult learners. Robbins and Judge (2011) defined motivation as “the processes that account for an individual’s intensity, direction, and persistence of effort toward attaining a goal” (p. 209). Laszlo and Kupritz (2003) stated that “students will be motivated to enroll, participate, and successfully complete training that will result in monetary or personal rewards” (p. 64). For instance, an adult student needs to understand why the material that he or she is learning is important. The concept is associated with a state of low or no motivation. Adults seek for educational experiences with incentives, such as finding a job, getting a promotion, leisure time, or obtaining a salary raise.

An adult student's belief "in their efficacy to regulate their own learning and to master" (Bandura, 1997, p. 177) academic activities determine their aspirations, level of motivation, and academic accomplishments. Abraham Maslow (1970) stated when a need is not met by the individual, the person will be more motivated to meet the need. For example, according to Maslow (1970) lower-level needs such as survival, safety, and belongingness must be met before an individual can move to higher-level needs such as self-esteem and self-actualization. Determining where an individual is in their life stage can provide an understanding of the person's motivation to learn.

### **Self-Efficacy Theory**

A second view of motivation used in this study was self-efficacy theory (Bandura, 1997; Zimmerman, 2000). According to Bandura (1997), students perceived self-efficacies affect their level of motivation and academic accomplishments. In addition, self-efficacy emphasizes task-specific performance expectations and describes individuals' beliefs or perceptions about their ability to complete successfully a particular task or type of task. Self-efficacy is essential to learners' level of engagement with accomplishment and tasks (Linnenbrink & Pintrich, 2003). For example, students with high levels of self-efficacy have more confidence to overcome obstacles than students with low self-efficacy. Bandura (1997) applies self-efficacy theory to one's convictions about her or his ability to perform a specific task at a designated level. The concept of self-efficacy has a long tradition and is widely applied in social sciences in areas such as training, human resources, program evaluation, and learning (Torkzadeh & Van Dyke, 2002).

**Academic self-efficacy.** Academic self-efficacy refers to an individual's belief (conviction) that they can successfully achieve an academic task at a designated level or attain a specific academic goal (Bandura, 1997; Eccles & Wigfield, 2002; Linnenbrink & Pintrich,

2002). Zimmerman (2000) stated that academic self-efficacy refers to one's perceived capability of performing certain tasks, while outcome expectations are the value of the activity such as employment, social life, and education. Pintrich and de Groot (1990) found that academic self-efficacy was positively related to use of cognitive strategies, intrinsic value, and self-regulation. For example, high self-efficacies provide students with more opportunities for career choices and options available to them, while academic preparation offers different career options as a result of students' academic endeavors (Bandura, 1997).

Also, students with higher self-efficacy will select more challenging tasks, while students with low self-efficacy will choose simpler tasks. Learners with high self-efficacy for accomplishing a task have more motivation and persist longer than students with low self-efficacy. Bandura (1997) stated, "Performance accomplishments provide the most dependable source of efficacy expectations because they are based on one's own personal experiences. Successes raise mastery expectations; repeated failures lower them, especially if the mishaps occur early in the course of events" (p. 81). Students who have achieved personal mastery will most likely persevere even when challenged with obstacles.

**Self-efficacy in online learning environments.** In 2008, Hodges stated there is a lack of research on motivation constructs in distance learning environments. Due to the emergence of information technologies, numerous technological tools have been implemented into this process. Self-efficacy refers to three types of domains for online learning environments which are for online learning, computer self-efficacy, and internet (web-based) self-efficacy.

***Self-efficacy for online learning.*** Self-efficacy for online learning is mediated by asynchronous and synchronous tools. Technology plays a vital role in online learning because the influence of technology can lead to the success of online learners and increase self-efficacy

for learners. Some self-efficacy studies have resulted in positive or no correlation between self-efficacy and student performance such as a study conducted by Wang and Newlin (2002) illustrated a positive correlation of self-efficacy for online learning and student performance. In contrast, a study conducted by Joo, Bong, and Choi (2000) indicated that self-efficacy is not a predictor of performance.

***Computer self-efficacy.*** Computer self-efficacy is a self-appraisal of one's ability and confidence to master a task; it includes judgments about the confidence levels and the ability to accomplish a task. Knowles et al. (2011) defined computer self-efficacy as the individual's belief about his or her capabilities to successfully engage in CBI. A study conducted by Lim (2001) found a significant correlation of computer self-efficacy and course satisfaction in a distance learning environment. Computer self-efficacy has been identified having a correlation with predictors such as frequency of computer usage, performance, satisfaction, user's computer behavior, computer experiences, computer training, anxiety, and technical skills of information research (Compeau & Higgins, 1995; DeTure, 2004; Hill & Hannafin, 1997; Lim, 2001; Osborn, 2001; Torkzadeh, Chang, & Demirhan, 2006; Torkzadeh & Van Dyke, 2002).

***Internet self-efficacy.*** Eastin and LaRose (2000) defined internet self-efficacy as the "belief in one's capability to organize and execute internet actions required to produce given attainments" (p. 1).

Several internet self-efficacies instruments have been developed. For instance, Torkzadeh and Van Dyke (2002) developed an internet self-efficacy instrument that measures individuals' interactions with self-competence and self-perception. Eastin and LaRose (2000) developed an instrument that encompasses the measures of general internet usage. However, for this study, one of the two instruments that was used is the Online Technologies Self-Efficacy Scale (OTSES)



established by Miltiadou and Yu (2000). The instrument is comprised of thirty items clustered into four subscales that measure online self-efficacy beliefs with communication technologies such as discussion boards, electronic mail, browser applications, and computer conferencing.

### **Self-Regulated Learning Theory**

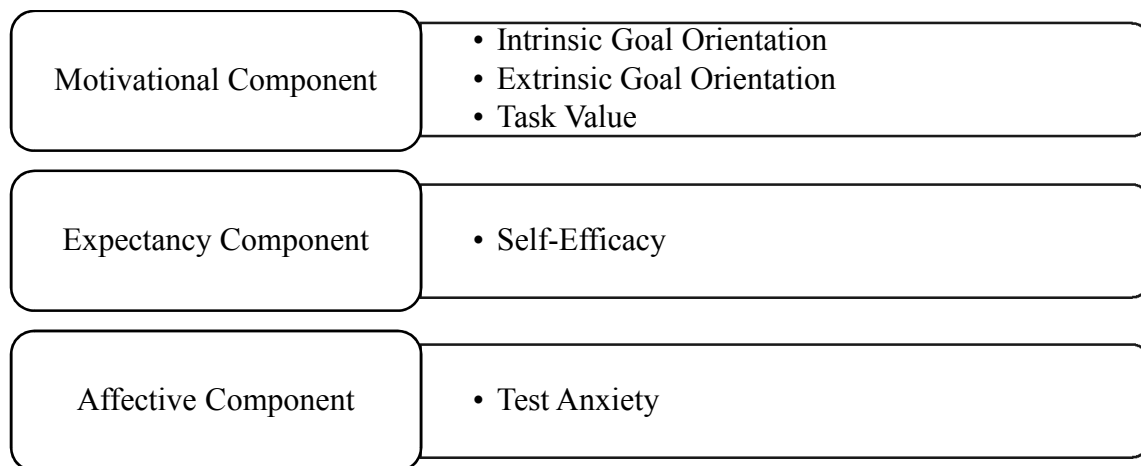
Since self-efficacy focuses on task-specific performance, self-regulated learning refers to the motivational and learning strategies that students employ to attain desired goals (Zimmerman, 1989). The concept of self-regulated learning originated from psychology, and researchers in education-related areas adapted it for student learning and educational practices. During the cognitive process, learners use strategies to acquire or comprehend information (Zimmerman, 1989). Meta-cognitive processes refer to a student's ability to plan, organize, and evaluate learning strategies for learning processes; motivation encompasses self-efficacy and high intrinsic motivation; and behavior refers to the characteristics of the strategies that students employ to optimize learning (Puzziferro, 2008, p. 74).

Pintrich and de Groot's (1990) study was based on the motivational components of self-regulated learning and academic achievement in the classroom. A study by Pintrich, Marx, and Boyle (1993) described the development of a self-regulated learning model focused on two areas (motivation and learning strategies) and the following three motivational components:

1. An expectancy component refers to students' expectations of their academic achievement in executing the task.
2. A value component is concerned with students' appreciation of beliefs about the significance of the task.
3. An affective component comprised of the students' emotional reactions to the task.

The motivation constructs align with the forethought phase in the self-regulated learning cycle developed by Zimmerman (1989). The expectancy component has two subcomponents: control belief for learning and student perception on self-efficacy. The motivational component is measured by three subscales: intrinsic goal orientation, extrinsic goal orientation, and task value. The affective component is measured by area of test anxiety (Pintrich & de Groot, 1990; Pintrich, Smith, Garcia, & McKeachie, 1991; Zimmerman, 1989).

Finally, students who are self-regulated learners have higher levels of self-efficacy, are confident in their abilities (positive attributions) and more internally motivated (Pintrich et al., 1991; Zimmerman, Bandura, & Martinez-Pons, 1992).



*Figure 3.* Motivational strategies for Learning Questionnaire groupings.

### **Self-Directed Learning Theory**

Knowles (1975) defined the SDL process as one “in which individuals take the initiative, with or without the help of others, in diagnosing their learning needs, formulating learning goals, identifying human and material resources for learning, choosing, and implementing appropriate learning strategies, and evaluating learning outcomes” (p. 18). The SDL model was developed by Knowles to demonstrate that adult students learn differently than children.

SDL is a form of internet-based instruction that delivers education and learning processes. Guglielmino (1997) noted that not all students are equally successful when it comes to SDL because of such factors including attitudes, abilities, backgrounds, and beliefs that determine if SDL takes place in a learning situation. Adult students need to understand themselves as learners in order to comprehend their need as self-directed learners.

Knowles et al. (2005) suggested that because adults are self-directed, instruction should allow learners to discover things and knowledge for themselves without depending on people, with an instructor/facilitator providing guidance and help when mistakes are made. When adult learners are given a reason to learn, they have the readiness to learn. Once adult learners have the readiness to learn, they have the motivation to learn.

**Student engagement.** Harper and Quaye (2009) defined student engagement as being “characterized by participation in educationally effective practices, both inside and outside the classroom, which leads to a range of measurable outcomes” (p. 2). The measure of student engagement offers valuable indicators of the quality of online learning because learners’ participation is one of the primary components of distance education. Engaging students promotes active learning, encourages collaboration, and fosters relationships. For example, adult learners are goal oriented and will appreciate a well-organized course that has clear objectives.

### **How does Learning Occur?**

Bloom’s taxonomy provides the basic premise for how pupils in higher education process and retrieve information. A study conducted by Benjamin Bloom identified three levels of learning domains: cognitive, affective, and psychomotor. The cognitive domain involves knowledge and the development of intellectual skills (Bloom, 1956). There are six categories of the cognitive process.

The affective domain includes how some individual handles with problems emotionally and the psychomotor domain involves motor-skill areas and coordination. Students learn most efficiently and effectively when learning styles and levels of thinking are linked together. Since learners' preferences can range from simple to difficult, students must dissect the level of thinking with different learning styles.

### **What are Learning Styles?**

This section provides an overview of existing learning styles and inventories. One purpose of this section is to offer a deeper understanding within the existing different learning methods for online distance learners to create appropriate learning strategies. For instance, Shih and Gamon (2001) conducted a correlation study on learning styles, learning strategies, and the final grade in distance online courses. As part of the learning strategies measurement, both researchers used 13 questions from the MSLQ. The findings concluded that learning strategies account for 25% of learners' achievement in distance education. Another study conducted by Cassidy (2004) stated, "Learning style was also found to correlate significantly with other academic performance-related factors such as academic self-efficacy and academic locus of control" (p. 439).

According to Coffield (2004), over 71 different types of learning styles and inventories have been identified. What is learning style? Typically, there is no standard definition because every student process information and learns differently. Kolb (1984) and Honey and Mumford (1992) described learning style as an individual's preferred or habitual ways of processing and transforming knowledge. Learning styles identify learning differences and assess how the human mind operates. Some students can apply several learning styles to a situation while some can only adapt to one or two learning styles. Each learning style has its strengths and weaknesses.

When a student is aware of their preferences, they are empowered to use of various learning styles to enhance learning, which may impact overall educational satisfaction.

While there are over 71 different types of learning styles and inventories, only a few widely used learning models are presented for comparison. Learning style is defined by many researchers. For example, Grasha (1996) defined learning style as the personal qualities that influence a student's ability to acquire information, to interact with peers and the teachers, and otherwise participate in learning experiences, while Pask (1976) defined learning style as a person's tendency to adopt a particular learning method and learn differently. Some students adapt their learning styles based on situations while other learners have a preferred learning mechanism. For comparison, below are some definitions of learning styles by early scholars:

- DeTure (2004) used the term “cognitive styles” to describe relatively stable indicators of how learners perceive, interact with, and respond to the learning environment. The assumptions of all learning style models are measurable.
- Price (2004) stated, “Learning style is often used as a metaphor for considering the range of individual differences in learning. The term ‘learning style’ ...is considered to include a range of constructs describing variations in the manner in which individuals learn” (p. 681).

**Kolb's Learning Style Instrument (LSI) model.** Kolb's learning style supports other learning models. Kolb's (1984) learning style model specifically targets the characteristic methods of learning. The LSI (Dunn & Dunn, 1978) was revised in 1985 based on David A. Kolb. The Kolb experiential learning model measures students' learning styles and knowledge that created transforming experiences (1985) and features a learning style model derived from

Jung's theory of adult development (Jones, Reichard, & Mokhtari, 2003). Kolb (1984) believed that "learning is a continuous process grounded in experience" (p. 28).

The Kolb model is based on the theory of learning and development, which focuses on how the learner processes and perceives information. Learning Style Inventory (LSI) is one of the most common learning style instruments for distance education and adult research. Kolb (1981) wrote:

When used in the simple, straightforward, and open way intended, the LSI usually provides a valuable self-examination and discussions that recognize the uniqueness, complexity, and variability in individual approaches to learning. The danger lies in the reification of learning styles into fixed traits, such that learning styles become stereotypes used to pigeonhole people and their behavior. (pp. 290-291)

Multiple studies have examined the impact of learning styles in community college courses (Jones et al., 2003; Terry, 2001), but only a few studies to date have assessed the students' perceptions of learning methods and distance education.

Kolb and Kolb (2005) created the LSI to fulfill two purposes:

1. To serve as an educational tool to increase individuals' understanding of the process of learning from experience and their unique approach to learning. By increasing awareness of how they learn, the aim is to enhance learners' capacity for metacognitive control of their learning process and enable them to monitor and select learning approaches that work best for them in different learning situations. By providing a language for communicating about learning styles and the learning process, the inventory can foster conversation among learners and educators about how to create the most effective

learning environments for those involved. For this purpose, this inventory is best presented not as a test, but as an experience in understanding how one learns.

2. To provide a research tool for investigating experiential learning theory (ELT) and the characteristics of individual learning styles. (p. 8)

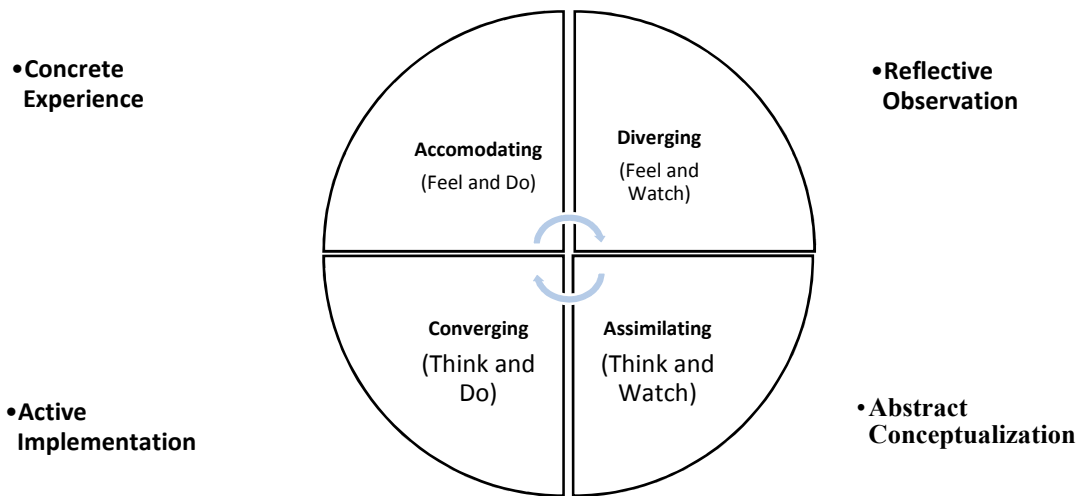
The LSI of 1991 identifies a learner's preference for each of these four learning stages regarding action versus reflective and concrete versus abstract. The LSI was the most commonly employed tool to measure learners' preferences regarding concrete versus abstract and action versus reflection.

