Achievement Goal Orientations and Resource Management Strategies of Adult and Traditional Learners

by

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Abstract

This study examined the achievement goal orientations and resource management strategies of adult and traditional learners. Based on Elliot and McGregor's (2001) achievement goal theoretical framework and Pintrinch and colleagues' (1991) self-regulated learning conceptual framework, this study examined the difference of achievement goal orientations and resource management strategies of these two student groups, and explored the relationship of these two sets of variables among the learners. It further investigated how the achievement goal orientations and the resource management strategies differ between adult and traditional learners.

A quantitative research design was used to address five research questions. The Achievement Goal Questionnaire-Revised (AGQ-R) version (Elliot & Murayama, 2008) and Motivated Strategies for Learning Questionnaire (MSLQ) (Pintrich, Smith, Garcia, & McKeachie, 1991) were used in this study. Participants were students enrolled at a large southeastern research institution in the U.S. during the Spring semester, 2016. Survey data was analyzed through one-way MANOVA, canonical correlation, and discriminant analysis.

Results show that adult learners are more mastery approach-goal oriented than their traditional counterparts, whereas traditional learners are more performance goal-oriented. In terms of resource management strategies, adult learners prefer to use effort regulation strategies and manage their study time, while traditional learners often adopt peer learning and help seeking strategies. Moreover, the achievement goal orientations and resource management strategies have a moderate canonical correlation for both student groups. To be more specific,

adult learners who have a strong mastery approach-goal orientation are more likely to manage their study time and have high commitment of achieving their study goals. Meanwhile, traditional learners with both types of mastery goal orientations are more often to adopt study time management, effort regulation, and peer learning strategies during their learning process. Lastly, effort regulation, peer learning, performance avoidance-goal orientation, and mastery approach-goal orientation could differ between adult and traditional learners. In other words, those who have a high level of mastery approach-goal orientation and/or spend more time and effort in study are more likely to be adult learners, whereas those who have a high level of performance avoidance-goal orientation and/or often study with their peers are more likely to be traditional learners. This study finally suggested that faculty should assist students properly based on their different achievement goal-orientations and learning strategies, especially in a mix classroom.

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CHAPTER I: INTRODUCTION

Overview

The number of adult learners returning to colleges and universities to further their education is rapidly growing across the United States (Hussar & Bailey, 2011), and they have become the majority population in postsecondary education (Compton Cox, & Laanan, 2006). In 2012, around 8,526 adult learners, including 3,275 male and 5,251 female were enrolled in degree-granting postsecondary institutions (Snyder & Dillow, 2013). This student group have become the fastest growing population especially in North American, which comprises between 30% and 50% of the student population during this past decade (Carney-Crompton & Tan, 2002; Graham & Donaldson, 1999; Kasworm, 2003; Sales Drolet, & Bonneau, 2001).

Different than traditional learners, who are typically identified as aged 18-22 years old and younger following an unbroken linear path through the education system (Bye, Pushkar, & Conway, 2007; Carney-Crompton & Tan, 2002), adult learners are usually defined as 25 years of age and older, and they do not have an unbroken complete linear path through the education system (Bye, Pushkar, & Conway, 2007; Carney-Crompton & Tan, 2002; Ely, 1997; Kasworm, Polson, & Fishback, 2002). Additionally, adult learners have several unique characteristics, such as: 1) enrolled as part-time students due to their full-time employment, 2) financially independent of their parents, 3) have families including dependents and/or spouse, and 4) some adult students do not have a high school diploma (National Center for Education Statistics, 1997). These characteristics would influence adult learners' motivations of seeking knowledge, their

study goals, and learning strategies, which may differentiate them from their traditional counterparts.

Definitions of Adult Learners

Malcolm Knowles (1973) described the adult learning theory in his book *The Adult Learner: A Neglected Species* as: "For over two decades I have been trying to formulate a theory of adult learning that takes into account what we know from experience and research about the unique characteristics of adult learners" (p. 40). Norman (1999) later on concluded several assumptions regarding Knowles' theory:

1. As an individual matures, his or her self-concept moves from one of total dependency to one of increasing self-directedness.

2. As an individual matures, the individual accumulates an expanding reservoir of experience that causes him or her to become an increasingly rich resource for learning.

3. As an individual matures, his or her readiness to learn is decreasingly the product of biological development and academic pressure and is increasingly the product of the developmental tasks required for the performance of evolving social roles.

4. Children have been conditioned to have a subject-centered orientation to most learning, whereas adults tend to have a problem-centered orientation to learning (p. 886).

Therefore, based on Knowles' adult learning theory, adult learners are usually defined as "nontraditional learners" and "returning students" (Benshoff & Lewis, 1992). They are different than traditional learners who are often considered as younger and are likely to have followed an unbroken linear path through the education system. Adult learners usually return to school full- or part-time while maintaining responsibilities such as employment, family, and other duties of adult life (Cross, 1980). Dill and Henley (1998) noted that adult learners are often at least one-

year away between high school and college, and they are usually 25 years of age and older (Kasworm, Polson, & Fishback, 2002; Klein, 1990; Krager, Wrenn, & Hirt, 1990; Padula, 1994; Roehl & Okun, 1984; Scott, Burns, & Cooney, 1996). Additionally, characteristics such as delaying postsecondary enrollment one year or more, enrolling part time, being employed full time, being financially independent of their parents, having dependents other than a spouse, being single parents, or not possessing a high school diploma were their unique features (National Center for Education Statistics, 1997).

Early in 1997, 36% of college students are adult learners (National Center for Education Statistics, 1997), and in the fall 2012, 8,526 adult students were enrolled in degree-granting postsecondary institutions in the US. Today, adult learners have constituted approximately half of the college student population. They return to school and seek knowledge because of various motivational orientations (Houle, 1961).

Motivational Orientations

According to Cyril Houle's (1961) typology, adult learners who seek knowledge are typically classified as being primarily goal-oriented, activity-oriented, or learning-oriented. The goal-oriented adult learners are those who use education as a mean for accomplishing a goal. In other words, adult learners who decide to continue education usually begins with the realization of a need or the identification of interests (Houle, 1961). These learners consider goals very important and they desire to make progress toward accomplishing some specific goals (Comings, 2007; Kerka, 2005). Similarly, Compton and colleagues (2006) noted adult learners usually seek programs because they desire to obtain vocational certificates or degrees, and they have clear purposes for their education, such as to get or enhance job skills. Hardin (2008) also mentioned

that many adult learners return to higher education for the reason that they desire to change better careers or to strengthen their working skills.

The second type are activity-oriented adult learners. These learners focus on social activities instead of learning itself (Houle, 1961), and they are influenced and responsive to their social environment (Lazarus & Folkman, 1984). These learners continue their education for social or activity reasons, such as to make friends, to get rid of loneliness, to look for their future spouses, to escape from their personal or emotional problems, relationships, or to pursue the degrees in order to make them feel good. These adult learners consider education as a mean of transporting themselves from one place of life to another (Aslanian, 2001). Some adult learners may experience major life transitions (e.g., divorce, widowhood), which also result in their returning to campus (Compton et al., 2006).

The last type of adult learners is learning-oriented who focus on learning and seeking for gaining knowledge (Houle, 1961). These adult learners have the desire to acquire knowledge or purely enjoy studying and learning, and they are seeking for self-growth and self-improvement (Clayton & Smith, 1987; Rifenbary, 1995).

Lin and Wang's (2015) study investigated motivational factors of adult learners' returning to graduate school and revealed that goal- and learning-orientations are the primary two motivations encourage them to return and seek knowledge. On the contrary, traditional learners may study because of motivations such as social relations or parental expectations (Justice & Dornan, 2001). Meanwhile, adult learners may have diverse goals during the learning process compared to their traditional counterparts.

Typically, goals fall in two major areas. The first type is called a mastery goal, which referred to as being mastery-oriented. Learners hold mastery goals when their goal is to truly

master an academic task. The second type is called a performance goal, which refers to being performance-oriented. Learners pursue a performance goal is to demonstrate their have a stronger ability in doing something compared to others. Later studies divided these two types of goals into four achievement goal-orientations: mastery-approach, mastery-avoidance, performance-approach, and performance-avoidance goal-orientations (Elliot & McGregor, 2001). Early studies showed that adult learners often adopt goals which drive them to learn new knowledge and skills, while traditional learners hold goals that stimulate them to compete with their peers (Beinart & Smith, 1998; Eppler & Harju, 1997; Sachs, 2001; Taylor, Morgan & Gibbs, 1981). Meanwhile, some researchers (Remedios & Richardson, 2013) argued that adult learners employ similar goal orientations as their younger counterparts. Specifically, adult learners also try to compete with others through learning new information and skills, while exploring knowledge also motivates traditional learners to study.

Self-directed Learning

Self-directed learning (SDL) is a central concept in the study and practice in adult education. Brockett and Donaghy (2005) indicated that Houle's study contributes to self-directed learning (SDL), and the connection to SDL was further enhanced by one of his former students, Malcolm Knowles. According to Malcolm Knowles (1959), an adult has matured "from dependency toward autonomy to the point that at least he makes his own decisions and faces their consequences" (p. 9) and that adults "are more capable [than children] of taking responsibility for planning their own learning experiences and they have more resources from which to contribute to the learning process itself" (p. 10). Knowles also listed five assumptions to describe an adult learner as someone who:

1) has an independent self-concept and who can direct his or her own learning,

2) has accumulated a reservoir of life experiences that is a rich resource for learning.

3) has learning needs closely related to changing social roles,

4) is problem-centered and interested in immediate application of knowledge, and

5) is motivated to learn by internal rather than external factors (cited in Merriam, 2001, p. 5).

Additionally, Garrison (1997) indicated that SDL is "an approach where learners are motivated to assume personal responsibility and collaborative control of the cognitive (self-monitoring) and contextual (self-management) processes in constructing and confirming meaningful and worthwhile learning outcomes" (p. 18). Garrison (1997) further described the SDL model by including three overlapping dimensions: self-management (task control), self-monitoring (cognitive responsibility), and motivation (entering and task). Among the three dimensions, self-management links to Knowles' idea that adult learners better control their study and manage resources. According to Garrison's (1997) concepts, self-management relates to task control issues and focuses on the social and behavioral implementation of learning intentions. In other words, self-management "concerns the enactment of learning goals and the management of learning resources and support" (p. 22), including managing material resources and keeping balance of the collaborative relationship between teachers and learners.