Table 3

*Kolb's Four Learning Stages*

Stage	Description
Stage One	Concrete experience, learns new experience.
Stage Two	Reflective observation, watches others and develops an observation.
Stage Three	Abstract conceptualization, creates theories to describe the observation.
Stage Four	Active experimentation, use theories to make decisions and solve problems.

Learners are described as divergers, convergers, assimilators, or accommodators (Kolb, 1985). The resultant scores combine into two discrete, bipolar scales indicating a learner's preference for Active Experimentation versus Reflective Observation (i.e., the AERO scale) and Abstract Conceptualization versus Concrete Experience (i.e., the ACCE scale).



*Figure 4.* Kolb's learning style model.

The combination of the scores from the two scales identifies a learner's preferred style – Diverger, Converger, Assimilator, or Accommodator (Terrell, 2005). Kolb's LSI has been used in multiple online learning research studies to measure learners' preferences and learning styles (Fahy & Ally, 2005; Federico, 2000; Liegle & Janicki, 2006; Lu, Jia, Gong, & Clark, 2007; Miller, 2005; Terrell & Dringus, 2000; Wang, Wang, Wang, & Huang, 2006).

The results can provide students with awareness of preferences to empower the use of various learning styles, which can enhance learning and which may impact students' overall education satisfaction. For example, a student who has a diverging learning style is sensitive, imaginative team player. In contrast, a student who has a converging learning style is task-oriented and prefers practical applications. The results from Kolb's learning style can also assist instructors in evaluating and developing more efficient learning opportunities for students.

Kolb's LSI is comprised of twelve questions regarding the methods by which one learns best. Each question contains four answers that are to be ranked on a scale of one to four with four being best. Responses are organized into these bipolar dimensions below:



- Concrete experience (CE) and active experimentation (AE).
- Concrete experience (CE) and reflective observation (RO).
- Abstract conceptualization (AC) and active experimentation (AE).
- Abstract Conceptualization (AC) and reflective observation (RO). The numbers are summed to give scores for CE, AC, RO and AE.

Then  $(CE - AE)$  and  $(AC - RO)$  are calculated and used abscissa and ordinate, respectively, on a graph that determines one's ultimate learning styles.

- Concrete Experience (CE): A person feeling things as they are without any change.
- Abstract Conceptualization (AC): A person thinking about concepts and ideas as they are. After some processing, the basic description turns into an internal model.
- Active Experimentation (AE): A person gathers the concluded findings and apply to prove if it works.
- Reflective Observation (RO): A person observes what he or she has found to see if it works.

Table 4

*Kolb's Learning Model of the Four Bipolar Dimensions*

	Active Experimentation (AE) Doing	Reflective Observation (RO) Watching
Concrete Experience (CE) Feeling	ACCOMMODATING (CE/AE)	DIVERGING (CE/RO)
Abstract Conceptualization (AC) Thinking	CONVERGING (AC/AE)	ASSIMILATING (AC/RO)

**Honey and Mumford's Learning Styles model.** Peter Honey and Alan Mumford developed that Honey Mumford learning style model, which is based on the work of Kolb (Kolb's Theory) in that it presents the idea of learning as expressed through four stages of the learning cycle. Honey and Mumford's theory has also been applied in the fields of management training and education (Duff & Duffy, 2002). Honey and Mumford (1992) noted:

Our description of the stages in the learning cycle originated from the work of David Kolb. Kolb uses different words to describe the stages of the learning cycle and four learning styles. The similarities between his model and ours are greater than the differences. (p. 41)

Honey and Mumford (1992) identified four key stages/styles which are directly mutually corresponding and overlaid, as distinct from the Kolb's model in which the learning styles are a product of combinations of the learning cycle stages. Honey and Mumford's learning style questionnaire, known as Learning Style Questionnaire (LSQ) Theory has been widely used as an instrument for detecting students' learning style in higher education (Coffield, 2004; Duff & Duffy, 2002).

Honey and Mumford's Learning Style Questionnaire (LSQ) was proposed as an alternative to Kolb's Experiential Learning Style Model (ELM) and a later refined version called the LSI-1985 (Duff & Duffy, 2002). The LSQ is designed to probe the relative strengths of four different learning styles (Honey & Mumford, 1992): Activist, Reflector, Theorist, and Pragmatist. Below is a brief illustration of Honey and Mumford's learning cycle.

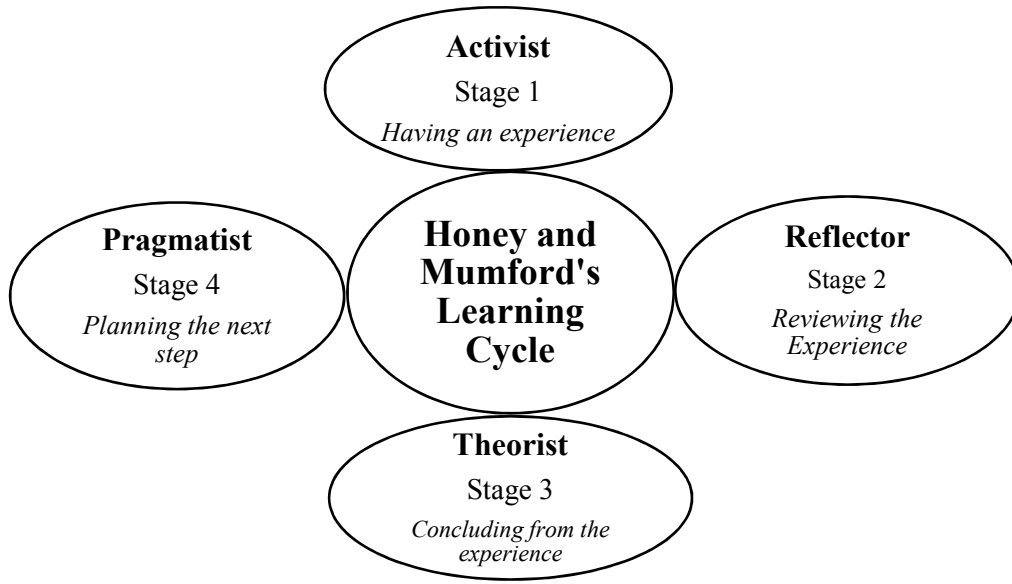


Figure 5. Honey and Mumford’s learning cycle.

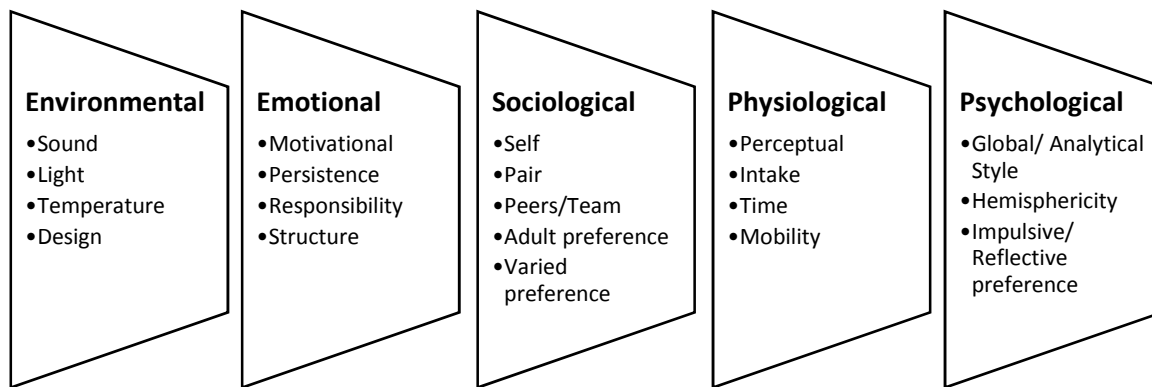
These four methods correspond approximately to those suggested by Kolb’s (1999) Experiential Learning Model (ELM): active experimentation (Activist), reflective observation (Reflector), abstract conceptualization (Theorist), and concrete experience (Pragmatist). Honey and Mumford (1986) stated, “Trainers too often assume that learners are empty buckets waiting to be filled by the training method the trainer favors. The fact that buckets are of different sizes, leak, and are upside down is conveniently overlooked” (p. 1).

Table 5

*Comparison of Kolb’s Learning Styles and Honey and Mumford*

Kolb’s Learning Style	Honey and Mumford
Accommodators	Activist
Divergers	Reflector
Assimilators	Theorist
Convergers	Pragmatist

**Dunn and Dunn’s Learning Style model.** One of the most widely used theories assessed is the learning styles model of Dunn and Dunn (1978). Dunn and Dunn defined learning style as “a biologically and developmentally imposed set of personal characteristics that make the same teaching method useful for some students and ineffective for others” (Dunn, Beaudry, & Klavas, 1989, p. 50). Dunn and Dunn’s (1978) model is categorized into five strands called stimuli: environmental, emotional, sociological, physiological, and psychological. Below in Figure 6 is a brief description of Dunn and Dunn’s learning style model.



*Figure 6.* Dunn and Dunn’s learning style model.

Two learning theories derived from Dunn and Dunn’s model are brain-lateralization and cognitive style theory. The brain-lateralization theory relies on the idea that the two hemispheres of the brain have different functions: the left-brain is responsible for verbal, sequential abilities, and the right brain is responsible for emotions and individual holistic processing. Cognitive style theory asserts that one develops knowledge in different ways based on already learned or inborn behavior (Dunn & Griggs, 2000, 2003).

The following are Dunn and Dunn’s (1978) theoretical assumptions:

- Most individuals can learn but not all.

- Instructional approaches, environments, and resources can respond to diverse learner style strengths.
- Everyone has strengths, but people's strengths vary.
- Individual instructional preferences exist and can be measured using a published instrument with excellent reliability and validity.
- Given responsive environments, resources, and approaches students attain statistically higher achievement and attitude test scores in matched (rather than mismatched) learning styles treatments.
- Most teachers can learn to use learning styles as a cornerstone of their instruction.
- Many students can learn to capitalize on their learning style strengths when concentrating on new or challenging academic material (Dunn & Griggs, 2000).

**Schellens and Valcke's Learning Style model.** Schellens and Valcke (2000) stated that "the demands of the learning environment can be inconsistent with the actual learning styles of the students" (p. 363). Both researchers developed a learning style instrument that included five bipolar dimensions:

- Auditory vs. Visual: Auditory students learn by listening while visual style students learn through diagrams, pictures, and etc.
- Applied vs. Conceptual: Applied style students learn through cases and examples; Conceptual style learners prefer theories and concepts.
- Spatial vs. Non-Spatial: Spatial style students prefer learning in context while non-spatial style learners are more abstract in their preferences.
- Social vs. Individual: Learners with social style prefer teamwork and students with an individual style prefer doing things on their own.

- Creative vs. Pragmatic: Creative style learners prefer using their imagination to solve complex problems. Pragmatic style students prefer to solve simpler problems with straightforward solutions.

Schellens and Valcke's instruments measure both cognitive processing and learning environment preferences. Hirumi (2005) stated that the loss of visual and vocal cues that exist in a traditional classroom leaves learners dependent upon the technology for support materials and to help them progress smoothly.

**McVay Lynch's Learning Style model.** McVay Lynch's LSI consists of three dimensions: visual, auditory, and kinesthetic. Mills (2010) described visual learning as students learning through seeing. Visual learners prefer visual aids such as figures and tables. Auditory learners are students who learn through listening. Kinesthetic student learners, learn as they perform. The chart below provides a brief description of McVay Lynch's learning model.

### **Criticism of Learning Styles**

Since there is no established concept or one definition of learning styles in general, researchers tend to translate these theories according to how they person understand them. Each learning style model has its purpose; some models were developed to expand existing models, while others were developed to enhance learning theories. Every model focuses on different aspects of learner preferences. There are over 71 models, which makes it more difficult for researchers to reach consensus. This raises the following questions:

- Validity: Is the model a test of learning styles?
- Reliability: Does the model consistently measure the learning styles of students?

### **Chapter 3: Methodology and Procedures**

The purpose of this chapter is to deliver insight for other researchers with a clear understanding of how and why this study was conducted. This chapter, provides a description of the methodology and procedures employed, including research design, research questions, and a sample of the southern California community college student population. This chapter also explores the research questions in more depth and discusses the instrument surveys used in a study of this nature.

In a quantitative research, data collection tools and methods can adjust to the setting as the research progresses. The data collection methods include sampling techniques such as surveys, face-to-face interviews, online polls, etc. Quantitative data utilizes measurable data to formulate facts. Additionally, quantitative data are used to provide a description of variables and examine the relationships among variables.

The MSLQ (Appendix A) and OTSES (Appendix B) instruments are located in the appendix section of this research. Modified versions of proven and reliable MSLQ and OTSES are the primary data collection tools. The researcher identifies the relationship of the survey items from MSLQ (Appendix C) instruments to the research questions.

#### **Restatement of Research Questions**

The research questions for this study are as follows:

RQ1: What motivates or inhibits learning in a self-directed distance education environment?

RQ2: What influences a learner's motivation in a self-directed online business administration course?

- a. To what extent do the demographic characteristics of age, gender, dependent status, marital status, and employment status predict a learner's motivation for an online business administration course?
- b. To what extent does technology skills predict a learner's motivation for an online business administration course?
- c. To what extent does self-efficacy learning predict learner's motivation for an online business administration courses?
- d. To what extent does self-regulatory strategies predict learner's motivation for online business courses?

### Research Design

This study's research design uses the MSLQ and the OTSES instruments, which serve as the principle data collection tools. The responses were measured by using the instrument subscales. Students who are currently enrolled in distance education courses at the southern California community college Business Administration department were invited to participate in the study.

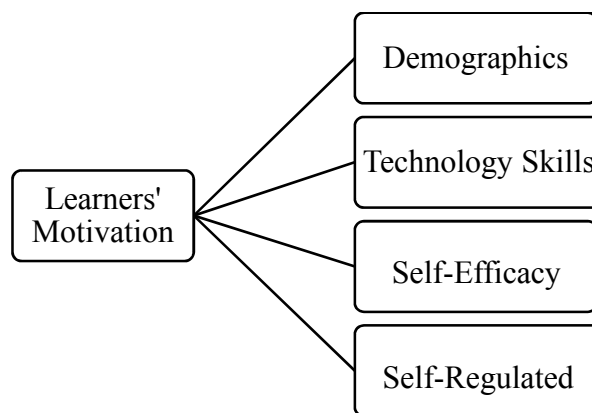


Figure 7. Theoretical framework.



## **Instruments**

**Motivated Strategies for Learning Questionnaire (MSLQ).** The MSLQ is an 81-item, self-reported instrument designed by Pintrich et al. (1991) to assess students' motivational orientations and learning strategies at the School of Education at the University of Michigan and the National Center for Research to Improve Postsecondary Teaching and Learning (NCRIPAL).