Although SDL started as a term in adult education, it is often used as self-regulated learning interchangeably in the literature (Loyens, Magda, & Rikers, 2008). Therefore, based on Pintrich and colleagues' (1991), the SRL conceptual framework contains four types of resource management strategies which describe learners' SRL focusing on management of learning resources and support: time and study environment, effort regulation, peer learning, and help seeking. Time and study environment refers to how learners' manage, schedule, and plan their

study time; effort regulation refers to how learners' commitment of accomplishing their study goals; peer learning refers to how learners are willing to collaborate with their peers; and help seeking refers to how learners are willing to seek help from their peers and instructors.

Previous studies discovered that adult and traditional learners have different SRL strategies. Murray-Harvey's (1993) research suggested adult learners use meaningful and deep approaches to learn, which lead to a positive influence on their academic performance, and in turn produce more academic achievements. Likewise, Richardson (1994, 1995) indicated that adult learners prefer to apply a deeper, comprehension-focused approach to learn, whereas traditional learners often apply a more surface-level and assessment-focused way to study. Additionally, adult learners have different learning strategies including help-seeking behaviors and acquisition and utilization of skills compared to traditional learners (Dweck, 1986; Flippo, 2001). Different than their younger counterparts, adult learners often employ different techniques to make up for the constraints time of school activities, and they pay more attention to in-class learning experiences, and build better relationships with faculty.

Researchers noted that student academic performance and outcomes are often influenced by their achievement goals, and their various goals may lead to different SRL strategies, which may also affect their academic performance (Coutinho, 2007; Pintrich & De Groot, 1990; Wentzel, Wigfield, & Miele, 2009). Therefore, it is assumed that adult learners apply different achievement goal orientations and SRL strategies that manage both personal and environmental resources to achieve their academic goals compare to traditional learners. As a result, it is necessary to discover the relationship between goal orientations and SRL strategies of these two student groups in order to efficiently assist and support diverse learners during their learning process.

Problem Statement

Previous studies investigated the relationship between achievement goal orientations and self-regulated learning strategies among college students. Although one study examined whether students' SRL strategies predicted goal orientations (Ali, Hatala, Gašević, & Winne, 2014), research has rarely explored whether the various achievement goal orientations led to different SRL strategies. Furthermore, learners' management of resources during their learning process have rarely been examined. However, the management of resource is a significant aspect during individuals' learning process and would influence their academic performance. Some of the research explored goal-orientations and self-regulated strategies among adult learners; however, they have not compared adult and traditional learners.

The purpose of this study was to examine achievement goal orientations and self-regulated learning strategies, focusing on resource management strategies of adult and traditional learners. The difference between achievement goal orientations and resource management strategies of the two groups were addressed. Also, this research examined the relationship of these two sets of variables, and to further explore how achievement goals and resource management strategies differ between adult learners and traditional students.

Research Questions

This study investigated the following research questions:

1) What are the differences of achievement goal orientations between adult and traditional learners?

2) What are the differences of resource management strategies between adult and traditional learners?

3) What is the relationship of achievement goal orientations and resource management strategies of adult leaners?

4) What is the relationship of achievement goal orientations and resource management strategies of traditional learners?

5) What is the relationship of goal orientations and the resource management strategies between adult and traditional learners?

Theoretical Frameworks

Elliot and McGregor's (2001) achievement goal theoretical framework and Pintrinch and colleagues' (1991) self-regulated learning conceptual framework described below are provided as the theoretical frameworks for the current study.

Achievement Goal Theoretical Framework

Goal orientation theory originated in the early 20th century, and has became a significant theory in academic motivation research after 1985. In general, goal orientation theory examines the reasons that motivate students to engage in their academic work. According to Dweck and Elliott (1983), goals fall in two major areas: mastery goals and performance goals. Students pursing mastery goals try to truly understand or master specific knowledge. These students are interested in self-improvement and intend to compare their current level of accomplishment to their previous achievement. However, students who are performance-oriented tend to demonstrate their ability compared to their classmates. Students pursing performance goals are interested in competition, demonstrating their competence, and outperforming others, and they use their peers as points of comparison rather than themselves.

Elliot and McGregor (2001) noted that mastery and performance goals are each divided into approach and avoid goals. Students pursing mastery approach goals are interested in truly

mastering an academic task, while mastery avoidance-goal oriented students are trying to avoid misunderstanding the academic task. Meanwhile, students hold performance approach goals prefer to demonstrate that they are more competent than other students, while performance avoidance-goal oriented students are interested in avoiding to appear incompetent compared to their peers regarding mastering an academic task.

Self-Regulated Learning Conceptual Framework

According to Zimmerman (2001), self-regulated learning refers to students' self-generated thoughts and behaviors that orient them systematically toward the achievement of their goals. Zimmerman (2001) noted that one feature of self-regulated learning theory is that it focuses on learners being proactive and exerting control on their learning processes and environments, and self-regulated learners often proactively develop their skills and strategies rather than passively taking in information. Schunk (2009) described that "self-regulated learning is a cyclical process in which learners set goals, implement strategies, monitor their learning progress, and modify their strategies if they believe they are not effective during the learning procures" (Theories of Self-Regulated Learning section, para 1). Another feature of self-regulated learning is an emphasis on student motivation. In other words, students approach learning with goals, and they self-regulate their learning actions driven by motivational factors such as their commitment to their goals, their beliefs about the likely outcomes of their behaviors, and their self-efficacy of their capabilities to learn. Self-regulated learners apply resources, develop plans, and select potential strategies while conducting academic actions.

Based on a general cognitive view of motivation and learning strategies, Pintrich and colleagues (1991) developed a conceptual framework to assess college students' motivational orientations and their use of different learning strategies for a college course. There were four

resource management strategies listed among the learning strategies provided by this framework: 1) time and study environment, which refers to how learners manage, schedule, and plan their study time, 2) effort regulation, which refers to how learners' commitment of accomplishing their study goals, 3) peer learning, which refers to how learners are willing to collaborate with their peers, and 4) help seeking, which refers to how learners are willing to seek help from their peers and instructors.

Significance of the Study

Learners learn using a variety of goals, which may lead to the adoption of different learning strategies during their learning process, and the adoption of goals and learning strategies varies from individual to individual. Studies reported adult and traditional learners often hold different goal orientations, and they usually adopt various learning strategies during their learning process (Dweck, 1986; Flippo, 2001). It is assumed that adult and traditional learners may have a different commitment of completing the study goals, manage study time differently, and apply distinct strategies regarding collaborating with peers and seeking help from classmates and instructors.

Many postsecondary classrooms contain a mix of younger students and adult learners (Allen, Withey, Lawton, & Aquino, 2016). and the change of student population has brought a greater emphasis on the difference of particular needs, characteristics, lifestyles, motivations, enrollment patterns, and unique roles, as well as responsibilities between adult and traditional learners (Kilgore & Rice, 2003). As a consequence, this study aims to explore the differences of achievement goal orientations and resource management strategies between adult and traditional learners. Previous studies have focused on the relationship of goals and cognitive and metacognitive strategies. This study compared the achievement goals and resource management

strategies of adult learners and their younger counterparts. This study also provides suggestions for education professionals to better understand the differences of these two student groups, and to assist various learners efficiently based on their achievement goals and learning strategies. Lastly, this study contributes to the literature regarding adult learning, achievement goals, and self-regulated strategies.

Limitations of the Study

First, this study involves the use of self-reported questionnaire. Students may not thoroughly understand their achievement goal orientations and resource management strategies, while some learners may adopt two or more goal orientations. Second, this study excluded participants who were younger than 25 years old and did not have an unbroken linear academic path, and those who were 25 or older and had an unbroken linear path in the education system. Third, information was collected from participants in a large southeastern research institution, which may not represent all adult and traditional learners in the U.S. Furthermore, the present study only considers student status as the independent variable, while learners' gender and major may influence their adoption of achievement goal orientations and resource management strategies. Finally, since few studies have investigated whether achievement goals could predict resource management strategies, and how these variables differ between these two student groups, the current study is limited by available resources for relevant reference.

Definition of Terms

Definitions of terms and theoretical considerations that are important in understanding this study are presented.

Adult learners — students who are 25 years of age and older are typically considered as adult learners (Ely, 1997; Kasworm, Polson, & Fishback, 2002). The present study defined adult

learners as those who are 25 years of age or older, and did not follow an unbroken linear path through the education system (Bye et al., 2007; Crompton & Tan, 2002).

Approach goals — goals that center on "achieving positive or desirable possibilities" (Morris & Kavussanu, 2009, p. 187).

Avoidance goals — goals that focus on "avoiding negative or undesirable possibilities" (Morris & Kavussanu, 2009, p. 187).

Effort Regulation — a commitment of completing one's study goals (Pintrich et al., 1991).

Help Seeking — students' abilities of managing supports from both peers and instructors (Pintrich et al., 1991).

Mastery approach-goal orientation — students focus on learning and understanding the course materials (Coutinho, 2007; Elliot & McGregor, 2001).

Mastery avoidance-goal orientation — students emphasize on not losing one's skills or competence (Coutinho, 2007; Elliot & McGregor, 2001).

Mastery goals — students focus on learning and mastery of content (Coutinho, 2007; Elliot & McGregor, 2001).

Peer Learning — an individual's willingness to collaborate with his or her peers (Pintrich et al., 1991).

Performance approach-goal orientation — students focus on outperforming others (Coutinho, 2007; Elliot & McGregor, 2001).

Performance avoidance-goal orientation — students are oriented toward not looking incompetent to others (Coutinho, 2007; Elliot & McGregor, 2001).

Performance goals — students focus on demonstrating their competence relative to other students (Coutinho, 2007; Elliot & McGregor, 2001).