During the early development of MSLQ, McKeachie and Pintrich used the instrument to conceptualize and empirically validate a general model of college student motivation and self-regulated learning, a model that is still used today by many educational psychologists (Duncan & McKeachie, 2005). The 15 different scales on the MSLQ can be used together or singly. The scales are designed to be modular and can be used to fit the needs of the researcher or instructor. The instrument is designed to be given in class and takes approximately 20-30 minutes to complete. Because of its modularity, flexibility, ease of administration, and sound psychometric properties, the MSLQ has proven to be a practical and useful means for assessing college students' motivation and learning strategies (Pintrich et al., 1991).

The MSLQ instrument is comprised of two cognitive views of motivation and learning strategies, comprised of 81 questions divided into two sections within 6 sub-scales. According to the MSLQ Manual:

The motivation section comprises of 31 items within six subscales that evaluates students' academic goal orientation and value, self-efficacy, self-regulated learning, and text anxiety to succeed in a college level course. The learning strategy section contains 31

items regarding the students' use of different cognitive and meta-cognitive strategies including 19 items concerning student management of different resources. (Pintrich et al., 1991, p. 5)

The resource management scale includes four subscales, which are time and study environment, effort regulation, peer learning, and help-seeking. This was a principle advantage over other assessment instruments. The items are scored on a 7-point Likert-type scale, from 1 (*not at all true of me*) to 7 (*very true of me*). The MSLQ scale scores are constructed by comprising the mean scores of the items that makes up each of the four subscales:

1. Intrinsic goal orientation reveals to the student's perception of the reasons why she is participating in a learning task. Goal orientation refers to students' general goals. Intrinsic goal orientation is motivation stems from internal reasons such as wanting a challenge, being curious, or mastery of content (Pintrich et al., 1991).
2. Extrinsic goal orientation focuses the student's perception on participating in a task such as competing with others, receiving good grades, follow rules, rewards, and performance. A student high in extrinsic goal orientation, engaging in a learning task is the means to an end (Pintrich et al., 1991).
3. Task value reveals to the student's perception of interest, importance, and useful the task. In comparison, goal orientation provides explanation to why the student is interested in the task. As an example, the more interested the student is, the more involvement in the learning (Pintrich et al., 1991).
4. The control of a learner's beliefs refers to efforts made by students will lead to positive outcome. The outcomes are contingent based on the student's efforts. For

example, if students believe studying will make a difference in their learning, students should study more effectively (Pintrich et al., 1991).

Table 6

*Motivated Strategies for Learning Questionnaire*

Motivation Section	<ul style="list-style-type: none"> <li>• Task Value</li> <li>• Expectations</li> <li>• Test Anxiety</li> </ul>
Learning Strategies	<ul style="list-style-type: none"> <li>• The use of Cognitive Strategies</li> <li>• Metacognitive Control Strategies</li> <li>• Management and Organization</li> </ul>

**Online Technology Self-Efficacy Survey.** Several self-efficacy instruments have been developed by educational researchers but self-efficacy measures specific to the online environment are limited. Miltiadou and Yu (2000) developed an OTSES that is comprised of 30 items clustered into four subscales that measure online students' self-efficacy beliefs with communication technologies such as:

1. Asynchronous Interaction I: Measures use of electronic mail.
2. Asynchronous Interaction II: Measures discussion boards and bulletins.
3. Internet Competencies: Measures internet browser application.
4. Synchronous Interaction: Measures computer conferencing.

Factor analysis and correlational analysis revealed that all items could be collapsed into one scale (Miltiadou & Yu, 2000). This indication provides only one unified construct for self-efficacy. The OTSES scale ranges from 29-116 and uses a 4-point Likert-type scale from 29 (*Very Confident*) to 116 (*Not Confident at All*). The students rate their confidence level to each item from OTSES subscales. Higher scores indicate lower self-efficacy and lower scores suggest higher self-efficacy.

Miltiadou and Yu (2000) established construct validity and internal consistency in order to validate the instrument. The original scale consisted of four subscales and thirty items; however, factor analysis demonstrated that the items could not be loaded into the four subscales, and correlational analysis revealed that the subscales were highly interrelated. Therefore, all subscales were combined into a single construct, and one item was deleted because the factor loading was indeterminable. Internal consistency reliability (Cronbach's coefficient alpha) was estimated at .95 for the entire twenty-nine-item instrument (Puzziferro, 2008). If Cronbach's alpha set of scores was estimated at .95, the score can be deemed 95% reliable and 5% unreliable. Cronbach's alpha provides an estimate of internal consistency but does not indicate consistency over time.

### **Instrumental Validity and Reliability**

In order to gather effective information, the survey instruments must be valid and reliable. The validity and reliability of this research was enhanced by using several accepted survey instruments. In 1993, the final version of MSLQ was presented in the journal *Educational and Psychological Measurement*. The study from the article sampled 380 students at a public 4-year university in the Midwest. The researcher's writing structure in the survey instruments was a concern because the questions must be written in a manner that does not create a bias or influence the students' responses to the survey. The validity of both survey instruments is increased if researcher bias is at minimal. From the survey, several approaches and procedures are utilized to minimize validity and reliability concerns.

1. The first approach is the anonymity associated with both survey instruments. The survey was uploaded via the internet and the sample population of responses is unknown.

2. The second approach is to have the writing structure searched for researchers' bias. The survey instruments were reviewed and provided with feedback before it was distributed.

### **Rationale for Design**

The dependent variable in this study was student motivation, which was measured by students' demographics, technology skills, self-efficacy, and self-regulatory factors.

The independent variables in this study are demographics, technology skills, self-efficacy, and self-regulation. Demographic data was collected to predict students' motivation. Allen and Seaman (2005) mentioned that 80% of community college administrators agree that students need more discipline to succeed in a distance online course than in a traditional course. Therefore, the researcher also selected self-efficacy and self-regulatory indicators as independent variables in this study to determine students' motivation.

### **Data Collection**

A southern California community college was selected for this study. The public community college offers degrees and certificates in over 80 areas.

**Participants.** Participants in this study include distance education students from the Business Administration department at southern California community college. The number of participants was based on student enrollment in each of the distance education courses surveyed. Ideally, the researcher anticipated that a sampling of approximately 200 online business administration students would volunteer to participate in the study. The participants were notified via community college's LMS. Instructions are provided to every student in order to maintain confidentiality pertaining to the survey.

The participants' demographics (age, gender, dependent status, marital status, student enrollment, and employment status) are unknown. Since this was an electronic email survey, the researcher compiled a contact list of participants from the course rosters to measure data, compile data analysis, and report of findings.

The researcher stored all materials pertaining to research on a personal computer. The computer is password protected and only the researcher has access to the materials pertaining to the research. To comply with Institutional Review Board (IRB) standards, the researcher kept all files and documents at least a minimum of 3 years after publication. The researcher must maintain the confidentiality of all data collected by preventing it from being shared with others.

To comply with the Family Educational Rights and Privacy Act (FERPA), which protects the privacy of student education records, only emails provided by the students who are registered in the surveyed course were used to distribute the instrument survey(s).

**Procedure 1.** The researcher followed Pepperdine's IRB procedures to obtain clearance to conduct this study. In accordance with federal law, IRB is an approval process to protect the rights of human research subjects. Before submitting the IRB application, the researcher submitted the research proposal to the Education Division Methods Review Committee or the Psychology Division Methods Review Committee. Thereafter, the researcher submitted an IRB application to the University's Graduate Professional School (GPS) IRB using the eProtocol IRB system at Pepperdine. The GPS IRB fully reviewed and approved the application.

The IRB approval must clear through the University's GPS IRB before proceeding with research. The IRB proposal included a brief description of how to inform the human subjects of the study and step-by-step procedures of study.

**Procedure 2.** Upon Pepperdine's IRB approval and clearance, the researcher followed the southern California community college's process of IRB research involving original data collection on human subjects. An electronic email request was submitted to the Office of Research and Planning for review and approval as one of the requirements to conduct original research.

Upon further review, the request was forwarded to the Vice President of Academic Affairs for final approval. The community college is accredited by Accrediting Commission for Community and Junior Colleges, Western Association of Schools and Colleges.

**Step one.** Obtained a faculty sponsor who confirmed the accuracy of the application and accepted responsibility for the conduct of this research, supervision of human participants, and informed consent documentation required by the community college's IRB.

**Step two.** Completed and signed IRB application with signatures from both the principle investigator (the researcher) and faculty sponsor.

**Step three.** Electronically submitted application and materials to the Office of Research and Planning at the community college.

The researcher to initiated a request to conduct original research using the following documents provided and forwarded to the Office of Research and Planning below:

1. An IRB application approval letter and/or document from the researcher's institution.
2. Narrative documents including data collection methods by which human subjects are contacted for volunteer participation.

3. Any written consent forms used with human subjects at the community college.
4. An invitation document to participate in research.
5. A copy of survey instruments.
6. A document from the researcher providing how much staff time and resources was consumed to assist in the data collection process. Also, the researcher provided benefits for the community college from the results of the research and the purpose of report or paper.

**Procedure 3.** Upon both IRB approvals and clearance, the quantitative research study was initiated. The data collection was collected during the Spring term of 2017 at the community college. Distance online education courses from the Business Administration Department of Cerritos College were solicited. The selected online business administration courses have the same instructional format, but the length of courses may differ throughout the Spring term.

**Procedure 4.** An email invitation was distributed to faculty members for volunteer participation (Appendix D).

**Procedure 5.** When faculty accepted invitation, an email invitation for students (Appendix E) was distributed.

**Procedure 6.** Faculty can post an invitation and written consent form via the LMS for participants. The consent form (Appendix F) enables human subjects to understand the benefits, risks, and procedures. Human subjects may also email the researcher for clarification with any additional questions. The consent form must be signed and submitted before participants have access to the online survey instrument.

**Procedure 7.** After participants signed consent form, the participant was given a link to complete the survey. Questionnaire A: MSLQ and Questionnaire B: OTSES were distributed via



Survey Monkey. The researcher asked faculty to post the password-protected electronic copy of the instrument on the LMS via discussion board. The survey may take approximately 45 minutes to complete. For statistical analysis purposes, upon completion of the survey the student's data were analyzed electronically. Neither faculty nor students were required to complete the survey. Completion of survey is on a voluntary basis.

**Procedure 8.** A follow-up email was distributed to students as a reminder to participate in survey.

**Procedure 9.** The researcher gathered all statistics and stored them in a password protected document via computer for a minimum of 3 years. The principle investigator computed the statistics analysis accordingly. The findings from the responses determine if the dependent and independent variables are predictors of students' motivation in online business administration courses.

An incentive was offered for participation in the survey. Every participant who completed may receive extra credit points toward the overall grade. The points were determined by the participating faculty.

### **Data Analysis**

The Statistical Package for Social Sciences (SPSS) was used to collect data analysis. Due to statistical significance, the data was computed using descriptive statistics, Analysis of Variance (ANOVA), t-test of independent and related means, frequency, and percentage, means and standard deviation scores, and Pearson correlation to analyze the differences among the group means of the instrument subscales. Means and standard deviation scores were computed for all subscales.

1. A response to research question one, regarding what motivates or inhibits learning in a self-directed distance education environment was generated by computing means and standard deviations for each subscale item from the survey instruments. The table below provides an example of a sampling of descriptive statistics for MSLQ subscales interpreted.

Table 7

*Descriptive Statistics for MSLQ for Learning Strategies Subscale*

MSLQ Subscale	Range	Minimum	Maximum	<i>M</i>	<i>SD</i>	Variance
Rehearsal	6.00	1.00	7.00	5.21	1.26	1.47
Elaboration	6.00	1.00	7.00	5.24	1.01	1.78
Organization	6.00	1.00	7.00	5.32	1.26	1.35
Critical Thinking	6.00	1.00	7.00	4.84	1.56	1.02
Metacognitive Self-Regulation	4.32	1.49	7.00	4.66	.89	.78
Time/ Study Environmental Management	6.00	1.00	7.00	3.98	1.23	1.09
Effort Regulation	6.00	1.00	7.00	4.76	1.05	1.01
Peer Learning	6.00	1.00	7.00	5.79	1.12	1.11
Help Seeking	6.00	1.00	7.00	4.56	1.45	1.04

2. A one-way ANOVA was used to determine the predictors that influence a learner's motivation in a self-directed online business administration course. ANOVA is useful to compare the statistical hypothesis testing if one or more independent groups of means are equal. The table below provides an example of how one-way ANOVA was computed between groups and within groups.

3. For the null hypothesis, no significant correlation exists between student motivation and demographics, student motivation and technology skills, student motivation and self-

efficacy learning, and student motivation and self-regulatory learning. Each was examined by computing the Pearson correlation. Descriptive statistics for all correlations are further discussed and explained in the next chapter.

The raw scores from the MSLQ and OTSES can identify the learner's motivation for each participant. A factor analysis was conducted on the MSLQ to identify how the items in the questionnaire function. The online data generated from Survey Monkey to SPSS statistical software for converting the data analysis. The correlations between the dependent and independent variables were measured using descriptive statistics, which include frequency counts, means, standard deviation, and percentages. Below, the table provides a brief summary of the research questions, the instrument survey used to measure the variables, and the statistical approach to obtain the results.

Table 8

*Research Questions Measurements with Instrument and Statistical Approach*

Research Questions	Survey	Statistical Approach
Research Question #1: What motivates or inhibits learning in a self-directed distance education environment?	MSLQ	Pearson Correlation
Research Question #2: What influences a learner's motivation in a self-directed online business administration course?	MSLQ	Pearson Correlation
Research Question #2a: To what extent do the demographic characteristics of age, gender, dependent status, marital status, and employment status predict learners' motivation for online business administration courses?		ANOVA
Research Question #2b: To what extent does technology skills predict learners' motivation for online business administration courses?	OTSES	Pearson Correlation
Research Question #2c: To what extent does self-efficacy predict learners' motivation for online business administration courses?	MSLQ & OTSES	Pearson Correlation
Research Question #2d: To what extent does self-regulatory strategies predict learners' motivation for online business administration courses?	MSLQ	Pearson Correlation

### **Ethical Considerations**

Ethical concerns are important due to the sensitivity to and an understanding of the diverse academic, cultural, socioeconomic, and ethnic backgrounds of participants. All participants are treated in accordance to the ethical guidelines of the American Psychological Association (APA), the Southern Community College IRB, and Pepperdine's University's GPS IRB.

The first consideration ensured the protection of human participants, including minimal risks to pertaining to experimental treatment. Second, all participants fully understand the nature of the study and the fact that participation is voluntary. Third, identification of participants and recovered data are confidential and maintain at all times during and after the study. The researcher's responsibility is to ensure every participant has a complete understanding of the considerations above.

All considerations above are incorporated into the planning, conducting, and research stage.

### **Summary**

This chapter has presented an outline of the research methods and procedures for this study. The use of instruments, step-by-step procedure, and data collection outlined the specifics of how the study was conducted and addressed the purpose of the research: identify predictors that influence a learner's motivation in a self-directed online business administration course and project whether there is a significant correlation between students' motivation and learning strategies in a self-directed online business administration course. The goal of Chapter Four is to provide the study results and demonstrate that the methodology described in Chapter Three was followed.

## Chapter 4: Results

This chapter presents the results of the survey instruments administered to students from a southern California community college Business Administration department for the purpose to answer the research questions:

RQ1: What motivates or inhibits learning in a self-directed distance education environment?

RQ2: What influences a learner's motivation in a self-directed online business administration course?

a. To what extent do the demographic characteristics of age, gender, dependent status, marital status, and employment status predict a learner's motivation for an online business administration course?

b. To what extent does technology skills predict a learner's motivation for an online business administration course?

c. To what extent does self-efficacy learning predict learner's motivation for an online business administration courses?

d. To what extent does self-regulatory strategies predict learner's motivation for online business courses?

This chapter also includes discussion that the analysis conducted was followed by a discussion of the research findings. Since these survey instruments are widely accepted, a pilot study was not conducted.

### Participants and Data Preparation

From a southern California community college Business Administration department, a data list with student names was generated for volunteered participants. A faculty recruitment (Appendix E) and a volunteered student participation (Appendix F) letter were distributed. A

second email was sent as a reminder within 1 week. The survey instrument was web-based and students were provided a link to access survey. The instrument measured dependent variable (student motivation) which was measured by students' demographics, technology skills, self-efficacy, and self-regulatory factors. The independent variables in this study were demographics, technology skills, self-efficacy, and self-regulation.

A total of 284 online students were provided the opportunity to participate in the study and 221 responded which is an 78% response rate. Gender frequency was heavily biased toward females (62%) over males (38%). Ethnicity was heavily biased toward Hispanics (44%) and Whites (30%) with comparatively fewer respondents from African American (.099%) and Asian (.099%).

The data set was visually inspected, and no problems with missing data or response sets were found with the exception of a few respondents, who did not respond to certain demographics questions. Accordingly, for RQ2a, the sample size for the Spearman correlations involving education was reduced to 219, the sample sizes for the ANOVAS involving ethnicity and employment status were reduced to 219, and the sample size for the ANOVAs involving marital status was reduced to 218 (and was further reduced to 215 as described next). Descriptive statistics, frequency tables, histograms, and stem-and-leaf plots, and boxplots were examined for deviations from normality, outliers, or other problematic characteristics. Consequently, three respondents were dropped from the remaining 218 for the ANOVAs involving marital status for RQ2a because of insufficient cell sizes, in that there were only two separated respondents and one widowed respondent, resulting in a sample size of 215 for these ANOVAs.

## Reliability

The Cronbach's alphas for MSLQ scales were .68 for Intrinsic Goal Orientation, .64 for Extrinsic Goal Orientation, .88 for Task Value, .56 for Control of Learner's Beliefs, .87 for Self-Efficacy for Learning and Performance, .77 for Test Anxiety, .81 for Elaboration, .73 for Organization, .69 for Critical Thinking, .76 for Metacognitive Self-Regulation, .81 for Time. Study Environment Management, .64 for Effort Regulation, .57 for Peer Learning, .34 for Help Seeking. The Cronbach's alphas for the OTSES was .96. According to Muijs (2011), a score below .5 is considered unacceptable, .6 -.7 is acceptable, .7 -.9 is good, and above .9 is considered excellent. With the exception of MSLQ Help Seeking, none of the MSLQ scales or the OTSES had Cronbach's alpha scores that are considered unacceptable, according to the criteria of Muijs (2011). All, including the unacceptable one, were reasonably close to those reported by Duncan and McKeachie (2005) and Puziferro (2008). Duncan and McKeachie reported a Cronbach's alpha of .52 for MSLQ Help Seeking.

## Research Questions

This section begins by reporting the results for the research questions. An alpha level of .05 was used for all tests of statistical significance.

**Research question 1.** What motivates or inhibits learning in a self-directed distance education environment?

To examine RQ1, measures of Pearson correlations were performed. Overall, the results of the correlations analysis provide many statistically significant relations. The table below illustrates whether each motivational scale is correlated with or predicts each learning scale and the strength and direction of those relations. For example, the value (.407) is the actual correlation that shows MSLQ Intrinsic Goal Orientation predicts (or is correlated with) MSLQ

Rehearsal. The value (.000) is the  $p$  value, which is statistically significant because it is less than .05. The value 221 is the number of respondents used in this analysis. The only statistically significant negative correlations were with MSLQ Test Anxiety. Another example, the value (-.208) is the actual correlation that shows MSLQ Test Anxiety predicts (or is correlated with) MSLQ Effort Regulation. The only statistically significant negative correlations were the MSLQ Test anxiety. The results of the correlational analysis are summarized in Table 9 below.

Table 9

*Correlations of N*

(N = 221)		MSLQ Intrinsic Goal Orientation	MSLQ Extrinsic Goal Orientation	MSLQ Task Value	MSLQ Control of Learning Beliefs	MSLQ Self- Efficacy for Learning & Performance	MSLQ Test Anxiety
MSLQ Rehearsal	Pearson Correlation	.407	.305	.349	.020	.201	.226
	Sig. (2-tailed)	.000	.000	.000	.763	.003	.001
MSLQ Elaboration	Pearson Correlation	.542	.338	.444	.252	.365	.151
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.025
MSLQ Organization	Pearson Correlation	.446	.331	.364	.060	.281	.259
	Sig. (2-tailed)	.000	.000	.000	.378	.000	.000
MSLQ Critical Thinking	Pearson Correlation	.446	.298	.298	.151	.357	.198
	Sig. (2-tailed)	.000	.000	.000	.025	.000	.003
MSLQ Metacognitive Self-Regulation	Pearson Correlation	.587	.325	.496	.232	.455	.119
	Sig. (2-tailed)	.000	.000	.000	.001	.000	.078
MSLQ Time/ Study Environment Management	Pearson Correlation	.291	.113	.356	.051	.343	-.189
	Sig. (2-tailed)	.000	.093	.000	.451	.000	.005
MSLQ Effort Regulation	Pearson Correlation	.326	.118	.381	.186	.434	-.208
	Sig. (2-tailed)	.000	.079	.000	.006	.000	.002
MSLQ Peer Learning	Pearson Correlation	.338	.307	.109	-.028	.115	.319
	Sig. (2-tailed)	.000	.000	.105	.682	.089	.000
MSLQ Help Seeking	Pearson Correlation	.255	.131	.150	-.072	.141	.149
	Sig. (2-tailed)	.000	.051	.026	.285	.036	.027



**Research question 2a.** To what extent do the demographic characteristics of age, gender, dependent status, marital status, and employment status predict a learner's motivation for an online business administration course?

To examine RQ2a, independent samples *t* tests, Spearman correlations, and one-way between-subjects' ANOVAs were performed. The group statistics and independent samples *t* test tables show that none of the gender differences were statistically significant. The mean ratings on the MSLQ Intrinsic Goal Orientation scale for men ( $M = 5.57$   $SD = .98$ ) and women ( $M = 5.47$ ,  $SD = 1.12$ ) were not statistically significantly different,  $t(221) = 0.69$ ,  $p = .489$ .

Table 10

*Group Statistics for Gender*

	What is your gender?	<i>N</i>	<i>M</i>	<i>SD</i>	<i>SEM</i>
MSLQ Intrinsic Goal Orientation	Female	136	5.5699	.98399	.08438
	Male	85	5.4706	1.11631	.12108
MSLQ Extrinsic Goal Orientation	Female	136	5.6324	1.10510	.09476
	Male	85	5.5794	1.11217	.12063
MSLQ Task Value	Female	136	6.1176	.95756	.08211
	Male	85	6.0980	.88165	.09563
MSLQ Control of Learning Beliefs	Female	136	5.8364	.92265	.07912
	Male	85	5.9265	.96811	.10501
MSLQ Self-Efficacy for Learning & Performance	Female	136	5.9963	.83803	.07186
	Male	85	6.0103	.84718	.09189
MSLQ Test Anxiety	Female	136	3.6265	1.43353	.12292
	Male	85	3.5906	1.55714	.16890

Table 11

*Independent Samples Test for Gender*

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		<i>F</i>	$\sigma$	<i>t</i>	<i>Df</i>	$\sigma$ (2-tailed)	<i>M</i> Difference	<i>SE</i> Difference	95% CI of the Difference	
								Lower	Upper	
MSLQ Intrinsic Goal Orientation	Equal variances assumed	.966	.327	.692	219	.489	.09926	.14335	-.18325	.38178
MSLQ Extrinsic Goal Orientation	Equal variances assumed	.461	.498	.346	219	.730	.05294	.15317	-.24894	.35482
MSLQ Task Value	Equal variances assumed	.424	.515	.153	219	.879	.01961	.12847	-.23360	.27281
MSLQ Control of Learning Beliefs	Equal variances assumed	.233	.630	-.693	219	.489	-.09007	.13002	-.34632	.16617
MSLQ Self-Efficacy for Learning & Performance	Equal variances assumed	.002	.966	-.120	219	.905	-.01397	.11636	-.24330	.21536
MSLQ Test Anxiety	Equal variances assumed	.545	.461	.175	219	.861	.03588	.20493	-.36801	.43978

Since age and education are ordinal variables, nonparametric correlations were used which are not typical Pearson correlations. No scales were statistically significantly correlated with education and only two scales were statistically significantly correlated with age, and in both cases, they were negative correlations. The results of the correlations analysis are summarized below.

Table 12

*Correlations for Age and Education*

			What is your age?	What is the highest level of school that you have completed?
Spearman's rho	MSLQ Intrinsic Goal Orientation	Correlation Coefficient	.002	-.073
		$\sigma$ (2-tailed)	.976	.281
		<i>N</i>	221	219
	MSLQ Extrinsic Goal Orientation	Correlation Coefficient	-.137	-.115
		$\sigma$ (2-tailed)	.042	.091
		<i>N</i>	221	219
	MSLQ Task Value	Correlation Coefficient	.058	-.111
		$\sigma$ (2-tailed)	.392	.100
		<i>N</i>	221	219
	MSLQ Control of Learning Beliefs	Correlation Coefficient	.010	.001
		$\sigma$ (2-tailed)	.885	.992
		<i>N</i>	221	219
	MSLQ Self-Efficacy for Learning & Performance	Correlation Coefficient	-.010	-.027
		$\sigma$ (2-tailed)	.886	.694
		<i>N</i>	221	219
	MSLQ Test Anxiety	Correlation Coefficient	-.155	.049
		$\sigma$ (2-tailed)	.021	.471
		<i>N</i>	221	219

The mean ratings on MSLQ Task Value scale for Asian or Pacific Islander ( $M = 5.52$ ,  $SD = 1.32$ ) were statistically significantly lower than those for Black or African American ( $M = 6.40$ ,  $SD = .72$ ), Hispanic or Latino ( $M = 6.28$ ,  $SD = .81$ ), and White/Caucasian ( $M = 6.01$ ,  $SD = .86$ ),  $ps = .002$ ,  $.001$ , and  $.033$ , respectively. The means and SDs are from Table 13 below.

Table 13

*Descriptive Statistics for the Groups*

		<i>N</i>	<i>M</i>	<i>SD</i>	<i>SE</i>	95% CI for <i>M</i>		Min	Max
						Lower Bound	Upper Bound		
MSLQ Intrinsic Goal Orientation	American Indian or Alaskan Native	2	5.6250	1.94454	1.37500	-11.8460	23.096	4.25	7.00
	Asian or Pacific Islander	20	5.1625	.82826	.18521	4.7749	5.5501	4.00	6.75
	Black or African American	22	5.6818	1.17813	.25118	5.1595	6.2042	3.50	7.00
	Hispanic or Latino	98	5.6607	1.05411	.10648	5.4494	5.8720	2.50	7.00
	White / Caucasian	67	5.4627	.89533	.10938	5.2443	5.6811	3.25	7.00
	Prefer not to answer	10	5.1250	1.50578	.47617	4.0478	6.2022	3.25	7.00
	Total	219	5.5320	1.03583	.06999	5.3940	5.6699	2.50	7.00
MSLQ Extrinsic Goal Orientation	American Indian or Alaskan Native	2	5.3750	2.29810	1.62500	-15.2726	26.02	3.75	7.00
	Asian or Pacific Islander	20	5.4750	1.12361	.25125	4.9491	6.0009	2.25	7.00
	Black or African American	22	5.5682	1.21543	.25913	5.0293	6.1071	3.25	7.00
	Hispanic or Latino	98	5.7628	1.08550	.10965	5.5451	5.9804	2.75	7.00
	White / Caucasian	67	5.5448	1.07478	.13131	5.2826	5.8069	2.00	7.00
	Prefer not to answer	10	5.1750	1.11212	.35168	4.3794	5.9706	3.50	6.50
	Total	219	5.6199	1.10652	.07477	5.4725	5.7672	2.00	7.00
MSLQ Task Value	American Indian or Alaskan Native	2	6.0000	1.41421	1.00000	-6.7062	18.706	5.00	7.00
	Asian or Pacific Islander	20	5.5167	1.32111	.29541	4.8984	6.1350	2.00	7.00
	Black or African American	22	6.4015	.72312	.15417	6.0809	6.7221	4.33	7.00
	Hispanic or Latino	98	6.2772	.81155	.08198	6.1145	6.4399	3.50	7.00
	White / Caucasian	67	6.0100	.85963	.10502	5.8003	6.2196	3.83	7.00
	Prefer not to answer	10	5.6500	1.28968	.40783	4.7274	6.5726	3.33	7.00
	Total	219	6.1073	.92921	.06279	5.9836	6.2311	2.00	7.00

(Continued)

		<i>N</i>	<i>M</i>	<i>SD</i>	<i>SE</i>	95% CI for <i>M</i>		Min	Max
						Lower Bound	Upper Bound		
MSLQ Control of Learning Beliefs	American Indian or Alaskan Native	2	6.1250	.88388	.62500	-1.8164	14.066	5.50	6.75
	Asian or Pacific Islander	20	5.5125	.89028	.19907	5.0958	5.9292	3.50	7.00
	Black or African American	22	5.7955	.86133	.18364	5.4136	6.1773	4.00	7.00
	Hispanic or Latino	98	5.9388	.92088	.09302	5.7542	6.1234	3.50	7.00
	White / Caucasian	67	5.9851	.87243	.10658	5.7723	6.1979	3.50	7.00
	Prefer not to answer	10	5.4000	1.48698	.47022	4.3363	6.4637	3.25	7.00
	Total	219	5.8767	.93399	.06311	5.7523	6.0011	3.25	7.00
MSLQ Self-Efficacy for Learning & Performance	American Indian or Alaskan Native	2	5.7500	1.76777	1.25000	-10.1328	21.632	4.50	7.00
	Asian or Pacific Islander	20	5.5438	.84026	.18789	5.1505	5.9370	3.63	7.00
	Black or African American	22	6.2955	.71812	.15310	5.9771	6.6138	4.13	7.00
	Hispanic or Latino	98	6.0599	.77477	.07826	5.9046	6.2153	3.88	7.00
	White / Caucasian	67	6.0224	.76032	.09289	5.8369	6.2078	3.75	7.00
	Prefer not to answer	10	5.7750	1.44554	.45712	4.7409	6.8091	2.88	7.00
	Total	219	6.0091	.82850	.05598	5.8988	6.1195	2.88	7.00
MSLQ Test Anxiety	American Indian or Alaskan Native	2	3.6000	1.97990	1.40000	-14.1887	21.3887	2.20	5.00
	Asian or Pacific Islander	20	3.8700	1.38302	.30925	3.2227	4.5173	1.60	6.40
	Black or African American	22	3.5727	2.00409	.42727	2.6842	4.4613	1.00	6.80
	Hispanic or Latino	98	3.6633	1.35665	.13704	3.3913	3.9353	1.00	6.80
	White / Caucasian	67	3.6209	1.49307	.18241	3.2567	3.9851	1.00	7.00
	Prefer not to answer	10	2.9200	1.50614	.47628	1.8426	3.9974	1.00	5.40
	Total	219	3.6256	1.47930	.09996	3.4286	3.8226	1.00	7.00

The one-way between subject ANOVAs were performed to access the main effects for Ethnicity. The results of ANOVAs along with the corresponding descriptive statistics are summarized below. The main effect for ethnicity on MSLQ Task Value scale was the only one statistically significant,  $F(5, 213) = 3.55, p = .004$ . Ethnicities were statistically significantly different shows that (except for those who chose not to answer) the only differences between groups that have sig./ $p$  values less than .05 are Asian vs. Black (.002) Asian vs. Hispanic (.001), and Asian vs. White (.033).