Self-Directed learning — "a process in which individuals take the initiative, with or without the help of others, in diagnosing their learning needs, formulating their learning goals, identifying human and material resources for learning, choosing and implementing appropriate learning strategies, and evaluating learning outcomes" (Knowles, 1975, p. 18).

Self-Regulated Learning — a means of raising students' achievement outcomes, and it results from learners' self-generated thoughts and behaviors that are oriented systematically toward the attainment of their goals (Zimmerman, 2001)

Time and Study Environment — scheduling, planning, and managing one's study time (Pintrich et al., 1991).

Traditional learners —students who are typically aged 18-22 years old and younger, and they usually follow an unbroken linear path through the education system (Bye et al., 2007; Crompton & Tan, 2002). The present study defined the traditional learners as those whose age ranges from 18-24 and follow an unbroken linear path through the education system.

Organization of the Study

This dissertation is divided into five chapters. Chapter I contains an introduction to the study, statement and purpose of the problem, theoretical frameworks, significance of the study, research questions, limitations of the study, definition of terms, and the organization of the study. Chapter II reviews related studies addressing the research questions. Chapter III describes the methods and data analysis of the study. Construction of the survey instruments, sample selections, administration of the instruments, and methods of data interpretation are also discussed in Chapter III. Chapter IV presents demographic information of participants and

survey results. The survey results addressed the achievement goal orientations and the resource management strategies of adult and traditional learners, as well as the relationship these two sets of variables of these two student groups. Furthermore, results illustrate how the achievement goal orientations and the resource management strategies differentiate adult and traditional learners. Finally, Chapter V provides implications for theory and practice, as well as suggestions for future studies.

CHAPTER II: REVIEW OF LITERATURE

Overview

The review of the literature provides two frameworks for the present study by discussing theories of achievement goals and self-regulated learning (SRL) during students' learning process. The theoretical framework of achievement goals was first discussed, and the conceptual framework of self-regulated learning was then introduced, focusing on resource management strategies. Finally, the relationships between achievement goal orientations and resource management strategies were presented.

Problem Statement

Previous studies investigated the relationship between achievement goal orientations and self-regulated learning strategies among college students. Although one study examined whether students' SRL strategies predicted goal orientations (Ali, Hatala, Gašević, & Winne, 2014), research has rarely explored whether the various achievement goal orientations led to different SRL strategies. Furthermore, learners' management of resources during their learning process have rarely been examined. However, the management of resource is a significant aspect during individuals' learning process and would influence their academic performance. Some of the research explored goal-orientations and self-regulated strategies among adult learners; however, they have not compared adult and traditional learners.

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Goal Orientation Theory

Goal orientation theory is a social-cognitive theory of the achievement motivation, and it examines the reasons why learners engage in their academic work (Anderman, 2015). According to this theory, it assumes that "goals are cognitive representations of what individuals are trying to accomplish and their purposes or reasons for doing that task" (Pintrich, 2000a, p. 94).

Furthermore, goal constructs represent a combination of general goals or purposes, and certain criteria or targets by which performance will be judged (Pintrich, 2000a). Researchers

suggested that goal setting is a strategy to motivate task performance and it produces a positive influence on individuals' intrinsic motivation for doing a task (Harackiewicz & Sansone, 1991; Locke & Latham, 1990; Pintrich, 2000a; Vallerand, Deci, & Ryan, 1985). In addition, setting goals is noted to affect positively on learners' learning and their academic persistence (Curtis, 2000; Fuchs, Fuchs, & Deno, 1985; Johnson, Graham & Harris, 1997; Tinto, 1993).

Goal setting is usually predicted by goal orientations, which is a disposition towards developing or demonstrating ability in achievement situations (DeGeest & Brown, 2011; Dweck, 1986). Dweck (1986) described that goal orientation refers to "ideas that achievement goals are not just simple target goals or more general goals, but represent a general orientation to the task that included a number of related beliefs about purposes, competence, success, ability, efforts, errors, and standards" (p. 94). Researchers have investigated ways of measuring goal orientations. For instance, Conley and Pintrich (2004) introduced a number of key issues in the measurement of goal orientations, and they focused on the fundamental nature of the achievement goal orientation construct.

Table 1 provides the commonly used goal orientation inventories with sample items for each of the goal orientations being assessed (Kaplan & Maehr, 2007).

Table 1

Self-Report Measures of Goal Orientations

Source/Reference	Goal scales included	Age of participants	Goal orientation scales item samples
Archer, 1994	Mastery; performance (performance-approach); alienation (work avoidance)	College students	"When did you feel most successful..." "When a lecture or tutorial made you think about things";" When you got a higher mark than other students"; "when you did almost no work and got away with it."

Button et al., 1996	Learning (mastery); performance	College students and working adults	“I prefer to work on tasks that force me to learn new things”; “I feel smart when I do something without making any mistakes.”
Elliot and Church, 1997	Mastery; performance-approach; performance-avoidance	College students	“It is important for me to understand the content of this course as thoroughly as possible”; “It is important to me to do better than the other students”; “My fear of performing poorly in this class is often what motivates me.”
Midgley et al., 1998: Patterns of adaptive learning survey (PALS)	Task, ability (performance)-approach, ability (performance)-avoid, extrinsic	Elementary and middle school students	"An important reason I do my work is because I like to learn new things”; “I want to do better than other students in my math class”; “One of my main goals in math is to avoid looking like I can’t do my work”; The main reason I do my work is because we get grades.”
Miller et al., 1993: Attitude toward statistics	Learning(mastery), performance	College students	“One of my primary goals in this course was to improve my knowledge”; “One of my primary goals in this course was to do better than others.”
Nicholls et al., 1985	Task (mastery), ego (performance)-social, work-avoidance	Ninth and 12th grade high school students	"I feel most successful if-: “Something I learned really makes sense”; “I show people I’m smart”/”I work with friends”/”the teacher likes my work”; “I get out of work.”
Pintrich et al., 1993: Motivated Strategeis for learning questionnaire (MSLQ)	Intrinsic (mastery), extrinsic (performance-approach and extrinsic)	College students	“Even when I do poorly on an exam I try to learn from my mistakes”; “I like to work on difficult problems and tasks to show how smart I am”
Roedelet al., 1994	Learning (mastery), performance	College students	“I enjoy challenging school assignments”; “I like others to think I know a lot”

Skaalvik, 1997	Mastery, self-enhancing ego orientation (performance-approach), self-defeating ego orientation (performance-avoidance), avoidance orientation (work avoidance)	Middle school students	"At school it is important for me to learn something new"; I always try to do better than other students in my class"; "At school it is important for me to avoid looking stupid"; At school I try to get away with doing as little as possible."
Treasure and Roberts, 1994: Perception of success questionnaire (in sport)	Task (mastery); orientation; ego (performance) orientation	Young adolescents	"What is doing well in school: "Winning," "Trying hard," "Doing as well as or better than others," "Showing personal improvement." Why do you work hard at sport: "wanting to win," "wanting to learn new skills."
Vandewalle, 1997: Work domain goal orientation instrument	Learning goal orientation (mastery); prove orientation (performance-approach); avoid orientation (performance-avoidance)	College students from various majors	"I am willing to select a challenging work assignment that I can learn a lot from"; "I prefer to work on projects where I can prove my ability to others"; "I prefer to avoid situations at work where I might perform poorly."

Achievement Goal Orientation Framework

The achievement goal orientation theoretical framework was developed within a social-cognitive framework, and it has been widely used to investigate individuals' academic achievement, adjustment, and well-being (Aspinwall, & Taylor, 1997; Midgley, Arunkumar, & Urdan, 1996; Nurmi, Salmela-Aro, & Ruotsalainen, 1994). The achievement goal orientation framework indicates that learners adopt specific purposes when they engage in the academic work, which results in motivation and achievement-related behaviors (Ames, 1988). Several

dimensions are comprised of achievement goal orientations (Anderman & Maehr, 1994), such as attributions, affect, beliefs about intelligence, effort, success and failure. However, researchers noted that goals are different from dimensions including attributions, theories of intelligence, success, failure, and affective reactions (Pintrich, Conley, & Kempler, 2003). Some researchers (Duda & Nicholls, 1992; Nicholls, Patashnick, & Nolen, 1985; Nolen & Haladyna, 1990) defined achievement goal orientations as the standards that individuals used to judge success, while other studies noted that the achievement goal orientations as the reasons that motivate students to engage in achievement-related behaviors.

Goal Orientation Dichotomy: Mastery and Performance

There are different models that have investigated achievement goal orientations (Ames, 1992; Pintrich, 2000a). Some models assume that personal and individual characteristics can strongly affect achievement goals (Dweck & Leggett, 1988), some consider goals are more a function of contextual factors, such as classroom structures (Ames, 1992). Several models assume setting goals is an approach to success, as well as judgments of competence, ability, and effort flow from a certain goal (Nicholls, 1990), whereas others consider judgments of ability would motivate individuals to adopt certain goals (Dweck & Leggett, 1988). These models have similar constructs but use different labels and vary in their definition of goals or goal orientations (Pintrich, Conley, & Kempler, 2003). Researchers have different ideas toward the role of multiple goals and their role in motivating individuals (Pintrich, Conley, & Kempler, 2003).

Two orientations are generally identified within the achievement goal orientation framework: mastery and performance goals (Ames, 1992). An individual is usually motivated by these two orientations and it depends on whether their goals are to develop their abilities (mastery) or to demonstrate their abilities (performance). Additionally, these orientations “are

assumed to reflect an organized system, theory, or schema for approaching, engaging, and evaluating one's performance in an achievement context" (Pintrich, 2000a, p. 94).

The mastery goal orientation is "a desire to develop competence and increase knowledge and understanding through effortful learning" (Murphy & Alexander, 2000, p. 28). Mastery goal orientation is similar to the terms learning goal orientations (Dweck, 1986; Dweck & Leggett, 1988) and task goal orientations (Nicholls, 1984). On the contrary, performance goal orientation is "a desire to gain favorable judgments…of one's competence" (Murphy & Alexander, 2000, p, 28). Performance goal orientation can be used interchangeably with terms such as self-enhancing goal orientation and ego-involved goal orientation (Nicholls, 1984; Skaalvik, 1997).

Mastery goal orientation. Mastery goal orientation refers to the belief that success is the result of effort and use of appropriate strategies. Researchers consider mastery goal orientation correlates positively with learners' performance, and those who use mastery-oriented goals often adopt a high level of intrinsic motivation during their learning process (Butler, 1987; Covington, 1999). Individuals with mastery goal orientation are always trying to develop their understanding and competence regarding a task by exerting a high level of effort. Pintrich and colleagues defined mastery goal orientation as "a focus on developing competence, learning, and understanding the task and the use of self-referenced standards of improvement" (Pintrich, Conley, & Kempler, 2003, p. 321). Ames (1992) noted that students with mastery goal orientation prefer applying deep information processing strategies such as developing multiple examples of concepts, and they are considered to be self-regulated learners.

Mastery goal orientation also promotes adaptive patterns of learning, which lead to a high level of academic achievement and adjustment (Pintrich, 2000a). Students who hold mastery goal orientation are often more intrinsically motivated to learn, use deeper cognitive strategies,

and persist on overcoming challenge and failure (DeShon, & Gillespie, 2005; Payne, Youngcourt, & Beaubien, 2007; VandeWalle, Cron, & Slocum, 2001). Similarly, studies demonstrated that learners with mastery goal orientation are often engaging in difficult and challenging tasks (Dweck, 1986; Dweck & Leggett, 1988; Elliot & Dweck, 1988), and they would spend time on those tasks (Schunk ,1996). Meanwhile, these students usually hold positive attitudes toward classes, have a strong interest in class, put great effort in study, and apply strategies during their learning process (Archer, 1994; Church, Elliot, & Gable, 2001; Ames & Archer, 1988). Additionally, studies indicated that mastery goal orientation is a positive predictor of learners' academic performance (Bouffard, Boisvert, Vezeau & Larouche, 1995; Church et al., 2001; Elliot & McGregor, 2001).

Performance goal orientation. Performance goal orientation refers to the belief that success is the aftermath of superior ability and of surpassing one's peers or to outperform others (Cellar, Stuhlmacher, Young, Fisher, Adair, Haynes, Twichell, Arnold, Royer, Denning, & Riester, 2011; Dweck, 1986; Nicholls, 1984). In other words, performance goal orientation is "an orientation to demonstrating competence, being superior to others, and the use of social comparative or normative standards" (Pintrich, Conley, & Kempler, 2003, p. 321).

Performance goal orientation has been considered to relate negatively with learners' academic performance. To be more specific, performance goal orientation has a negative influence and may lead to students' avoidance of challenge and poor achievement outcomes (DeShon, & Gillespie, 2005; Payne, Youngcourt, & Beaubien, 2007; VandeWalle, Cron, & Slocum, 2001). Research found that learners with a strong performance goal orientation usually have a low level of cognitive engagement and would adopt behaviors such as gaining social recognition, pleasing the teacher, or avoiding work (Meece, Blumenfeld, & Hoyle 1988). These

students also attribute failures to fixed ability or task difficulty instead of evaluating the effort they put into a task (Ames, 1984). Different than mastery goal-oriented students, performance goal-oriented learners often hold a negative attitude toward classes (Ames & Archer, 1988).

Mastery goal orientation motivates individuals to increase their competency and achieving mastery over the task, whereas performance goal orientation urges individuals to emphasis on gaining or maintaining favorable judgments of their competence, and to avoid negative judgments (Elliot & Dweck, 1988). Researchers concluded that a mastery goal orientation usually leads to adaptive responses when facing academic difficulties, while performance goal orientation causes maladaptive behaviors (e.g., challenge avoidance and learning helplessness), and individuals would be concerned about their competence evaluation instead of competence gaining (Roedel, Schraw & Plake, 1994). Campen (2010) concluded that "measuring an individual's mastery and performance orientations/goals provides researchers with a measure of an individual's ability to effectively adapt, or failure to adapt, to their situation and achieve their goals" (p. 21).

The two-factor model identify what it is was often applied and tested by researchers. However, results show that this model did not provide an acceptable fit (Jagacinski & Duda, 2001), which leads to the creation of a three-factor model.

Goal Orientation Trichotomy: Mastery, Performance-Approach, Performance-Avoidance

Approach and avoidance are two dimensions that can be considered in a three-factor model. Several studies indicated that both approach and avoidance orientations would show effort, positive strategy utilization, and academic success (Ames & Archer, 1988; Bouffard et al., 1995), but an approach-avoidance distinction had not been considered (Elliot & Harackiewicz, 1996). In 1997, Elliot and other scholars suggested that performance goal orientation needs to be

divided into approach and avoidance performance goal orientations since these two types of performance goals may result in different outcomes (Elliot, 1997; Elliot & Church, 1997; Elliot & Harackiewicz, 1996). Therefore, a trichotomous model of achievement goal orientations was needed.

Performance approach-goal oriented students intend to gain positive judgments of their competence in relation to other people, while performance avoidance-goal oriented learners aim to avoid negative judgments of their competence (McCollum, 2004). For example, performance approach-goal oriented learners try to "get better grades than their peers did", while performance avoidance-goal oriented students "aspired not to receive lower grades than classmates did" (McCollum & Kajs, 2007, p. 48).

These two types of performance goal orientations have different implications for motivation, cognition, and achievement (Pintrich & Schunk, 2002). Individuals can be positively motivated to outperform other students and demonstrate their competence and superiority, while they can also be negatively motivated to attempt to avoid failure and showing that they lack the skills or knowledge of mastering an academic task compared to their peers (Elliot, 1997; Elliot & Church, 1997; Elliot & Harackiewicz, 1996). Other researchers demonstrated similar distinction of approach and avoidance forms of performance goals (Midgley et al., 1996; Skaalvik, 1997; Wolters, Yu, & Pintrich, 1996).

Performance approach-goal orientation. Midgley et al. (2000) indicated that performance approach-goal orientation motivates learners to demonstrate their competence with others, and they may strive to gain positive external evaluation or factorable judgments or public recognition to prove that they are better in mastering an academic task than their classmates (Elliot & Thrash 2001; Midgley et al., 2000). Performance approach-goal orientation shares

several similarities with the mastery goal orientation, such as cognition, affection, and behavioral consequences. Yet, performance approach-goal orientation aims to demonstrate their ability, gain public recognition, and obtain better grades than others. Furthermore, performance goal-approach orientation is often linked with adaptive and maladaptive patterns of learning (Midgley Midgley, Maehr, Hruda, Anderman, Anderman, Gheen, Kaplan, Kumar, Middleton, Nelson, Roeser, & Urdan, 2000), and it has either a negative influence or no effect on positive thoughts (McGregor & Elliot, 2002), feelings (Harackiewicz et al., 2002), and behaviors (Wolters, 2003) when facing challenges and difficulties. Learners with performance approach-goal orientation often prefer to adopt deep processing learning strategies and they spend great effort in learning (Elliot, McGregor, & Gable, 1999).

Performance avoidance-goal orientation. Performance avoidance-goal orientation refers to one's intention of avoiding appearing incompetent or incapable (Meece et al., 1988). In other words, individuals with this orientation aim to avoid appearance of lacking the skill or knowledge to master a task compared to others. Instead of developing new knowledge, or outperforming their peers, learners with performance avoidance-goal orientation try to avoid negative external evaluation (Middleton & Midgley, 1997). Researchers noted that performance avoidance-goal orientation is associated with maladaptive patterns of learning (Midgley et al., 2000). In other words, learners that hold this orientation often withdraw from difficult challenges but pick easier tasks, and they consider failures as an evidence of their incompetence. Utman (1997) found that performance avoidance-goal orientation often leads to negative performance and low levels of achievement on learners' academic work. Meanwhile, these students have a feeling of incompetence and they are afraid of failure (Elliot, 1999; Elliot & Church, 1997). Performance avoidance-goal orientated learners lack intrinsic motivation (Elliot & Harackiewicz,

1996), and they usually spend little effort and persistence during their learning process (Elliot et al., 1999). Additionally, performance avoidance-goal oriented students often prefer to use surface processing learning strategies (Elliot McGregor, & Gable, 1999).

According to studies using the goal orientation trichotomy, a low level of achievement was correlated with performance avoidance-goal orientation, while performance-approach goal orientations and mastery goal orientation were associated with academic success. This model was examined through path analysis and factor analysis (Button, et al., 1996; Jagacinski & Duda, 2001; Midgley et al., 1996; Nicholls et al., 1985), and received great support (Elliot & Church, 1997; Smith, Duda, Allen, & Hall, 2002; Middleton & Midgley, 1997). However, later studies developed a four-factor model of achievement orientations, which was demonstrated as the most reliable model to examine learners' achievement goal orientations.

Four-factor Model of Achievement Orientation

A 2 x 2 model of achievement goal orientations was developed and has become widely used (Elliot, 1999; Elliot & McGregor, 2001). This conceptualization of achievement orientation has added an additional factor, which broke down the traditional mastery and performance orientations into four distinct approach and avoidance components: mastery-approach, mastery-avoidance, performance-approach, and performance-avoidance (Button, Mathieu, & Zajac, 1996; Elliot & Church, 1997). Elliot and colleagues (Elliot & Church, 1997; Elliot & Harackiewicz, 1996) updated the dichotomous achievement goals model (i.e., mastery-performance dichotomy model) to a trichotomous model by differentiating the performance goal in to performance-approach and performance-avoidance orientations, then proposed a four-factor model later on (i.e., mastery-approach goals vs. mastery-avoidance goals vs. performance-approach goals vs.

performance-avoidance goals), which fully incorporates the approach-avoidance distinction (see Figure 1).