Table 14

*ANOVA Involving Ethnicity*

		Sum of		<i>M</i>		
		Squares	<i>df</i>	Square	<i>F</i>	$\sigma$
MSLQ Intrinsic Goal Orientation	Between Groups	6.844	5	1.369	1.284	.272
	Within Groups	227.058	213	1.066		
	Total	233.901	218			
MSLQ Extrinsic Goal Orientation	Between Groups	4.956	5	.991	.806	.547
	Within Groups	261.960	213	1.230		
	Total	266.916	218			
MSLQ Task Value	Between Groups	14.460	5	2.892	3.545	.004
	Within Groups	173.769	213	.816		
	Total	188.228	218			
MSLQ Control of Learning Beliefs	Between Groups	6.358	5	1.272	1.474	.200
	Within Groups	183.813	213	.863		
	Total	190.171	218			
MSLQ Self- Efficacy for Learning & Performance	Between Groups	7.083	5	1.417	2.116	.065
	Within Groups	142.555	213	.669		
	Total	149.638	218			
MSLQ Test Anxiety	Between Groups	6.377	5	1.275	.577	.717
	Within Groups	470.680	213	2.210		
	Total	477.057	218			

**Research question 2b.** To what extent does technology skills predict a learner's motivation for an online business administration course?

To examine R2b, the results of the correlational analysis are significant. The table below illustrates whether each motivational scale (is correlated with) or predicts each learning scale and the strength of those relations. The value (.189) is the actual correlation that provides MSLQ Intrinsic Goal Orientation predicts. The value (.005) is the  $p$  value, which is statistically significant because it is less than .05. MSLQ Extrinsic Goal Orientation and Test Anxiety is statistically significantly similar  $p = .521$ . The results are listed below.

Table 15

*Correlations for OTSES*

		OTSES
MSLQ Intrinsic Goal Orientation	Pearson Correlation	.189
	$\sigma$ (2-tailed)	.005
	$N$	221
MSLQ Extrinsic Goal Orientation	Pearson Correlation	-.043
	$\sigma$ (2-tailed)	.521
	$N$	221
MSLQ Task Value	Pearson Correlation	.164
	$\sigma$ (2-tailed)	.014
	$N$	221
MSLQ Control of Learning Beliefs	Pearson Correlation	.184
	$\sigma$ (2-tailed)	.006
	$N$	221
MSLQ Self-Efficacy for Learning & Performance	Pearson Correlation	.245
	$\sigma$ (2-tailed)	.000
	$N$	221

(Continued)

		OTSES
MSLQ Test Anxiety	Pearson Correlation	-.043
	$\sigma$ (2-tailed)	.521
	<i>N</i>	221

**Research question 2c.** To what extent does self-efficacy learning predict learner's motivation for an online business administration courses?

To examine R2c, repeated measures of correlational analysis were conducted. The table below illustrates whether each motivational scale (is correlated with) or predicts each learning scale and the strength of those relations. For example, the value (.605) is the actual correlation that provides MSLQ Intrinsic Goal Orientation predicts. The value (.000) is the *p* value, which is statistically significant because it is less than .05. In comparison to MSLQ Test Anxiety, the value (.113) is the *p* value is not statistically significant. The results are summarized below.

Table 16

*Correlation Analysis for MSLQ Self-Efficacy for Learning & Performance*

		MSLQ Self-Efficacy for Learning & Performance
MSLQ Intrinsic Goal Orientation	Pearson Correlation	.605
	$\sigma$ (2-tailed)	.000
	<i>N</i>	221
MSLQ Extrinsic Goal Orientation	Pearson Correlation	.393
	$\sigma$ (2-tailed)	.000
	<i>N</i>	221
MSLQ Task Value	Pearson Correlation	.669
	$\sigma$ (2-tailed)	.000
	<i>N</i>	221
MSLQ Control of Learning Beliefs	Pearson Correlation	.518
	$\sigma$ (2-tailed)	.000
	<i>N</i>	221

(Continued)



MSLQ Test Anxiety	MSLQ Self-Efficacy for Learning & Performance		
	Pearson Correlation		-.107
	$\sigma$ (2-tailed)		.113
	<i>N</i>		221

**Research question 2d.** To what extent does self-regulatory strategies predict learner's motivation for online business courses?

To examine R2d, the value (.326) is the actual correlation that provides MSLQ Intrinsic Goal Orientation predicts. The value (.000) is the value, which is statistically significant because it is less than .05. In comparison to MSLQ Extrinsic Goal Orientation, the value (.079) is the *p* value is not statistically significant. The results are summarized below.

Table 17

*Correlation Analysis for MSLQ Effort Regulation*

MSLQ Intrinsic Goal Orientation	MSLQ Effort Regulation		
	Pearson Correlation		.326
	$\sigma$ (2-tailed)		.000
	<i>N</i>		221
MSLQ Extrinsic Goal Orientation	Pearson Correlation		.118
	$\sigma$ (2-tailed)		.079
	<i>N</i>		221
MSLQ Task Value	Pearson Correlation		.381
	$\sigma$ (2-tailed)		.000
	<i>N</i>		221
MSLQ Control of Learning Beliefs	Pearson Correlation		.186
	$\sigma$ (2-tailed)		.006
	<i>N</i>		221
MSLQ Self-Efficacy for Learning & Performance	Pearson Correlation		.434
	$\sigma$ (2-tailed)		.000
	<i>N</i>		221

(Continued)

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		MSLQ Effort Regulation
MSLQ Test Anxiety	Pearson Correlation	-.208
	$\sigma$ (2-tailed)	.002
	<i>N</i>	221

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### Summary

In this chapter, study results and discussion of the findings have been presented based on research methods used. The findings from this study have been found to be consistent with other related studies on motivation and distance education. Data findings were described as correlations to the study variables. In Chapter Five, implications of the findings for motivation and distance education will be further discussed. The limitations, recommendations, and future studies will also be discussed.

## **Chapter 5: Discussion, Implications, Recommendations**

### **Review of Study**

The primary reason for this study was to identify predictors that influence a learner's motivation in a self-directed online business administration course by collecting a sample of demographics and indicators from online students from Business Administration Department at a Southern California community college. These predictors could then be used to increase student's motivation in a distance education environment. For example, prior studies have been done using both MSLQ and OTSES survey instruments that was used in this study. Chapter Five presents a summary of literature research, research purpose, data analysis procedures, and findings. This chapter concludes with a description study of limitations, implications of current student, and recommendations for future studies and research.

### **Summary of Procedures**

The researcher used a Likert-type survey to collect quantitative data from online Business Administration students at the southern California community college. A total of 284 online students in the Business Administration Department were provided to take the survey. Of those, 221 students participated in the study which is a 78% respond rate.

The survey instrument, the MSLQ, was developed to assess students' motivational orientations and learning strategies; and the OTSES, was developed to measure online students' self-efficacy beliefs with communication technologies. The survey assessed a learner's motivation into three main categories: motivation, learning strategies, and online communication technologies. The items from the combined survey instrument feature seven potential response options from the first and seventh option have descriptions (1 = *Not very true at all* and 7 = *Very true of me*).

The survey was created via SurveyMonkey and students were provided a link to gain access to survey. To guarantee the validity of the information, every volunteer participant must complete all questions. The instrument questions were constructed accordingly where students were unable to bypass any incomplete questions. The collected data were gathered using SPSS, Version for Mac software.

### **Revisiting Research Questions**

**RQ1.** What motivates or inhibits learning in a self-directed distance education environment?

**RQ2.** What influences a learner's motivation in a self-directed online business administration course?

**RQ2a.** What extent do the demographic characteristics of age, gender, dependent status, marital status, and employment status predict a learners' motivation for online business administration course?

**RQ2b.** What extent does technology skills predict a learners' motivation for online business administration course?

**RQ2c.** What extent does self-efficacy learning predict learners' motivation for online business administration courses?

**RQ2d.** What extent does self-regulatory strategies predict learners' motivation for online business administration courses?

### **Research Objective One**

The first research question asked students what motivates or inhibits learning in a self-directed distance education environment? The same survey instrument was conducted for every

participant and findings were anonymous. The participants answered questions specific to motivation, learning strategies, and online communication technologies.

Motivation is defined as the processes that account for an individual's intensity, direction, and persistence of effort toward attaining a goal (Robbins & Judge, 2011). The findings from this study of the correlations analysis provide many statistically significant relations. The motivational scale is correlated with or predicts each learning scale and the strength and direction of those relations. For example, the value (.407) is the actual correlation that shows MSLQ Intrinsic Goal Orientation predicts (or is correlated with) MSLQ Rehearsal. The only statistically significant negative correlations were with MSLQ Test Anxiety. Another example, the value (-.208) is the actual correlation that shows MSLQ Test Anxiety predicts (or is correlated with) MSLQ Effort Regulation.

### **Research Objective Two**

Research studies have identified certain student demographics that may be related to success in distance learning courses. Student demographics such as age, extracurricular activities such as work and family status, as well as educational background, have been studied (Colorado & Eberle, 2010; Guri-Rosenblit, 1999; Moore & Kearsley, 2005; Tsay, Morgan, & Quick, 2000). The increasing diversity of individual differences among students can be seen in time management, learning styles, maturity, demographics, experiential background, cultural orientation, and interests.

As such, Senge, Kleiner, Roberts, Ross, and Smith (1994) stated that teachers should be “producers of environments that allow students to learn as much as possible” (p. 489), or that schools become learning habitats wherein relationships are fostered between people, students develop their own individual instruction plan, and a variety of investigating system options

replace the passive receipt of information. The findings from this study show ethnicities were statistically significant and none of the gender differences were statistically significant. The mean ratings on the MSLQ Intrinsic Goal Orientation scale for men ( $M = 5.57$   $SD = .98$ ) and women ( $M = 5.47$ ,  $SD = 1.12$ ).

### **Research Objective Three**

The third research question asked how technology skills predicts a learner's motivation for online business administration course. Technology and information from the Internet such as Facebook, Twitter, YouTube, and phone apps: Students love the Internet, so give them examples, videos, or demonstrations of topics from Internet sites that are interesting to them. At the very least, this incorporation of technology, the Internet, and phone apps involves using more of the students' language and experience base. Also, the Internet is a great way to keep up-to-date and to show important current trends and ideas. However, students need to understand how to assess the validity and safety of Internet sites and information. Whiteboards also can be powerful, interactive technological tools for improving instruction, but instructors need to know how to use them effectively (Williams & Williams, 2011). The findings from this study of the correlational analysis are significant.

### **Research Objective Four**

The fourth question asked about how does self-efficacy learning predicts learner's motivation for online business administration course? Self-efficacy is a construct that can assist students with the necessary outlooks to perform well in college. Higher levels of self-efficacy have been found to be correlated with improved academic performance within the classroom (Chemers, Hu, & Garcia, 2001). The findings from this study indicate that the increasing levels of self-efficacy is correlated with motivation. Self-efficacy is a construct that can assist students

with the necessary outlooks to perform well in college. Higher levels of self-efficacy have been found to be correlated with improved academic performance within the classroom (Chemers et al., 2001; DeHoff, 2017).

The findings from this study reflect that even though the students entered the class with some level of self-efficacy, they finished the class with increased levels of motivation which may lead to improved academic performance in the classroom. It is important to consider students' levels of self-efficacy when entering college because it has been found that self-efficacy affects students' academic achievement as well as influences the academic goals they set for themselves (Zimmerman et al., 1992).

### **Research Objective Five**

The fifth research question asked how does self-regulatory strategies predict learner's motivation for an online business course? Though there were no statistically significant difference between self-regulatory strategies and motivation, the value (.326) is the actual correlation that provides MSLQ Intrinsic Goal Orientation predicts.

### **Discussion**

Maslow (1943) introduced the concept of motivation theory through his hierarchy of five level of needs. Maslow's original hierarchy of needs provides an understanding of human motivation, whereby five levels of needs, beginning with physiological and culminating in self-actualization needs, are undertaken by the individual on a road of adopting adaptive behaviors (Melnic & Bacovia, 2014; Neto, 2015; Otway & Carnelley, 2013; Petty, 2014).

This study provides additional research to the body of knowledge of a learner's motivation in a self-directed distance education environment. These findings provide transparency to what student learner's motivation in an online environment.

Distance and online learning: Instructors are moving increasingly to distance and online learning environments. Motivating students online can be difficult given content, technology access and challenges, isolation, poor communication with instructors, English as a second language, and lack of connection between content and the students' needs. In addition, instructors may not be able to show the depth of their knowledge online, and empathy and enthusiasm may be lost in the online environment. On the other hand, assignments can be challenging and have the variety necessary to increase curiosity and creativity. Active and multifaceted projects may be developed that have personal meaning to the students.

Distance and online communication should be clear, timely, friendly, and flexible. In the online environment, the acquisition of mastery and improvement could be the primary focus rather than the more traditional focus on test taking and evaluation. Social isolation and depersonalization can be reduced by building a sense of online community. Very importantly, teachers and students should have consistent contact with technical support personnel. Distance and online learning may be as effective as traditional learning in terms of student motivation, attitudes, and achievement. Intrinsic motivation is an important indicator for online students, with many online learners having higher intrinsic motivation. However, ultimately, the optimal learning model might be a hybrid of conventional and online learning (Beffa-Negrini, Cohen, & Miller, 2002; Zhu, Valcke, & Schellens, 2009).

Though this study was exploratory in nature, the implications are significant in light of their importance to education (Livingston, 2010). Linnenbrink and Pintrich (2002) defined self-efficacy as an individual's judgement of specific abilities based on past success or failure. Expectancy is conceptualized as the beliefs held by a person concerning the perceived difficulty



of the task and their level of self-efficacy (Brown, McCord, Matusovich, & Kajfez, 2015; Neto, 2015).

It was surprising to find no statistically significant differences in students' motivation based upon gender. Dykman and Davis (2008) found that students today view socialization differently than did prior generations of students. It would be expected that there would at least be differences between Generation Y and other generations. With today's technology, Generation Y has perpetual connections to their peers and family. Older generations find it difficult to understand Generation Y's need for parental guidance and influence, and their peers' influence in their lives (Livingston, 2010).

Know your students and build on their strengths: Use the strengths that students bring to the classroom. For example, Gen Y individuals like group activities and want to learn information relevant to their lives and that can make a difference in the world. That is, experiential and service-learning programs could be very effective with this group. The learner-centered classroom is effective with this group in that it requires a shift from teacher-driven and content-centered learning to seeing the classroom as student-centered and process driven. Collaborative learning is effective with Gen Y (McGlynn, 2008; Williams & Williams, 2011).

### **Limitations**

There are some limitations that may have impacted the findings. This study was limited in that the sample was confined to online instructors and students of a business department of a Southern California Community College (Livingston, 2010). First, although data was collected from the southern California community college Business Administration department, each course is taught by a different instructor. This factor could lead to some changes in the way participants answered the survey questions. For example, if an instructor provides more

subjective than objective grading than this might impact the results found in this study because the grading system in every course may be inconsistent between courses because no two grading rubrics are identical. The content material within the course were the same, but activities used to cover the content may have varied slightly from section to section (DeHoff, 2017).

Another limitation to be considered regards the demographic question to predicts a learner's motivation in a distance education environment. Dependent status was not measured in this study such as if participants have any children. This absent piece of data may have had an impact on the results and findings if it was asked by the researcher.

A third limitation, the researcher collected data in the spring semester of 2017. Although the study concluded with a total number of 221 respondents, if the researcher collected data in another semester, the data and number of participants may be different. However, the actual number of respondents did not fell short. From a population of  $n = 284$  online students, 221 students or 78% took the respective survey.

A fourth limitation, data were collected from online students at the southern California community college in the Department of Business Administration. Hence, this group of students may be different than students from other community colleges or 4-year institutions.

### **Recommendations**

There is an abundance amount of literature surrounding the area of motivation, self-efficacy, self-regulation, and learning styles. This research could further be improved to ensure a more comprehensive study with valid results. The survey instrument carried out by collecting 221 student responses from online Business Administration courses. The results of this quantitative questionnaire were to seek an in-depth understanding of a learner's motivation in a distance education environment. If these recommendations for future research are applied to

similar studies, the result may yield more accurate and representative findings that can help construct (DeHoff, 2017) and increase a learner's motivation in a distance education environment.