The 2x2 Achievement Goal Framework
Adapted from Elliot & McGregor (2001); Pintrich & Schunk (2002)

		Standards for Evaluating Performance	
		Mastery orientation	*Performance orientation*
Valence of Competence	*Positive-Approaching success*	Mastery-approach goal Focus on mastering task, learning, understanding Use of standards of self-improvement, progress, deep understanding of task	Mastery-avoidance goal Focus on avoiding misunderstanding, avoiding not learning or not mastering task. Use of standards of not being wrong, not doing it incorrectly relative to task
	Negative-Avoiding failure	Performance-approach goal Focus on being superior, being the smartest, best at task in comparison to others. Use of normative standards such as getting best grades, being top or best performer in class	Performance-avoidance goal Focus on avoiding inferiority, not looking stupid in comparison to others. Use of normative standards of not getting the worst grades, being lowest performer in class

Figure 1 The 2 x 2 Achievement Goal Framework

Mastery approach-goal orientation. Mastery approach-goal orientation refers to learners' concentration of learning and understanding the course materials or mastering academic tasks (Coutinho, 2007; Elliot & McGregor, 2001). Mastery approach-goal orientation is conceptualized to share similar cognitive, affective, and behavioral consequences to mastery goal orientation. In other words, individuals with mastery approach-goal orientation are striving to develop their understanding and competence towards an academic task, and they focus on developing competence, learning, and understanding a specific task in order to improve themselves (Pintrich, Conley, & Kempler, 2003). Mastery approach-goal orientation motivates

students to master an academic task, while learners with mastery avoidance-goal orientation are more interested in avoiding misunderstanding an academic task.

Mastery avoidance-goal orientation. Leaners who hold mastery avoidance-goal orientations emphasize avoiding losing their skills or competence in mastering an academic task (Coutinho, 2007; Elliot & McGregor, 2001). Studies indicated that individuals with this orientation strive to avoid misunderstanding or failing to learn course materials, and not to make any mistake or doing anything wrong or incorrectly (Flett, Hewitt, Blankstein, & Gray, 1998). Learners with this orientation do not compete with others, instead, they focus on not to perform worse than before, not stagnating, or not to lose their skills, abilities, or memories (Elliot & McGregor, 2001).

Learners who hold mastery approach goal-orientation focus on learning and understanding the course materials as much as possible, and they overcome challenges through hard work and to increase their competence at a task (Coutinho, 2007; Elliot & McGregor, 2001), while mastery avoidance-goal oriented learners are more interested in avoiding losing their competence or failing to learn as much as possible (Coutinho, 2007; Elliot & McGregor, 2001). Additionally, performance approach-goal orientated learners focus on demonstrating their abilities and outperforming others (Coutinho, 2007; Elliot & McGregor, 2001), while performance avoidance-goal orientated learners strive to avoid appearing they lack the skill or knowledge in mastering an academic task than their peers by cultivating an appearance of effortless achievement (Coutinho, 2007; Elliot, 1999; Elliot & McGregor, 2001).

This model has been widely used and has been demonstrated to be a reliable and valid framework (Adesope, Gress, & Nesbit, 2008; Barron, Finney, Davis & Owens, 2003; Cury, Elliot, Da Fonseca & Moller, 2006; Harackiewicz, Barron, Pintrich, Elliot, & Thrash, 2002;

Midgley, Kaplan & Middleton, 2001). For example, Pastor, Barron, Miller, and Davis (2007) examined whether more complex models of goal orientations are better able to predict achievement-related outcomes. In order to achieve this purpose, Pastor et al. (2007) used latent profile analysis (LPA) with 2-, 3-, and 4-factor conceptualizations of goal orientations to test the purpose of their study. A total number of 4,158 college students participated in the study. All participants completed a modified version of Elliot and McGregor's (2001) achievement goal questionnaire, which evaluates a 4-factor conceptualization of achievement goals. For comparison purposes, students were also required to complete other surveys that assess 2- and 3-factor conceptualization of achievement goals. Their results supported the idea that more complex conceptualizations of goal orientations were necessary and needed to examine related research questions. Specifically, they concluded that "when the avoidance goal orientations were included in the 3- and 4-factor models as cluster indicators, greater distinction among the clusters in motive to avoid failure was obtained" (Pastor et al., 2007, p. 39).

Achievement Goal Orientations and Learners

Wolters (2004) investigated the relationship between achievement goal theory and students' motivation, cognitive engagement, and achievement among 525 junior high school students. Several instruments were included in Wolters' survey such as mastery structure, personal motivational beliefs (i.e., performance approach-goal orientation, performance avoidance-goal orientation), motivational engagement, and strategy use. The results of this study indicated that mastery structure and mastery orientation were associated with adaptive outcomes in all areas. Findings provided insight into the relations between goal structures and goal orientations, and shown evidence that goal structures and goal orientations can predict students' motivational, cognitive, and achievement outcomes.

Achievement goals are also significant predictors of students' success in college career. Harackiewicz, Barron, Tauer, and Elliot (2002) conducted a longitudinal study to investigate the role of achievement goals, combined with the ability and high school performance to predict academic success among students' college careers. Harackiewicz et al. (2002) first explored which variables can predict students' interest and performance in an introductory course that during their first semester in college. They examined students' achievement goals for the class two to three weeks into the semester and students' interests in psychology and enjoyment of the lectures near the end of the semester, as well as obtaining final grades in the course. Students' SAT or ACT scores and high school achievement records were also included in the study. Harackiewicz and colleagues then followed students till they graduated in order to investigate continued interest in related subsequent classes, such as their subsequent course choice of academic major, and grades. A total number of 471 (152 male and 319 female) students were included in the survey. The Work and Family Orientation Questionnaire (Spence & Helmreich, 1983) was applied as a measure of achievement motivation for all freshmen. Results showed that achievement goals, ability measures, and prior high school performance contributed unique variance in predicting initial and long-tem outcomes, and these three variables linked to diverse educational outcomes. Findings also revealed that mastery goal orientations predicted continued interest, while performance approach-goal orientation forecasted academic performance. The ability and prior high school performance also predicted their academic performance. In summary, this study suggested that "both mastery and performance-approach goals have positive and complementary consequences for motivation and performance in college courses over the course of students' academic careers" (p. 574).

Furthermore, achievement goals have been examined within the classroom environment. Church, Elliot, and Gable (2001) investigated the relationship between undergraduates' perceptions of the classroom environment, adoption of achievement goals for the course, and their graded performance and intrinsic motivation. Several classroom environment variables were examined including lecture engagement, evaluation focus, and harsh evaluation. Two hundred and eighty-eight (199 men and 89 women) undergraduates participated in the study. The Perceived Classroom Environment (Ames & Archer, 1988; Frasier & Fisher, 1986; Winston, Vahala, Nichols, & Gillis, 1994) and achievement goals (Elliot & Church, 1997) were used as survey instruments. Findings indicated that mastery goals associated with the presence of lecture engagement and the absence of an evaluation focus and harsh evaluations. While performance approach-goal orientation was linked to the presence of evaluation focus, and performance avoidance-goal orientation was associated with the presence of evaluation focus and harsh evolution. Moreover, results suggested that the classroom environment influenced the adoption of achievement goals, and the adoption of achievement goals in return affected students' graded performance and their intrinsic motivation.

The majority of previous studies examined goal orientations of traditional college students, questions have raised regarding whether adult learners adopt different goal orientations compared to traditional learners. Based on Houle's typology, Knowles provided several assumptions of adult learners' orientation to learn compared to that of young learners.

In contrast to pedagogy, which is often identified as the art and science of teaching children or young students, Knowles (1970) defined andragogy as the art and science of helping adult learners learn. Differ than teaching children or young students, who consider education as "a process of acquiring subject-matter content" (p. 44), Knowles compared the assumptions of

pedagogy and andragogy and indicated that adult learners' orientation to seek knowledge is that they experience a need to learn and study the certain knowledge or skills. In addition, they desire to learn knowledge because they believe education is a process to achieve their full potential in life.

Table 2

A Comparison of the Assumptions of Pedagogy and Andragogy (Knowles, 1970)

A Comparison of the Assumptions of Pedagogy and Andragogy

Regarding:	Pedagogy	Andragogy
Concept of the learner	The role of the learner is, by definition, a dependent one. The teacher is expected by society to take full responsibility for determining what is to be learned, when it is to be learned, how it is to be learned, and if it has been learned.	It is a normal aspect of the process of maturation for a person to move from dependency toward increasing self-directedness, but at different rates for different people and in different dimensions of life. Teachers have a responsibility to encourage and nurture this movement. Adults have a deep psychological need to be generally self-directing, although they may be dependent in particular temporary situations
Role of learners' experience	The experience learners bring to a learning situation is of little worth. It may be used as a starting point, but the experience from which learners will gain the most is that of the teacher, the textbook writer, the audiovisual aid producer, and other experts. Accordingly, the primary techniques in education are transmittal techniques-lecture, assigned reading, AV presentations.	As people grow and develop they accumulate an increasing reservoir of experience that becomes an increasingly rich resource for learning-for themselves and for others. Furthermore, people attach more meaning to learnings they gain from experiences than those they acquire passively. Accordingly, the primary techniques in education are experiential techniques-laboratory experiments, discussion, problem-solving cases, simulation exercises, field experience, and the like .

Readiness to learn	People are ready to learn whatever society (especially the school) says they ought to learn, provided the pressures on them (like fear of failure) are great enough. Most people of the same age are ready to learn the same things. Therefore, learning should be organized into a fairly standardized curriculum, with a uniform step-by-step progression for all learners .	People become ready to learn something when they experience a need to learn it in order to cope more satisfyingly with real-life tasks or problems. The educator has a responsibility to create conditions and provide tools and procedures for helping learners discover their "needs to know." And learning programs should be organized around life-application categories and sequenced according to the learners' readiness to learn .
Orientation to learning	Learners see education as a process of acquiring subject matter content, most of which they understand will be useful only at a later time in life. Accordingly, the curriculum should be organized into subject matter units (e.g., courses) which follow the logic of the subject (e.g., from ancient to modern history, from simple to complex mathematics or science). People are subject-centered in their orientation to learning .	Learners see education as a process of developing increased competence to achieve their full potential in life. They want to be able to apply whatever knowledge and skill they gain today to living more effectively tomorrow. Accordingly, learning experiences should be organized around competency-development categories. People are performance-centered in their orientation to learning .

Eppler and Harju (1997) investigated the relationship between achievement goals and academic performance among traditional and adult college learners, and results have shown that adult learners endorsed a learning goal orientation significantly more than traditional learners did. Additionally, the older the adult students were, the more frequently they adopted learning goals and were more committed to those goals compared to their younger counterparts.

Morris, Brooks, and May (2003) investigated the achievement goal orientation between 103 undergraduate traditional students and adult learners in a small northeastern liberal arts college. A questionnaire was distributed and results indicated that these two student groups adopted different achievement goal orientations. To be more specific, adult learners often endorsed an achievement goal orientation, utilized task-oriented coping strategies, and reported higher grade point averages. Morris et al. (2003) also concluded that students' intentions of learning the knowledge for its own sake increased as they grew older. Similarly, Hoyert and O'Dell (2009) examined the relationship between goal orientations and grades among 369 traditional students and 71 adult learners, and the study revealed that older students intended to obtain higher grades than younger peers. Meanwhile, results indicated that adult learners were mastery achievement goal-oriented than their traditional counterparts.

Self-Regulated Learning Strategies

Learning Strategies

Individuals are involved differently which influences their use of learning strategies. Cognitive learning theories define learners as active participants in the learning process rather than passive recipients. Individuals not only receive information from teachers, but they also process information using mental activities (Hosenfeld, 1976). Researchers noted that the purpose of applying strategies in learning is to "affect the learner's motivational or affective state, or the way in which the learners selects, acquires, organizes, or integrates new knowledge" (Weinstein & Mayer, 1986, p. 315).

Students manifest various approaches to learning during their learning process (Richardson, 1997). There is a deep-surface dichotomy in students' learning strategies. To be specific, students adopt a deep approach to further learn the meaning of the materials

comprehensively, and they may adopt a surface approach when they meet an overload of coursework and methods of assessment that stress the superficial properties of the material that is to be learned (Beaty, Dall'Alba & Marton, 1997).

Additionally, learning strategies often provide a systematic plan which assists learners to encode information and complete a task (Paris & Byrnes, 1989; Zimmerman & Martinez-Pons, 1992). Meanwhile, self-regulated learners involve the awareness and use of various learning strategies, and to increase their academic performance (Pintrich & De Groot, 1990)

Self-Regulated Leaning Strategies

Considerable research has been conducted on self-regulated learning (SRL). SRL refers to a means of raising students' achievement outcomes, and it results from learners' self-generated thoughts and behaviors that are oriented systematically toward the attainment of their goals (Zimmerman, 2001). Several self-regulatory processes have been identified, such as attending to instruction, cognitively processing information, rehearsing and relating new learning to prior learning, believing that one is capable of learning, and establishing productive work and social environments. Zimmerman and Colleagues (1986) also defined several self-regulated learning strategies, such as organizing and transforming, keeping records and monitoring, self-consequences, and reviewing records (see Figure 2). Studies additionally illustrated that the increasing in self-regulation will result in a high level of student learning and achievement (Pintrich & De Groot, 1990; Zimmerman & Martinez-Pons, 1986).

Self-Regulated Learning Strategies

Categories of strategies	Definitions
1. Self-evaluation	Statements indicating student-initiated evaluations of the quality or progress of their work, e.g., "I check over my work to make sure I did it right."
2. Organizing and transforming	Statements indicating student-initiated overt or covert rearrangement of instructional materials to improve learning, e.g., "I make an outline before I write my paper."
3. Goal-setting and planning	Statements indicating student setting of educational goals or subgoals and planning for sequencing, timing, and completing activities related to those goals, e.g., "First, I start studying two weeks before exams, and I pace myself."
4. Seeking information	Statements indicating student-initiated efforts to secure further task information from nonsocial sources when undertaking an assignment, e.g., "Before beginning to write the paper, I go to the library to get as much information as possible concerning the topic."
5. Keeping records and monitoring	Statements indicating student-initiated efforts to record events or results, e.g., "I took notes of the class discussion." "I kept a list of the words I got wrong."
6. Enviromental structuring	Statements indicating student-initiated efforts to select or arrange the physical setting to make learning easier, e.g., "I isolate myself from anything that distracts me." "I turned off the radio so I can concentrate on what I am doing."
7. Self-consequences	Statements indicating student arrangement or imagination of rewards or punishment for success or failure, e.g., "If I do well on a test, I treat myself to a movie."
8. Rehearsing and memorizing	Statements indicating student-initiated efforts to memorize material by overt or covert practice, e.g., "In preparing for a math test, I keep writing the formula down until I remember it."
9–11. Seeking social assistance	Statements indicating student-initiated efforts to solicit help from *peers* (9), *teachers* (10), and *adults* (11), e.g., "If I have problems with math assignments, I ask a friend to help."
12–14. Reviewing records	Statements indicating student-initiated efforts to reread *tests* (12) *notes* (13), or *textbooks* (14) to prepare for class or further testing, e.g., "When preparing for a test, I review my notes."
15. Other	Statements indicating learning behavior that is initiated by other persons such as teachers or parents, and all unclear verbal responses, e.g., "I just do what the teacher says."

Figure 2 Self-regulated learning strategies (Zimmerman and Colleagues, 1986)

Theories of Self-Regulated Learning

The most popular theories of self-regulated learning theories are information processing (Winne & Hadwin, 1998), social constructivist (Vygotsky, 1962), and social cognitive theories (Bandura, 1986; Zimmerman, 2001).

Information Processing Theory

The information processing theory focuses on cognitive functions including attending to, perceiving, storing, and transforming information. Winne and Hadwin (1998) came out with four phases of self-regulated learning: the definition of a task, the setting of goals and plans, the use of tactics to learn, and the metacognitive processes used to adapt learning. To be specific, learners process information about the conditions to define a task. Sources of information comprised of task conditions (i.e., learners interpret based on the environment such as a teacher's directions) and cognitive condition (i.e., learners retrieve from long-term memory such as how they did on prior tasks and motivational information). In the next stage, learners set goals and make plans including identifying the learning strategies to attain the goals. Learners then use the learning strategies in the third phase, and to adapt their plans and strategies based on self-evaluation of their success.

Social Constructivist

Vygotsky (1962) described individuals and their cultural environments from an interacting social system, such as using communications and actions to learn. By using these tools within the social system, individuals could develop high level cognitive functions (e.g., problem-solving, self-regulation). Vygotsky also noted that self-regulated learning contains the coordination of mental processes such as memory, planning, synthesis, and evaluation. He

suggested that individuals' self-regulated learning processes reflect those that are valued and taught in the culture of the individual's home and school. Additionally, students learn to self-regulate through the control of their own actions.

Cognitive Theory

Cognitive theories of self-regulated learning differ in various ways but share common features (Zimmerman, 2001). One shared characteristic is an emphasis on students being proactive and exerting control on their learning processes and environment. In other words, self-regulated learners do not passively take in information but rather proactively develop their skills and learning strategies. An emphasis on motivation is another common feature (Zimmerman, 2001). Self-regulated learners approach learning with goals and they self-regulate their study based on factors including their commitment to their goals, their beliefs of the likely outcomes of their actions, and their self-efficacy, or beliefs about their capabilities to learn or perform actions at designated levels.

Processes of Self-Regulated Learning

Self-regulated learning process has been conducted by various researchers, psychologists, and scientists. Albert Bandura, a cognitive psychologist made significant contributions to the acquisition of behaviors, and his work brought behavioral and cognitive components together. Bandura (1991) concluded that self-regulated learning contained three processes: self-observation, judgment, and self-response. He indicated that individuals were able to control their behavior through a process that known as self-regulation (Bandura, 1991). Self-observation refers to a process that an individual evaluates his or her thoughts and feelings in order to improve their goal setting or change behaviors. Judgment refers to the process that individuals compare their performance to their personal or created standards. Finally, self-response implies a

process that individuals reward or punish themselves for success or failure in meeting the standard.

Schunk and Zimmerman (Schunk & Zimmerman, 1994; Zimmerman & Schunk, 2001) expanded Bandura's self-regulated learning process into self-observation, self-evaluation, self-reaction, and self-efficacy. They concluded that self-observation could be changed differently based on individuals' expectations of outcomes and efficacy, and self-evaluation refers to that individuals compare their current performance to a desired one (Zimmerman & Schunk, 2001). They also noted that self-evaluation can be divided into two types of standard: absolute and normative. For example, an absolute standard is the academic grading scale, whereas normative standard is the process that assesses one's performance. Thirdly, self-reaction is the process in which individuals can be motivated or improved through reactions by others and it often links with self-efficacy in some ways. For instance, if a student receives numerous positive acknowledgement through others' feedback, he or she may have a feeling of self-efficacy. Instead, if this student receives a negative acknowledgement, he or she may consider to work harder. In short, individuals are encouraged to re-evaluate their goals, combing with their attainments, through the self-reaction (Bandura, 1991). Finally, self-efficacy is the belief that one's ability to succeed in specific situations or accomplish a certain task. An individual's sense of self-efficacy plays a significant role in how he or she approaches goals, tasks, and challenges.

Overview

Self-regulated learning (SRL) refers to "the self-directive processes and self-beliefs that enable learners to transform their mental abilities, such as verbal aptitude, into an academic performance skill, such as writing" (Zimmerman, 2008, p. 166). Students often use SRL to acquire academic skills, such as "setting goals, selecting and deploying strategies, and self-

monitoring one's effectiveness" (p. 166). In short, self-regulation involves: 1) setting specific goals, 2) utilizing task strategies, 3) displaying high levels of self-efficacy and intrinsic interest, and 4) self-monitoring and self-reflecting on performance outcomes (Zimmerman & Schunk, 2008).

Self-regulated learners are usually active learners who manage their own learning experiences through different ways efficiently (Schunk & Zimmerman, 1994), and they have been considered as autonomous, reflective, and efficient learners who have will and motivation to understand, direct, and control their own learning (Pintrich, 1999; Schunk & Zimmerman, 1994). This type of learner has adaptive learning goals, which encourage them to make efforts to reach their goals (Pintrich & Garcia, 1991; Schunk, 1994), and they modify their strategies in response to shifting task demands (Butler & Winne, 1995; Zimmerman, 1989).