The following recommendations for further research are based on the findings from this study:

1. This survey was limited to online students at a southern California community college. Furthermore, the participants were students from one Business Administration Department. For future recommendation, increasing the sample size to include online students from different departments or other community colleges could provide for a larger sample population of information across the entire spectrum of distance education.
2. Only motivation, learning strategies, and online communication technologies were studied as indicators toward a learner's motivation. Investigation into other specific predictors of learner's motivation are most effective to online students is an area that could be further explored.
3. Another recommendation is that motivation, learning strategies, and online communication technologies be compared in both traditional classroom settings and online courses. Regarding this recommendation, Livingston (2010) stated:  
The transition to online education over the past several years could be most aptly described as an explosion. With the alternatives now available to educators as well as students due to the expansion of technological alternatives, a study identifying the differences and similarities between those students who choose to move to online instruction and those students who remain behind is timely and needed. (pp. 100-101)

4. This study was conducted toward students in an online distance education environment. An online learning environment must be available and accessible at all times. A future recommendation is to continuously improve the college's learning LMS. Technology is growing at a rapid pace. An assignment may be useful today but may be outdated by tomorrow. Active student engagement, facilitators presence, and developing activities such as discussion boards and simulations that involves critical thinking are some areas of creating effective online learning environments.
5. Engagement and considering student and teacher opinions: The learning environment should take into consideration the intrinsic and extrinsic student motivations and the opinions of students and teachers in arranging the environment. Materials, tools, and equipment that are needed in the educational process should be determined, obtained, and modernized so that active learning is promoted. This engagement results in students feeling that their teachers have a special interest in them. Students need to be encouraged to engage and to participate (Adkins-Coleman, 2010; Çeliköz, 2010; Daniels, 2010; Williams & Williams, 2011). When student have proper materials and tools to learn, there may be an increase in motivation.
6. Further recommendation is to measure students learning styles. Learning styles are a combination of hereditary, environmental factors, education, etc. Every student has their own learning style while no one learning style is better than the other. Two basic approaches for supporting and cultivating motivation in the classroom are (a) creating a classroom structure and institutional method that provides the environment for optimal motivation, engagement, and learning; and (b) helping the student to develop tools that will enable him or her to be self-regulated (Williams & Williams, 2011).

Learning styles online students possess are one of the most important factors impacting motivation and success in the classroom.

Williams and Williams (2011) went on to state, “Experiential learning or self-learning: At the upper end of the hierarchy, experiential learning or self-learning becomes more highly utilized” (p. 11). Experiential learning is when an individual is actively involved with concrete experience, that is, a student cognitively, affectively, and behaviorally processes knowledge, skills, or attitudes such that knowledge is created through the transformation of experience. As previously mentioned in Chapter Two, Smith and Kolb (1986) explained individual experiential learning differences in terms of four learning styles or ways in which the mind works:

1. Convergent learning style (abstract conceptualization, active experimentation, may have solutions to the wrong problems, and excellence at technical tasks).
2. Divergent learning style (concrete experience, reflective observation, may be paralyzed by alternatives generated, and people oriented).
3. Reflective or assimilator learning style (loves ideas and concepts, theoretical professions, theory but no application, and ideas over people).
4. Doer or accommodator learning style (concrete experience and active experimentation, carries out plans, likes changing the environment, may produce tremendous ends but all in the wrong area, and prefers trial and error method).

Most online students are not aware of their own learning styles. If online students take an assessment, the results can empower and increase students’ motivation to understand more about how they learn and process information.

### **Future Studies**

This study was conducted to establish a better understanding of a learner's motivation in a self-directed distance education environment at a community college. For future studies of online learning, Kim and Bonk (2006) reported participants predicted a growth in online certification and recertification programs as well as some growth in online master's and doctoral programs.

Participants also identified factors improving online student success as (a) teaching students to self-regulate their learning, (b) better measures for student readiness, and (c) better LMS to track student learning. Examining student demographics prior to online program enrollment can help predict student success in the online learning environment (Colorado & Eberle, 2010; Kim & Bonk, 2006).

For future studies, the survey can be administered during the semester instead of toward the end of semester. There may be an observation of changes in student motivation directly related to the online learning environment when taking the survey. The survey also has potential use in long term data collection. Instructors may sense a change in motivation of their current students compared to those from previous years. Administering the motivation survey every semester each science course would allow instructors to track changes in general motivation trends over time (Lathrop, 2011, p. 66).

### **Summary**

What are the best ways to motivate online learners? The motivation theories, learning model, and strategies are several tools can be used to assist online students to understand what motivates them to learn. There is no one strategy that fits all. Student motivation is an essential element that is necessary for quality education. How do we know when students are motivated?

Students pay attention, increased participation and attendance, and appears to be content learning course materials.

Many of these topics have been around and researched for years. This paper is only one incremental piece of much a larger puzzle.

## REFERENCES

- Adkins-Coleman, T. A. (2010). I'm not afraid to come into your world: Case studies of teachers facilitating engagement in urban high school English classrooms. *The Journal of Negro Education, 79*(1), 41-53. Retrieved from <https://www.jstor.org/stable/25676108>
- Allen, I. E., & Seaman, J. (2005). *Growing by degrees: Online education in the United States, 2005*. Retrieved from [https://secure.onlinelearningconsortium.org/publications/survey/growing\\_by\\_degrees\\_2005](https://secure.onlinelearningconsortium.org/publications/survey/growing_by_degrees_2005)
- Allen, I. E., & Seaman, J. (2008). *Staying the course: Online education in the United States, 2008*. Retrieved from <https://onlinelearningsurvey.com/reports/staying-the-course.pdf>
- Allen, I. E., & Seaman, J. (2014, January). *Grade change: Tracking online education in the United States*. Babson Park, MA: Babson Survey Research Group. Retrieved from <http://www.onlinelearningsurvey.com/reports/gradechange.pdf>
- Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York, NY: W. H. Freeman.
- Barron, C. N. (2014). Engagement of non-traditional adult learners in distance education: Best practices and points of convergence in the literature. *International HETL Review, 4*(3). Retrieved from <https://www.hetl.org/engagement-of-non-traditional-adult-learners-in-distance-education>
- Bates, T. (1986). Computer assisted learning or communications: Which way for information technology in distance education? *International Journal of E-Learning & Distance Education, 1*(1), 41-57. Retrieved from <http://ijede.ca/index.php/jde/article/view/304/1646>



- Beffa-Negrini, P. A., Cohen, N. L., & Miller, B. (2002). Strategies to motivate students in online learning environments. *Journal of Nutrition Education and Behavior*, 34(6), 334-340. doi:10.1016/S1499-4046(06)60116-4
- Blair, A. L. (2010). In from the margins: The essential role of faculty in transforming a professional studies unit into an academic department. *The Journal of Continuing Higher Education*, 58(1), 31-39. doi:10.1080/07377360903254579
- Bloom, B. S. (Ed.) (1956). *Taxonomy of educational objectives: The classification of educational goals* (2nd ed.). New York, NY: Longman.
- Brown, P. R., McCord, R. E., Matusovich, H. M., & Kajfez, R. L. (2015). The use of motivation theory in engineering education research: A systematic review of literature. *European Journal of Engineering Education*, 40(2), 186-205. doi:10.1080/03043797.2014.941339
- California Community College System. (2017). *Management information systems data mart* [Data set]. Retrieved from [http://datamart.cccco.edu/Students/FTES\\_Summary\\_DE.aspx](http://datamart.cccco.edu/Students/FTES_Summary_DE.aspx)
- Calis, R. (Ed.). (2008). *USA education in brief*. Retrieved from <https://photos.state.gov/libraries/amgov/30145/publications-english/education-brief.pdf>
- Cassidy, S. (2004). Learning styles: An overview of theories, modules, and measures. *Educational Psychology*, 24(4), 419-444. doi:10.1080/0144341042000228834
- Çeliköz, N. (2010). Basic factors that affect general academic motivation levels of candidate preschool teachers. *Procedia-Social and Behavioral Sciences*, 131(1), 113-127. doi:10.1016/j.sbspro.2009.01.240
- Chemers, M. M., Hu, L.-T., & Garcia, B. F. (2001). Academic self-efficacy and first year college student performance and adjustment. *Journal of Educational Psychology*, 93(1), 55-64. doi:10.1037/0022-0663.93.1.55

Christensen, R. (2001). Instruments for assessing the impact of technology in education.

*Computers in the Schools, 18*(2-3), 5-25. doi:10.1300/J025v18n02\_02

Coffield, F. (2004). *Learning styles and pedagogy in post-16 learning: A systematic and critical review*. London: Learning and Skills Research Centre.

Cohen, A. M., & Braver, F. B. (2008). *The American community college* (5th ed.). San Francisco, CA: Jossey-Bass.

Coleman-Ferrell, T. (2001). *A predictive model of student performance in Internet-based distance learning courses at the community college* (Doctoral dissertation). Retrieved from <http://fau.digital.flvc.org/islandora/object/fau%3A8867>

Colorado, J. T., & Eberle, J. (2010). Student demographics and success in online learning environments. *Emporia State Research Studies, 46*(1), 4-10. Retrieved from <http://academic.emporia.edu/esrs/vol46/colorado.pdf>

Compeau, D. R., & Higgins, C. A. (1995). Computer self-efficacy: Development of a measure and initial test. *MIS Quarterly, 19*(2), 189-211. doi:10.2307/249688

Dabbagh, N., & Bannan-Ritland, B. (2005). *Online learning: Concepts, strategies, and application*. Upper Saddle River, NJ: Prentice Hall.

Daniels, E. (2010). Creating motivating learning environments: What we can learn from researchers and students. *English Journal, 100*(1), 25-29. Retrieved from <http://www.ncte.org/journals/ej/issues/v100-1>

DeHoff, N. W. (2017). *Effects of a learning strategies intervention on academically at-risk college students' levels of self-efficacy and achievement motivation* (Doctoral Dissertation). Retrieved from OhioLINK. (Miami 1489329277431778)

- DeTure, M. (2004). Cognitive style and self-efficacy: Predicting student success in online distance education. *The American Journal of Distance Education* 18(1), 21-38.  
doi:10.1207/s15389286ajde1801\_3
- Downey, G., Eccles, J. S., & Chatman, C. (Eds.). (2005). *Navigating the future: Social identity, coping, and life tasks*. New York, NY: Russell Sage.
- Duderstadt, J. J. (2003). *Preparing for the revolution: Information technology and the future of the university*. Washington, DC: National Academies Press.
- Duderstadt, J. J. (2007). *The view from the helm: Leading the American university during an era of change*. Ann Arbor, MI: University of Michigan Press.
- Duff, A., & Duffy, T. (2002): Psychometric properties of Honey & Mumford's Learning Style Questionnaire (LSQ). *Personality and Individual Differences*, 33(1), 147-163.  
doi:10.1016/S0191-8869(01)00141-6
- Duncan, T. G., & McKeachie, W. J. (2005). The making of the motivated strategies for Learning Questionnaire. *Educational Psychologist*, 40(2), 117-128.  
doi:10.1207/s15326985ep4002\_6
- Dunn, R., Beaudry, J. S., & Klavas, A. (1989). Survey of research on learning styles. *Educational Leadership*, 46(6), 50-58. Retrieved from  
[http://www.ascd.org/ASCD/pdf/journals/ed\\_lead/el\\_198903\\_dunn.pdf](http://www.ascd.org/ASCD/pdf/journals/ed_lead/el_198903_dunn.pdf)
- Dunn, R., & Dunn, K. (1978). *Teaching students through their individual learning styles: A practical approach*. Reston, VA: Reston Publishing.
- Dunn, R., & Griggs, S. A. (2000). *Practical approaches to using learning styles in higher education*. Westport, CT: Bergin & Garvey.

- Dunn, R., & Griggs, S. (Eds.). (2003). *Synthesis of the Dunn and Dunn learning style-model research: Who, what, when, where, and so what?* New York, NY: St. John's University Press.
- Dykman, C. A., & Davis, C. K. (2008). Part One—The shift toward online education. *Journal of Information Education Systems*, 19(1), 11-16. Retrieved from <https://www.learntechlib.org/p/105762/>
- Eastin, M. S., & LaRose, R. (2000). Internet self-efficacy and the psychology of the digital divide. *Journal of Computer-Mediated Communication*, 6(1).  
doi:10.1111/j.1083-6101.2000.tb00110.x
- Eccles, J. S., & Wigfield, A. (2002). Motivational beliefs, values, and goals. *Annual Review of Psychology*, 53(1), 109-132. doi:10.1146/annurev.psych.53.100901.135153
- Fahy, P. J., & Ally, M. (2005). Student learning style and asynchronous computer-mediated conferencing (CMC) interaction. *The American Journal of Distance Education*, 19(1), 5-22. doi:10.1207/s15389286ajde1901\_2
- Federico, P.-A. (2000). Learning styles and student attitudes toward various aspects of network-based instruction. *Computers in Human Behavior*, 16(4), 359-379.  
doi:10.1016/S0747-5632(00)00021-2
- Gaspar, R. F., & Thompson, T. D. (1995). Current trends in distance education. *Journal of Interactive Instruction Development*, 8(2), 21-27. Retrieved from <https://www.learntechlib.org/p/80383>
- Grandzol, J. R. (2004). Teaching MBA statistics online: A pedagogically sound process approach. *Journal of Education for Business*, 79(4), 237-244.  
doi:10.3200/JOEB.79.4.237-244

- Grasha, A. F. (1996). *Teaching with style: A practical guide to enhancing learning by understanding teaching and learning styles*. Pittsburgh, PA: Alliance Publishers
- Greer, J. (2010, January 26). Online education continues its meteoric growth. *U.S. News and World Report*. Retrieved from <https://www.usnews.com/education/online-education/articles/2010/01/26/study-online-education-continues-its-meteoric-growth>
- Guglielmino, L. M. (1997, September). *Contributions of the self-directed learning readiness scale (SDLRS) and the learning preference assessment (LPA) to the definition and measurement of self-direction in learning*. Paper presented at the First World Conference on Self-Directed Learning, Montreal, Canada.
- Guri-Rosenblit, S. (1999). *Distance and campus universities: Tensions and interactions*. Oxford, UK: IAU Press.
- Halsne, A. M., & Gatta, L. A. (2002). Online versus traditionally-delivered instruction: A descriptive study of learner characteristics in a community college setting. *Online Journal of Distance Learning Administration*, 5(1). Retrieved from <https://www.learntechlib.org/p/92518>
- Harper, S. R., & Quaye, S. J. (2009). Beyond sameness, with engagement and outcomes for all: An introduction. In S. R. Harper & S. J. Quaye (Eds.), *Student engagement in higher education: Theoretical perspectives and practical approaches for diverse populations* (pp. 1-15). New York, NY: Routledge.
- Hill, J. R., & Hannafin, M. J. (1997). Cognitive strategies and learning from the World Wide Web. *Educational Technology Research and Development*, 45(4), 37-64.  
doi:10.1007/BF02299682

Hirumi, A. (2005). In search of quality: An analysis of e-learning guidelines and specifications.

*Quarterly Review of Distance Education*, 6(4), 309-329. Retrieved from

<https://www.infoagepub.com/qrde-issue.html?i=p54c3cb096fccd>

Hodges, C. B. (2008). Self-efficacy in the context of online learning environments: A review of the literature and directions for research. *Performance Improvement Quarterly*, 20(3-4), 7-25. doi:10.1002/piq.20001

Holcomb, L. B., King, F. B., & Brown, S. W. (2004). Student traits and attributes contributing to success in online courses: Evaluations of university online courses. *The Journal of Interactive Online Learning*, 2(3). Retrieved from <https://www.learntechlib.org/p/161511>

Holmberg, B. (1986). *Growth and structure of distance education*. London: Croom Helm.

Honey, P., & Mumford, A. (1986). *Using your learning styles* (2nd ed.). Maidenhead, UK: Peter Honey Publications.

Honey, P., & Mumford, A. (1992). *The manual of learning styles*. Maidenhead, UK: Peter Honey Publications.

Houde, J. (2006). *Andragogy and motivation: An examination of the principles of andragogy through two motivation theories*. Retrieved from <https://files.eric.ed.gov/fulltext/ED492652.pdf>

Howe, N., & Strauss, W. (2000). *Millennials rising: The next great generation*. New York, NY: Vintage Books Random House.