Self-regulated learners are motivated, independent, and metacognitive during their learning process (Zimmerman, 1990). Previous research indicated self-regulated learners often have a high level of intrinsic motivation (Pintrich & De Groot, 1990), and in turn high-achieving students more often use self-regulatory behaviors compared to low-achieving students (Zimmerman & Martinez-Pons, 1986). Wolters (1998) in addition mentioned that "self-regulated learners actively manage other important aspects of their classroom learning" (p. 224), such as whether to engage in a class activity (Pintrich & Schrauben, 1992). Furthermore, self-regulated learners often control their resources and emotion during their learning process (Pintrich, 1999).

A Self-Regulated Learning Model

Early studies, which investigated the impact of individual self-regulatory processes such as strategy use, goal setting, imagery, or self-instruction, discovered that these strategies were effective in producing superior learning (Pintrich, 1991, 1993, 2004). An early definition of SRL,

which refers to the degree that students are metacognitively, motivationally, and behaviorally active participants in their learning process was recognized as an inclusive definition of SRL (Zimmerman, 1986).

According to previous studies, Pintrich (2004) concluded that traditional self-regulated learning models have four general assumptions. Learners are firstly regarded as active participants in the learning process, and they often alter their goals and strategies through their own and outside information. The second assumption is the "potential for control assumption", which refers to learners' ability to "potentially monitor, control, and regulate certain aspects of their own cognition, motivation, and behavior as well as some features of their environments" (p. 387). The third assumption includes goal, criterion, or standard. In other words, learners often compare their performance with some types of goals, criterion, or standard in order to assess whether or not to change their learning process or strategies. The final assumption is the "mediators between personal and contextual characteristics and actual achievement or performance" (p. 388), as Pintrich (2004) described:

> …it is not just individuals' cultural, demographic, or personality characteristics that influence achievement and learning directly, nor just the contextual characteristics of the classroom environment that shape achievement, but the individuals' self-regulation of their cognition, motivation, and behavior that mediate the relations between the person, context, and eventual achievement. (p. 388)

Students apply various strategies to regulate their cognition in university courses, and those strategies are assumed to be potentially under the control of individuals (Pintrich, 2004).

Pintrich and colleagues added the social context into the SRL model, and developed the well-known instrument Motivated Strategies for Learning Questionnaire (MSLQ) (Pintrich et al., 1991, 1993). This model is a self-report instrument designed to assess college students' motivational orientations and their use of various learning strategies for a college course. The motivation section aims to access students' goals and value beliefs for a course, their beliefs about their skills to succeed in a course, and their anxiety about tests in a course. The second section evaluates students' use of different cognitive and metacognitive strategies, as well as learners' management of different resources during the learning process. Based on previous theories, this model has been tested and applied in research widely, and it is considered as a development of theoretical paradigms and methodologies (Boekaerts, Pintrich, & Zeidner, 2000; Zimmerman & Schunk, 1989, 2001).

Resource Management Strategies

Self-regulated learning is a self-initiated action which consists of goal setting and regulating one's efforts to reach the goal, self-monitoring (metacognition), time management, and physical and social environment regulation (Zimmerman & Risemberg, 1997). According to the MSLQ model, learning strategies have been classified into several different categories: 1) cognitive strategies (i.e., rehearsal, elaboration, organization) refer to ways that learners manipulate information in response to task requirements; 2) metacognitive self-regulated strategies (i.e., planning, monitoring, regulating) refer to functions designed to assess and control the use of cognitive strategies; and 3) recourse management strategies (time management, effort regulation, peer learning, help seeking), which represent learners' abilities of establishing conditions that facilitate learning (Pintrich,1986, 1989; Pintrich et al., 1991).

Regulation of behavior is an important part of self-regulated learning, such as time planning and management, which were included in the MSLQ model. The time management refers to how effectively learners regulate their study time and surrounding environment to achieve learning goals (Pintrich et al., 1993). Previous studies pointed out that the lack of time to complete all assignments is one popular complaints among many college students (García-Ros, Pérez-González, & Hinojosa, 2004). Meanwhile, those who have a better time management often have better academic outcomes, such as higher grade point average (GPA) (Britton & Tesser, 1991; Tuckman, 2003). As a result, the time management strategy is a significate predictor of student academic achievement and retention (Britton & Tesser, 1991; Garavalia & Gredler, 2002; Goldfinch & Hughes, 2007; Nonis, Philhours, & Hudson, 2006).

Studies revealed that good self-regulators know when, why, and from whom to seek help (Karabenick & Sharma, 1994; Newman, 1991; Ryan & Pintrich, 1997). Therefore, peer learning and help seeking are important aspects, which were included in the MSLQ model as the dimensions of social interaction. These aspects also reflect the significance of taking the social nature of learning into consideration.

Time and Study Environment

Time and study environment involves scheduling, planning, and managing one's study time. Scholars noted that time planning and management training may help learners better self-regulate their use of study time and improve their academic grade (Zimmerman, Greenberg, & Weinstein, 1994). Similarly, Britton and Tesser (1991) demonstrated that students with better time management had better academic GPA. Pintrich (1995) assumed that self-regulated learning may be particularly appropriate for college students since they have more control over their own time schedule and ways of studying and learning. Additionally, students' management of their

time and study environment is important for learning at any age, it is especially true in the relatively unstructured college environment (Brackney & Karabenick, 1995). Besides time, Chen (2002) described that "management of study areas required locating a place that is quiet and relatively free of visual and auditory distractions so that one can concentrate" (p. 13). Similarly, Zimmerman and Martinez-Pons (1986) noted that self-regulated learners restructure their physical environment to meet their needs, and high achieving students reported greater use of environment management compared to lower achieving students.

Effort Regulation

Effort regulation is "the tendency to maintain focus and effort toward goals despite potential distractions" (Corno, 1994, p. 229), and it is "the ability to deal with failure and building resiliency to setbacks" (Chen, 2002, p. 14). Effort regulation builds one's learning skills gradually and to help him or her handle different distractions in and outside of schools (Alderman, 1999). Doljanac (1994) and Lee (1997) indicated that effort regulation is a strong predictor of academic success. Furthermore, self-regulated learners are considered as holding the belief that effort leads to success, so that they are willing to make a high level of commitment to effort utilization and persistence in academic tasks (Ames 1992; Weiner, 1986; Wolters 2003; Zimmerman & Martinez-Pons 1990).

Peer Learning

Peer learning refers to the use of a study group or friends to help with learning (Vrugt & Oort, 2008). Jones, Alexander, and Estell (2010) described peer learning as it involves use peers including friends and classmates to collaboratively understand course materials or information during learners' learning process. O'Donnell and King (1999) also noted that peer learning is an educational practice in which students collaborate with their peers to attain educational goals.

Help Seeking

Karabenick (1998) indicated that seeking help from others is a valuable self-regulating proactive learning strategy, which may provide the foundation for autonomous achievement. Several previous studies (Ames & Lau, 1982; Karabenick & Knapp, 1991) revealed that students who hold master-oriented approaches to learning are more likely to seek help from their peers and instructors. Similarly, many studies considered help seeking as a proactive and mastery-oriented activity (Nelson-Le Gall, 1981, 1985, 1987; Nelson-Le Gall, Gumerman, & Scott-Jones, 1983). Brackney and Karabenick's (1995) study also noted that students with a higher level of motivation and engagement are more likely to seek help when necessary.

Resource Management Strategies and Learners

Previous studies have conducted research regarding learners' resource management strategies during their learning process. Karabenick and Knapp (1991) designed three studies to examine students' help seeking in the college learning environment through which they aimed to investigate ways in which seeking help may relate to other learning activities. Their first study revealed that students' help-seeking tendencies were directly related to their rated likelihood of engaging in instrumental achievement activities and persistent global self-esteem. However, they also found that most students consider seeking help from peers and instructors could be seen as threatening. The second study demonstrated that help seeking was directly related to the use of cognitive, metacognitive, and other resource management learning strategies. Their final study replicated the results of the second study and found that the correlations between help seeking and learning strategy use were unchanged when controlling for individual differences in the perceived threat to self-esteem posed by help seeking.

Chen's (2002) study aimed to identify the effective self-regulated learning strategies in a lecture and in a hands-on computer lab learning environment of an information system course. One hundred and ninety-seven students in a business information system course were enrolled in this research. Chen's study revealed that only in a lecture type of learning environment does the effort regulation have a positive effect, while peer learning has a negative influence on learning computer concepts among students.

Nielsen (2004) investigated the specific learning and study strategies used by 130 first-year advanced music students and the manner in which their self-efficacy beliefs related to the strategies that were used. Results demonstrated that first-year music students used a full range of cognitive, metacognitive, and resource management strategies during practice rather than one particular type. Additionally, students were more likely to use help seeking and peer learning strategies compared to other resource management activities. This result mirrors Ericsson's (1997) research that music students would like to establish social networks with their teachers and peers in order to build a support and encouragement environment for further improvement. Findings also revealed that students considered strategies such as control of time and environment significant in planning instrumental practice.

The majority of previous research focuses on cognitive and metacognitive self-regulated strategies of college students, which presents a debate about whether resource management strategies have a positive or negative influence on students' learning. However, most of the studies investigated traditional learners' learning strategies, limited research investigated the resource management strategies of adult learners, which lacking an area awaited to be explored regarding this student group's resource management strategies, as well as the differences of resource management activities between adult and traditional learners.