Jones, C., Reichard, C., & Mokhtari, K. (2003). Are students' learning styles discipline specific? *Community College Journal of Research and Practice*, 27(5), 363-375.  
doi:10.1080/713838162

- Joo, Y.-J., Bong, M., & Choi, H.-J. (2000). Self-efficacy for self-regulated learning, academic self-efficacy and internet self-efficacy in web-based instruction. *Educational Technology Research and Development*, 48(2), 5-17. doi:10.1007/BF02313398
- Kamenetz, A. (2010). *DIY U: Edupunks, edupreneurs, and the coming transformation of higher education*. White River Junction, VT: Chelsea Green.
- Keegan, D. (1986). *The foundations of distance education*. Dover, NH: Croom Helm.
- Kim, K.-J., & Bonk, C. J. (2006, January 1). The future of online teaching and learning in higher education: The survey says. *Educause Quarterly*. Retrieved from <https://er.educause.edu/articles/2006/1/the-future-of-online-teaching-and-learning-in-higher-education-the-survey-says>
- Knowles, M. S. (1975). *Self-directed learning: A guide for learners and teachers*. Fort Worth, TX: Association Press.
- Knowles, M. S. (1984). *The adult learner: A neglected species* (3rd ed.). Houston, TX: Gulf Publishing.
- Knowles, M. S. (1990). *The adult learner: A neglected species* (4th ed.). Houston, TX: Gulf Publishing.
- Knowles, M. S. (1992). *Applying principles of adult learning in conference presentations*. *Adult Learning*, 4(1), 11-14. doi:10.1177/104515959200400105
- Knowles, M., Holton, E., & Swanson, R. (1998). *The adult learner: The definitive classic in adult education and human resource development*. Houston, TX: Gulf Publishing.
- Knowles, M., Holton, E., & Swanson, R. (2005). *The adult learner* (6th ed.). San Diego, CA: Elsevier.

- Knowles, M., Holton, E., & Swanson, R. (2011). *The adult learner. The definitive classic in adult education and human resource development.* (7th ed.). Burlington, MA: Elsevier.
- Kolb, D. (1981). Experiential learning theory and the learning style inventory: A reply to freedom and Stumpf. *Academy of Management Review*, 6(2), 289-296.  
doi:10.2307/257885
- Kolb, D. (1984). *Experiential learning: experience as the source of learning and development.* Englewood Cliffs, NJ: Prentice-Hall.
- Kolb, D. A. (1985). *Learning Style Inventory: Self-scoring inventory and interpretation booklet.* Boston, MA: McBer.
- Kolb, D. (1999). *The Kolb Learning Style Inventory: Version 3.* Boston, MA: Hay Group.
- Kolb, A. Y., & Kolb, D. A. (2005). Learning styles and learning spaces: Enhancing experiential learning in higher education. *Academy of Management Learning & Education*, 4(2), 193-212. Retrieved from <https://www.jstor.org/stable/40214287>
- Laszlo, F., & Kupritz, V. W. (2003). The identification of online learning motives in use by undergraduate students. *Delta Pi Epsilon Journal*, 45(1), 63-72. Retrieved from <https://www.learntechlib.org/p/97454>
- Lathrop, A. (2011). *Impact of student motivation in online learning activities* (Doctoral dissertation). Retrieved from <https://digitalcommons.unl.edu/agronhortdiss/24>
- Liegle, J. O., & Janicki, T. N. (2006). The effect of learning styles on navigation needs of Web-based learners. *Computers in Human Behavior*, 22(5), 885-898.  
doi:10.1016/j.chb.2004.03.024
- Lim, C. K. (2001). Computer self-efficacy, academic self-concept, and other predictors of satisfaction and future participation of adult distance learners. *The American Journal of Distance Education*, 15(2), 41-51. doi:10.1080/08923640109527083



- Linnenbrink, E. A., & Pintrich, P. R. (2002). Motivation as an enabler for academic success. *School Psychology Review, 31*(3), 313-327. doi:10.4236/psych.2013.411112
- Linnenbrink, E. A., & Pintrich, P. R. (2003). The role of self-efficacy beliefs in student engagement and learning in the classroom. *Reading & Writing Quarterly: Overcoming Learning Difficulties, 19*(2), 119-137. doi:10.1080/10573560308223
- Livingston, B. (2010). *An investigation of transformational leadership in a virtual learning environment* (Doctoral Dissertation). Retrieved from <https://pqdtopen.proquest.com/pubnum/3433408.html>
- Lu, H., Jia, L., Gong, S. H., & Clark, B. (2007). The relationship of Kolb Learning Styles, online learning behaviors and learning outcomes. *Journal of Educational Technology & Society, 10*(4), 187-196. Retrieved from [https://www.j-ets.net/ETS/journals/10\\_4/17.pdf](https://www.j-ets.net/ETS/journals/10_4/17.pdf)
- Maslow, A. H. (1943). A theory of human motivation. *Psychological Review, 50*(4), 370-396. doi:10.1037/h0054346
- Maslow, A. H. (1970). *Motivation and personality* (2nd ed.). New York, NY: Harper & Row.
- Matt, J. J., O'Reilly, F. L., & Williams, C. J. (2014). Generational perspective of higher education online student learning styles. *Journal of Education and Learning, 3*(2), 33-51. Retrieved from <https://files.eric.ed.gov/fulltext/EJ1076418.pdf>
- McGlynn, A. P. (2008). Millennials in college: How do we motivate them? *Educational Digest, 73*(6), 19-22. Retrieved from <http://www.eddigest.com>
- Melnic, A.-S., & Bacovia, N. (2014). Academic learning motivation. *Economy Transdisciplinarity Cognition, 17*(2), 56-62. Retrieved from [http://www.ugb.ro/etc/etc2014no2/11\\_Melnic,\\_Botez.pdf](http://www.ugb.ro/etc/etc2014no2/11_Melnic,_Botez.pdf)

- Meyer, K. A. (2002). *Quality in distance education: Focus on on-line learning*. San Francisco, CA: Jossey-Bass.
- Miller, M. L. (2005). Using learning styles to evaluate computer-based instruction. *Computers in Human Behavior, 21*(2), 287-306. doi:10.1016/j.chb.2004.02.011
- Mills, K. A. (2010). A review of the 'digital turn' in the new literacy studies. *Review of Educational Research, 80*(2), 246-271. doi:10.3102/0034654310364401
- Miltiadou, M., & Yu, C. H. (2000). *Validation of the online technologies self-efficacy scale (OTSES)* (Report No. IR020354). Tempe, AZ: Information Technology.
- Moore, K. (2010). The three-part harmony of adult learning, critical thinking, and decision-making. *Journal of Adult Education, 39*(1), 1-10. Retrieved from <https://files.eric.ed.gov/fulltext/EJ917394.pdf>
- Moore, M. J. (1972). Learner autonomy: The second dimension of independent learning. *Convergence, 5*(2), 76-88. Retrieved from <https://search.proquest.com/openview/026768752863637ca2c2f4efd6eb0140/1?pq-origsite=gscholar&cbl=2030445>
- Moore, M. G., & Kearsley, G. (1996). *Distance education: A systems view*. Belmont, CA: Wadsworth.
- Moore, M. G., & Kearsley, G. (2005). *Distance education: A systems view* (2nd ed.). Belmont, CA: Wadsworth.
- Moore, M. G., & Shin, N. (Eds.). (2000). *Speaking personally about distance education: Foundations of contemporary practice*. University Park, PA: American Center for the Study of Distance Education, Pennsylvania State University.

- Moskal, P., Dziuban, C., Upchurch, R., Hartman, J., & Truman, B. (2006). Assessing online learning: What one university learned about student success, persistence, and satisfaction? *American Association of Colleges and Universities Peer Review*, 8(4), 26-29. Retrieved from <http://connection.ebscohost.com/c/articles/23426425/assessing-online-learning-what-one-university-learned-about-student-success-persistence-satisfaction>
- Muijs, D. (2011). *Doing quantitative research in education with SPSS*. Thousand Oaks, CA: Sage.
- Neto, M. (2015). Educational motivation meets Maslow: Self-actualisation as contextual driver. *Journal of Student Engagement: Education Matters*, 5(1), 18-27. Retrieved from <http://ro.uow.edu.au/jseem/vol5/iss1/4>
- Osborn, V. (2001). Identifying at-risk students in videoconferencing and web-based distance education. *The American Journal of Distance Education*, 15(1), 41-54.  
doi:10.1080/08923640109527073
- Otway, L. J., & Carnelley, K. B. (2013). Exploring the associations between adult attachment security and self-actualization and self-transcendence. *Self & Identity*, 12(2), 217-230.  
doi:10.1080/15298868.2012.667570
- Parsad, B., & Lewis, L. (2008). *Distance education at degree-granting postsecondary institutions: 2006-07*. Retrieved from <http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2009044>
- Pask, G. (1976). Styles and strategies of learning. *British Journal of Educational Psychology*, 46(2), 128-148. doi:10.1111/j.2044-8279.1976.tb02305.x

- Petty, T. (2014). Motivating first-generation students to academic success and college completion. *College Student Journal*, 48(2), 257-264. Retrieved from <https://www.ingentaconnect.com/contentone/prin/csj/2014/00000048/00000002/art00010>
- Pintrich, P. R., & de Groot, E. (1990). Motivational and self-regulated learning components of classroom academic performance. *Journal of Educational Psychology*, 82(1), 33-40. doi:10.1037/0022-0663.82.1.33
- Pintrich, P. R., Smith, D. A. F., Garcia, T., & McKeachie, W. J. (1991). *A manual for the use of the Motivated Strategies for Learning Questionnaire (MSLQ)* (Report No. NCRIPAL-91-B-004). Ann Arbor, MI: University of Michigan, National Center for Research to Improve Postsecondary Teaching and Learning.
- Pintrich, P. R., Marx, R. W., & Boyle, R. A. (1993). Beyond cold conceptual change: The role of motivational beliefs and classroom contextual factors in the process of conceptual change. *Review of Educational Research*, 63(2), 167-199. doi:10.2307/1170472
- Pratt, D. D. (1988). Andragogy as a relational construct. *Adult Education Quarterly*, 38(3), 160-181. doi:10.1177/0001848188038003004
- Price, L. (2004). Individual differences in learning: Cognitive control, cognitive style, and learning style. *Educational Psychology*, 24(5), 681-698. doi:10.1080/0144341042000262971
- Puzziferro, M. (2008). Online technologies and self-efficacy and self-regulated learning as predictors of final grade and satisfaction in college-level online courses. *American Journal of Distance Education*, 22(2), 72-89. doi:10.1080/08923640802039024
- Riding, R. J., & Rayner, S. (1995). The information superhighway and individualised learning. *Educational Psychology*, 15(40), 365-378. doi: 10.1080/0144341950150402

Robbins, S. P., & Judge, T. (2011). *Organizational behavior* (15th ed.). Upper Saddle River, NJ: Prentice Hall.

Ross-Gordon, J. M. (2003). Adult learners in the classroom. In D. Kilgore & P. J. Rice (Eds.), *Meeting with special needs of adult students* (pp. 43-52). San Francisco: Jossey-Bass.

Schellens, T., & Valcke, M. (2000). Re-engineering conventional university education: Implications for students' learning styles. *Distance Education*, 21(2), 361-384.  
doi:10.1080/0158791000210210

Senge, P., Kleiner, A., Roberts, C., Ross, R., & Smith, B. (1994). *The fifth discipline fieldbook: Strategies and tools for building a learning organization*. New York, NY: Doubleday Currency.

Shea, T., Motiwalla, L., & Lewis, D. (2001). Internet-based distance education—The administrator's perspective. *Journal of Education for Business*, 77(2), 112-117.  
doi:10.1080/08832320109599059

Shih, C. -C., & Gamon., J. (2001). Web-based learning: Relationships among students' motivation, attitude, learning styles, and achievement. *Journal of Agricultural Education*, 42(4), 12-20. Retrieved from <http://www.jae-online.org/attachments/article/390/42-04-12.pdf>

Smith, D. M., & Kolb, D. (1986). *Users' guide for the Learning Style Inventory: A manual for teachers and trainers*. Boston, MA: McBer.

Spooner, F., Jordan, L., Algozzine, B., & Spooner, M. (1999). Student ratings of instruction in distance learning and on-campus classes. *Journal of Educational Research*, 92(3), 132-140. doi:10.1080/00220679909597588

- Terrell, S. (2005). Supporting different learning styles in an online learning environment: Does it really matter in the long run? *Online Journal of Distance Learning Administration*, 8(2). Retrieved from <https://www.westga.edu/~distance/ojdla/summer82/terrell82.htm>
- Terrell, S., & Dringus, L. (2000). An investigation of the effect of learning style on student success in an online learning environment. *Journal of Educational Technology Systems*, 28(3), 231-238. doi:10.2190/R53M-BVBD-UGV5-77EH
- Terry, M. (2001). Translating learning style theory into university teaching practices: An article based on Kolb's experiential learning model. *Journal of College Reading and Learning*, 32(1), 68-85. doi:10.1080/10790195.2001.10850128
- Thoms, K. (2001). *They're not just big kids. Motivating adult learners*. Retrieved from <https://files.eric.ed.gov/fulltext/ED463720.pdf>
- Torkzadeh, G., Chang, J. C.-J., & Demirhan, D. (2006). A contingency model of computer and internet self-efficacy. *Information & Management*, 43(4), 541-550. doi:10.1016/j.im.2006.02.001
- Torkzadeh, G., & Van Dyke, T. P. (2002). Effects of training on Internet self-efficacy and computer user attitudes. *Computers in Human Behavior*, 18(5), 479-494. doi:10.1016/S0747-5632(02)00010-9
- Truman-Davis, B., Futch, L., Thompson, K., & Yonekura, F. (2000). Support for online teaching and learning. *Educause Quarterly*, 23(2), 44-51. Retrieved from <https://er.educause.edu/-/media/files/article-downloads/eqm0023.pdf>
- Tsay, M. H., Morgan, G., & Quick, D. (2000). Predicting students' ratings of the importance of strategies to facilitate self-directed learning in Taiwan. *Distance Education*, 21(1), 49-65. doi:10.1080/0158791000210104

- Twenge, J. M. (2006). *Generation me*. New York, NY: Free Press.
- Twigg, C. A. (2001). *Quality assurance for whom? Providers and consumers in today's distributed learning environment*. Troy, NY: The Pew Learning and Technology Program, Center for Academic Transformation, Rensselaer Polytechnic Institute.
- Urtel, M. G. (2008). Assessing academic performance between traditional and distance education course formats. *Educational Technology & Society, 11*(1), 322-330. Retrieved from [https://www.j-ets.net/ETS/journals/11\\_1/23.pdf](https://www.j-ets.net/ETS/journals/11_1/23.pdf)
- Waits, T., & Lewis, L. (2003). *Distance education at degree-granting postsecondary institutions: 2000-2001*. Retrieved from <http://nces.ed.gov/pubs2003/2003017.pdf>
- Wang, A. Y., & Newlin, M. H. (2002). Predictors of web-student performance: The role of self-efficacy and reasons for taking an online class. *Computers in Human Behavior, 18*(2), 151-163. doi:10.1016/S0747-5632(01)00042-5
- Wang, K. H., Wang, T. H., Wang, W. L., & Huang, S. C. (2006). Learning styles and formative assessment strategy: Enhancing student achievement in Web-based learning. *Journal of Computer Assisted Learning, 22*(3), 207-217. doi:10.1111/j.1365-2729.2006.00166.x
- Williams, K. C., & Williams, C. C. (2011). Five key ingredients for improving student motivation. *Research in Higher Education Journal*. Retrieved from [https://scholarsarchive.library.albany.edu/cgi/viewcontent.cgi?article=1000&context=math\\_fac\\_scholar](https://scholarsarchive.library.albany.edu/cgi/viewcontent.cgi?article=1000&context=math_fac_scholar)
- Wojciechowski, A., & Bierlein Palmer, L. (2005). Individual student characteristics: Can any be predictors of success in online classes? *Online Journal of Distance Learning Administration*. Retrieved from <http://citeseerx.ist.psu.edu/viewdoc/summary?doi=10.1.1.572.3475>

Zhu, C., Valcke, M., & Schellens, T. (2009). A cross-cultural study of online collaborative learning. *Multicultural Education & Technology Journal*, 3(1), 33-46.

doi:10.1108/17504970910951138

Zimmerman, B. (1989). A social cognitive view of self-regulated academic learning. *Journal of Educational Psychology*, 81(3), 329-339. doi:10.1037/0022-0663.81.3.329

Zimmerman, B. (2000). Self-efficacy: An essential motive to learn. *Contemporary Educational Psychology*, 25(1), 82-91. doi:10.1006/ceps.1999.1016

Zimmerman, B. J., Bandura, A., & Martinez-Pons, M. (1992). Self-motivation for academic attainment: The role of self-efficacy beliefs and personal goal setting. *American Educational Research Journal*, 29(3), 663-676. doi:10.3102/00028312029003663



## APPENDIX A

## Motivated Strategies for Learning Questionnaire

Please rate the following items based on your motivation and attitudes in this online distance course. There are no right or wrong answers, just answer as accurately as possible. Your rating will be on a 7- point scale where 1= not at all true of me to 7=very true of me.

**Part A: Motivation**

1. In a class like this, I prefer course material that really challenges me so I can learn new things.
2. If I study in appropriate ways, then I will be able to learn the material in this course.
3. When I take a test I think about how poorly I am doing compared with other students.
4. I think I will be able to use what I learn in this course in other courses.
5. I believe I will receive an excellent grade in this class.
6. I'm certain I can understand the most difficult material presented in the readings for this course.
7. Getting a good grade in this class is the most satisfying thing for me right now.
8. When I take a test I think about items on other parts of the test I can't answer.
9. It is my own fault if I don't learn the material in this course.
10. It is important for me to learn the course material in this class.
11. The most important thing for me right now is improving my overall grade point average, so my main concern in this class is getting a good grade.
12. I'm confident I can learn the basic concepts taught in this course.
13. If I can, I want to get better grades in this class than most of the other students.
14. When I take test I think of the consequences of failing.

15. I'm confident I can understand the most complex material presented by the instructor in this course.

16. In a class like this, I prefer course material that arouses my curiosity, even if it is difficult to learn.

17. I am very interested in the content area of this course.

18. If I try hard enough, then I will understand the course material.

19. I have an uneasy, upset feeling when I take an exam.

20. I'm confident I can do an excellent job on the assignments and tests in this course.

21. I expect to do well in this class.

22. The most satisfying thing for me in this course is trying to understand the content as thoroughly as possible.

23. I think the course material in this class is useful for me to learn.

24. When I have the opportunity in this class, I choose course assignments that I can learn from even if they don't guarantee a good grade.

25. If I don't understand the course material, it is because I didn't try hard enough.

26. I like the subject matter of this course.

27. Understanding the subject matter of this course is very important to me.

28. I feel my heart beating fast when I take an exam.

29. I'm certain I can master the skills being taught in this class.

30. I want to do well in this class because it is important to show my ability to my family, friends, employer, or others.

31. Considering the difficulty of this course, the teacher, and my skills, I think I will do well in this class.

**Part B: Learning Strategies**

32. When I study the readings for this course, I outline the material to help me organize my thoughts.
33. During class time I often miss important points because I'm thinking of other things.  
(REVERSED)
34. When studying for this course, I often try to explain the material to a classmate or friend.
35. I usually study in a place where I can concentrate on my course work.
36. When reading for this course, I make up questions to help focus my reading.
37. I often feel so lazy or bored when I study for this class that I quit before I finish what I planned to do. (REVERSED)
38. I often find myself questioning things I hear or read in this course to decide if I find them convincing.
39. When I study for this class, I practice saying the material to myself over and over.
40. Even if I have trouble learning the material in this class, I try to do the work on my own, without help from anyone. (REVERSED)
41. When I become confused about something I'm reading for this class, I go back and try to figure it out.
42. When I study for this course, I go through the readings and my class notes and try to find the most important ideas.
43. I make good use of my study time for this course.
44. If course readings are difficult to understand, I change the way I read the material.
45. I try to work with other students from this class to complete the course assignments.

46. When studying for this course, I read my class notes and the course readings over and over again.

47. When a theory, interpretation, or conclusion is presented in class or in the readings, I try to decide if there is good supporting evidence.

48. I work hard to do well in this class even if I don't like what we are doing.

49. I make simple charts, diagrams, or tables to help me organize course material.

50. When studying for this course, I often set aside time to discuss course material with a group of students from the class.

51. I treat the course material as a starting point and try to develop my own ideas about it.

52. I find it hard to stick to a study schedule. (REVERSED)

53. When I study for this class, I pull together information from different sources, such as lectures, readings, and discussions.

54. Before I study new course material thoroughly, I often skim it to see how it is organized.

55. I ask myself questions to make sure I understand the material I have been studying in this class.

56. I try to change the way I study in order to fit the course requirements and the instructor's teaching style.

57. I often find that I have been reading for this class but don't know what it was all about.  
(REVERSED)

58. I ask the instructor to clarify concepts I don't understand well.

59. I memorize key words to remind me of important concepts in this class.

60. When course work is difficult, I either give up or only study the easy parts. (REVERSED)

61. I try to think through a topic and decide what I am supposed to learn from it rather than just reading it over when studying for this course.
62. I try to relate ideas in this subject to those in other courses whenever possible.
63. When I study for this course, I go over my class notes and make an outline of important concepts.
64. When reading for this class, I try to relate the material to what I already know.
65. I have a regular place set aside for studying.
66. I try to play around with ideas of my own related to what I am learning in this course.
67. When I study for this course, I write brief summaries of the main ideas from the readings and my class notes.
68. When I can't understand the material in this course, I ask another student in this class for help.
69. I try to understand the material in this class by making connections between the readings and the concepts from the lectures.
70. I make sure that I keep up with the weekly readings and assignments for this course.
71. Whenever I read or hear an assertion or conclusion in this class, I think about possible alternatives.
72. I make lists of important items for this course and memorize the lists.
73. I attend this class regularly.
74. Even when course materials are dull and uninteresting, I manage to keep working until I finish.
75. I try to identify students in this class whom I can ask for help if necessary.
76. When studying for this course I try to determine which concepts I don't understand well.

77. I often find that I don't spend very much time on this course because of other activities.

(REVERSED)

78. When I study for this class, I set goals for myself in order to direct my activities in each study period.

79. If I get confused taking notes in class, I make sure I sort it out afterwards.

80. I rarely find time to review my notes or readings before an exam. (REVERSED)

81. I try to apply ideas from course readings in other class activities such as lecture and discussion.

## APPENDIX B

## Online Technologies Self-Efficacy Scale

This survey instrument will ask you just how confident you feel about using online technologies such as internet, discussion board, email to succeed in this online course. Remember that each section begins with the statement "I would feel confident..." performing an activity, and not "I have done it before." It does not matter whether you have had experience with the activities described. We would like to find out what your perceptions are performing the activities below. There are no right or wrong answers, just answer as accurately as possible. Please rate the following items from, "Very Confident to Not Confident at All"

**A) Questions about using the Internet (Internet Competencies)****I would feel confident....**

1. Opening a web browser (e. g. Netscape or Explorer)
2. Reading text from a web site
3. Clicking on a link to visit a specific web site
4. Accessing a specific web site by typing the address (URL)
5. Bookmarking a web site
6. Printing a web site
7. Conducting an Internet search using one or more keywords
8. Downloading (saving) an image from a web site to a disk
9. Copying a block of text from a web site and pasting it to a document in a word processor

**B) Questions about chatting "live" via a synchronous chat system such as Course Info, First Class, Net Meeting, or IRC (some people call it Synchronous Interaction).**

**I would feel confident...**

10. Providing a nickname within a synchronous chat system (if necessary)
11. Reading messages from one or more members of the synchronous chat system
12. Answering a message or providing my own message in a synchronous chat system (one-to-many interaction)
13. Interacting privately with one member of the synchronous chat system (one-to-one interaction)

**(C) Questions about using an e-mail system such as Pine, Netscape Mail, or Outlook to communicate with friends, instructors, or other students who are not online at the same time (Asynchronous interaction I).**

**I would feel confident...**

14. Logging on and off an e-mail system
15. Sending an e-mail message to a specific person (one-to-one interaction)
16. Sending one e-mail message to more than one person at the same time (one-to-many interaction)
17. Replying to an e-mail message
18. Forwarding an e-mail message
19. Deleting messages received via e-mail
20. Creating an address book
21. Saving a file attached to an e-mail message to a local disk and then viewing the contents of that file
22. Attaching a file (image or text) to an e-mail message and then sending it off



**(D) Questions about posting a message to a newsgroup, a bulletin board, or on the discussion board of a conferencing system (such as Course Info, First Class, etc.) where participants are not online at the same time (Asynchronous interaction II).**

**I would feel confident...**

23. Signing on and off an asynchronous conferencing system
24. Posting a new message to a synchronous conferencing system (creating a new thread)
25. Reading a message posted on an asynchronous conferencing system
26. Replying to a message posted on an asynchronous conferencing system so that all members can view it
27. Replying to a message posted on an asynchronous conferencing system so that only one member can view it (reply to sender)
28. Downloading (saving) a file from an asynchronous conferencing system to a local disk
29. Uploading (sending) a file to an asynchronous conferencing system

## APPENDIX C

## Items Comprising the 15 MSLQ Scales

Scale	Items Comprising the Scale
<b>Motivation Scales</b>	
1. Intrinsic Goal Orientation	1, 16, 22, 24
2. Extrinsic Goal Orientation	7, 11, 13, 30
3. Task Value	4, 10, 17, 23, 26, 27
4. Control of Learning Beliefs	2, 9, 18, 25
5. Self-Efficacy for Learning & Performance	5, 6, 12, 15, 20, 21, 29, 31
6. Test Anxiety	3, 8, 14, 19, 28
<b>Learning Strategies Scales</b>	
1. Rehearsal	39, 46, 59, 72
2. Elaboration	53, 62, 64, 67, 69, 81
3. Organization	32, 42, 49, 63
4. Critical Thinking	38, 47, 51, 66, 71
5. Metacognitive Self-Regulation	33r, 36, 41, 44, 54, 55, 56, 57r, 61, 76, 78, 79
6. Time/ Study Environment Management	35, 43, 52r, 65, 70, 73, 77r, 80r
7. Effort Regulation	37r, 48, 60r, 74
8. Peer Learning	34, 45, 50
9. Help Seeking	40r, 58, 68, 74

*Note.* Items marked with an “r” are reverse coded. The data in this table are from “The Making of the Motivated Strategies for Learning Questionnaire,” by T.G. Duncan and W.J. McKeachie, 2005, *Educational Psychologist*, 2, pp. 117-128. Copyright 2005 by Taylor & Francis. Adapted with permission.

## APPENDIX D

## Formal Electronic Mail to Faculty to Obtain Consent

**Dear Faculty Member,**

This letter is being distributed to seek consent for volunteer student participation. I am conducting as part of my Doctoral degree in the Department of Education and Psychology at Pepperdine University under the supervision of Dr. June. I would like to provide you with more information about this project and what your involvement would entail if you decide to take part.

The purpose of this study, therefore, is to identify predictors that influence a learners' motivation in a self-directed online business administration course.

Student participation in this study is voluntary. It will involve instrument surveys of approximately 30-45 minutes in length to complete via internet. Further, students may decide to withdraw from the instrumental surveys at any time without any negative consequences. Student's name will not appear in any thesis or report resulting from this study. The data gathered during this study will be retained for at least 3 years starting from date of publication on a password protect computer. Only the researcher associated with this project will have access. There are no potential risks anticipated to the students as a participant in this study. All information obtained will remain confidential.

If you have any questions regarding this study or would like additional information to assist you in reaching a decision about participation.

I would like to assure you that this study has been reviewed and received ethics clearance through both Institutional Review Board (IRB) at Pepperdine University and Cerritos College.

I hope that the results of my study will be of benefit to the institution directly involved in the study and other college institutions not directly involved in the study. I very much look forward to speaking with you and thank you in advance for your assistance in this project.

Sincerely,

Hong T Hoang, *Doctoral Candidate*

**Pepperdine University, Department of Education and Psychology**

## APPENDIX E

## Formal Electronic Mail to Students for Participants

Date

Dear Students,

This letter is an invitation to consider participating in a study I am conducting as part of my Doctoral degree in the Department of Education and Psychology at Pepperdine University under the supervision of Dr. June. I would like to provide you with more information about this project and what your involvement would entail if you decide to take part.

The purpose of this study, therefore, is

Participation in this study is voluntary. It will involve an instrument survey of approximately 30-45 minutes in length to complete via internet. Further, you may decide to withdraw from the instrumental survey at any time without any negative consequences. Your name will not appear in any thesis or report resulting from this study. The data gathered during this study will be retained for at least 3 years starting from date of publication on a password protect computer. Only the researcher associated with this project will have access. There are minimal risks to you as a participant in this study. All information obtained will be remain confidential.

If you have any questions regarding this study or would like additional information to assist you in reaching a decision about participation.

I would like to assure you that this study has been reviewed and received ethics clearance through both Institutional Review Board (IRB) at Pepperdine University and Cerritos College. However, the final decision about participation is yours.

I hope that the results of my study will be of benefit to the institution directly involved in the study and other college institutions not directly involved in the study.

I very much look forward to speaking with you and thank you in advance for your assistance in this project.

Sincerely,

Hong T Hoang, *Doctoral Student*  
**Pepperdine University, Department of Education and Psychology**

APPENDIX F

Pepperdine IRB Approval

**NOTICE OF APPROVAL FOR HUMAN RESEARCH**

Date: November 08, 2016

Protocol Investigator

Name: Hong Hoang

Protocol #: 16-07-338

Project Title: Learner's Motivation in a Self-Directed Distance Education Environment at a  
Community College

School: Graduate School of Education and Psychology

Dear Hong Hoang:

Thank you for submitting your application for exempt review to Pepperdine University's Institutional Review Board (IRB). We appreciate the work you have done on your proposal. The IRB has reviewed your submitted IRB application and all ancillary materials. Upon review, the IRB has determined that the above entitled project meets the requirements for exemption under the federal regulations 45 CFR 46.101 that govern the protections of human subjects.

Your research must be conducted according to the proposal that was submitted to the IRB. If changes to the approved protocol occur, a revised protocol must be reviewed and approved by the IRB before implementation. For any proposed changes in your research protocol, please submit an amendment to the IRB. Since your study falls under exemption, there is no requirement for continuing IRB review of your project. Please be aware that changes to your protocol may prevent the research from qualifying for exemption from 45 CFR 46.101 and require submission of a new IRB application or other materials to the IRB.

A goal of the IRB is to prevent negative occurrences during any research study. However, despite the best intent, unforeseen circumstances or events may arise during the research. If an unexpected situation or adverse event happens during your investigation, please notify the IRB as soon as possible. We will ask for a complete written explanation of the event and your written response.

Other actions also may be required depending on the nature of the event.

Details regarding the timeframe in which adverse events must be reported to the IRB and documenting the adverse event can be found in the *Pepperdine University Protection of Human Participants in Research: Policies and Procedures Manual* at [community.pepperdine.edu/irb](http://community.pepperdine.edu/irb).

Please refer to the protocol number denoted above in all communication or correspondence related to your application and this approval. Should you have additional questions or require clarification of the contents of this letter, please contact the IRB Office. On behalf of the IRB, I wish you success in this scholarly pursuit.

Sincerely,

Judy Ho, Ph.D., IRB Chair

cc: Dr. Lee Kats, Vice Provost for Research and Strategic Initiatives

Mr. Brett Leach, Regulatory Affairs Specialist