Achievement Goals Orientations and Resource Management Strategies

There are a few number of studies conducted about the relationship between resource management strategies and the achievement goal orientations (Nelson- Le Gall, 1981, 1985, 1987; Nelson-Le Gall, Gumerman, & Scott-Jones, 1983). Achievement goal orientations have had a significant relationship with students' help seeking activities. Karabenick (2004) examined the relationship between college students' help seeking and perceptions of their classes' achievement goal structure through two studies. A total number of 883 college students in six chemistry classes were enrolled in the first study, while 852 students in 13 psychology classes participated in the second study. The aim of the first study was to examine the associations between students' help seeking and 1) preferred sources of help, and 2) students' personal achievement goals. Four achievement goal orientations were embedded in the motivation portion of the survey: mastery-approach, mastery-avoid, performance-approach, and performance-avoid. Help-seeking scales from MSLQ were embedded in the learning strategies portion of the survey. Results of the first study revealed that students' help seeking can be described by different approach and avoidance patterns. Specifically, learners with the help-seeking approach patterns were more likely to hold mastery goal orientations, and the more that students seek help to understand the materials, the more likely that the help comes from their teachers rather than from their peers. The second study investigated whether college students' help-seeking patterns were correlated with their perceptions of classes' achievement goal structure. The same questionnaires were applied and included scales that measured students' achievement goal orientations and perceived class goals. After controlling for students' personal achievement goal orientations, findings indicated that mastery goal orientations positively predicted help-seeking approach activities, while those orientations negatively predicated help-seeking avoidance patterns.

Meanwhile, performance avoidance-goal orientation positively predicated help-seeking avoidance approach. This study concluded that students have greater emphasis on performance avoidance goal orientation usually have a higher level of help-seeking avoidance patterns.

Suárez Reveiro and colleagues (2001) conducted a study to examine the relationship between achievement goal orientations and SRL strategies among 595 Spanish-speaking university students. This research revealed that students with a high-task orientation—comparable with a mastery approach-goal orientation—were more likely to adopt cognitive and self-regulatory strategies. Meanwhile, learners who focused on learning were more likely to develop a positive self-regulation, and these students desired to avoid being judged negatively by others. To be more specific, their study revealed that a task orientation has a high positive correlation with metacognitive self-regulation and study environment, as well as a medium positive correlation with time and effort management. Finally, the results revealed that a work-avoidance orientation—comparable with a performance avoidance-goal orientation—was negatively related with time and study management and effort management.

Elliot and colleagues (1999) conducted two studies to investigate the relationship between achievement goal orientations and cognitive, metacognitive, as well as motivational study strategies. One hundred sixty-four undergraduate students were enrolled in the first study reporting their mastery and performance goal orientations for an exam. The influence of these goal orientations on students' exam performance, deep processing, surface processing, disorganization, and study strategies on exam were examined. One hundred seventy-nine students were enrolled in the second study, which investigated the influence of achievement goals on performance, deep processing, surface processing, disorganization, and effort. Results of these studies discovered that disorganization was positively related to the pursuit of a

performance avoidance-goal orientation, and the weak adoption of a performance avoidance-goal orientation would be related to the strong use of time and study management.

Some studies investigated the relationship between achievement goal orientations and resource management strategies without examining the four sections of RMS respectively. Vrugt and Oort (2008) developed a model of effective self-regulated learning, and this model comprised the four achievement goal orientations (mastery, performance-approach, and performance-avoidance goals), metacognitive, and study strategies (i.e., resource management strategies). They found that the performance approach-goal orientation positively influences the use of surface cognitive and resource management strategies.

Similarly, Bergin, Reilly, and Traynor (2005) examined the relationship between self-regulated learning and introductory programming performance among 35 undergraduate students who enrolled in a third level introductory programming module. Their study found that learners who performed well in programming used more metacognitive and resource management strategies than lower performing students. Additionally, learners with a high level of intrinsic motivation and task value performed better in programming and would adopt more metacognitive and resource management strategies than those with a low level of intrinsic motivation and task value.

Researchers noted individuals in different periods may apply different learning strategies, as Chen (2002) described that self-regulation is "neither a measure of mental intelligence that is unchangeable after a certain point in life nor a personal characteristic that is genetically based or formed early in life" (p. 13). Therefore, it is assumed that students' status (adult vs. traditional) may be an influential factor that differentiates diverse learners' use of resource management strategies. However, many previous studies investigated the relationship between the

achievement goal orientations and cognitive or metacognitive strategies among traditional learners; however, there is limited research examining the link between the achievement goal orientations and resource management strategies of adult learners. As a result, the aim of the present study is to investigate the relationship between the four achievement goal orientations (mastery-approach, mastery-avoidance, performance-approach, performance-avoidance) and the four resource management strategies (time and study environment, effort regulation, peer learning, help seeking) among adult and traditional learners.

Summary

This chapter briefly reviewed the goal orientation theory and several related achievement goal orientation models. Four achievement goal orientations were identified: mastery-approach, mastery-avoidance, performance-approach, and performance-avoidance. Meanwhile, the achievement goal model has been tested as a valid and reliable theoretical framework, which investigated the achievement goal orientations among learners. Furthermore, cognitive theory was mentioned to introduce self-regulated learning strategies, then focusing on resource management strategies. The MSLQ was noted as the most widely used conceptual framework to investigate college students' learning strategies. Finally, the correlation between the achievement goal orientations and the resource management strategies was presented.

According to previous studies, mastery goal orientations are often correlated positively with peer learning, time and study environment, and effort regulation among traditional college students. However, limited research has investigated the achievement goal orientations and the resource management strategies of adult learners, or comparisons of the differences of these variables between adult learners and their traditional counterparts. As a result, the purpose of the current study was to examine the relationship between the achievement goal orientations and the

resource management strategies among these two types of students. The following chapter describes the methods of the present study in details.

CHAPTER III: METHODS

Overview

The purpose of this study was to examine the relationship between the achievement goal orientations and the resource management strategies among adult and traditional learners. The present study included an analysis of data gathered from a self-report questionnaire, which was voluntarily completed by students who were studying at a large U.S. southeastern research institution during the Spring semester in 2016 in the U.S. The questionnaire chosen to collect data for this research was the 2x2 achievement goal model invented by Elliot and colleagues (2001, 2008), and the resource management strategies section from Motivated Strategies for Learning Questionnaire (MSLQ) developed by Pintirch, Smith, Garcia, and McKeachie (1991). This chapter is comprised of the following sections: 1) research questions, 2) participants, 3) instruments, 4) data collection procedures, 5) validity and reliability, and 6) data analysis.

Problem Statement

Previous studies investigated the relationship between achievement goal orientations and self-regulated learning strategies among college students. Although one study examined whether students' SRL strategies predicted goal orientations (Ali, Hatala, Gašević, & Winne, 2014), research has rarely explored whether the various achievement goal orientations led to different SRL strategies. Furthermore, learners' management of resources during their learning process have rarely been examined. However, the management of resource is a significant aspect during individuals' learning process and would influence their academic performance. Some of the

research explored goal-orientations and self-regulated strategies among adult learners; however, they have not compared adult and traditional learners.

The purpose of this study was to examine achievement goal orientations and self-regulated learning strategies, focusing on resource management strategies of adult and traditional learners. The difference between achievement goal orientations and resource management strategies of the two groups were addressed. Also, this research examined the relationship of these two sets of variables, and to further explore how achievement goals and resource management strategies differ between adult learners and traditional students.

Research Questions

This study investigated the following research questions:

1) What are the differences of achievement goal orientations between adult and traditional learners?

2) What are the differences of resource management strategies between adult and traditional learners?

3) What is the relationship of achievement goal orientations and resource management strategies of adult leaners?

4) What is the relationship of achievement goal orientations and resource management strategies of traditional learners?

5) What is the relationship of goal orientations and the resource management strategies between adult and traditional learners?

Participants

The present study explored students' achievement goal orientations and the resource management strategies during their learning process. The participants of the current study were

students who were enrolled and studying at a large southeastern research institution during the Spring semester in 2016. These students were selected as possible participants because they were enrolled as students in this university, and they were age 19 or older.

Student populations were divided into two different categories: traditional learners and adult learners. Two criteria were applied to identify their student status: the age and the academic path. Students who were 25 years old or older and did not have an unbroken linear academic path were labeled as adult learners. Meanwhile, those who were younger than 25 years old and had an unbroken linear path through their education system were identified as traditional learners. Other participants were excluded from this study.

Instruments

The survey used in this study was comprised of a demographic information section, the Achievement Goal Questionnaire–Revised (AGQ-R), and the resource management strategies section from the Motivated Strategies for Learning Questionnaire (MSLQ) (see Appendix A).

The demographic information was developed based on characteristics of adult learners (Kasworm, Polson, & Fishback, 2002). It was designed to elicit students' demographic information such as gender, age, race, educational background, major, and student status (adult or traditional learners). This section was designed to provide additional information about the participants and help contextualize the results of the achievement goal orientations and self-regulated learning strategies questionnaires. Focusing on the research questions, only student status was used in the data analysis.

In terms of the questionnaire MSLQ, only the resource management strategies section of the questionnaire was used in this study. This section was Time and Study Environment, Effort Regulation, Peer Learning, and Help Seeking.

Achievement Goal Questionnaire–Revised (AGQ-R)

The Achievement Goal Questionnaire was originally developed by Elliot and McGregor in 2001. The purpose of the questionnaire was to evaluate achievement goal orientations as conceptualized in a 2x2 achievement goal framework (Elliot & McGregor, 2001). In 2008, Elliot and Murayama revised and improved the original survey through the development of the Achievement Goal Questionnaire-Revised version (Elliot & Murayama, 2008). The updated framework is a hierarchical model comprised of approach-avoidance achievement motivation (Elliot, 1997, 2006). The four achievement goal orientations are: mastery approach-goal orientation, mastery avoidance-goal orientation, performance approach-goal orientation, and performance avoidance-goal orientation.

Learners who hold mastery goal orientations intend to learn and develop their competence, while those who hold performance goal orientations tend to demonstrate their competence by outperforming others (Dweck, 1986; Nicholls, 1984). In short, mastery approach-goal orientation represents a focus on learning and understand the course materials, while master avoidance-goal orientation refers to not losing one's skills or competence. Performance approach-goal oriented learners intend to outperform their peers, whereas performance avoidance-goal oriented learners focus on not looking incompetent to others (Elliot & McGregor, 2001; Pintrich, 2000b).

AGQ-R is a 12-item 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). These items evaluate students' achievement goals regarding their academic performance such as, "My aim is to completely master the material presented in this class," "I am striving to avoid an incomplete understanding of the course material," "My goal is to perform better than the other students," "My aim is to avoid doing worse than other students." In order to keep

consistent with the MSLQ questionnaire, the present study modified the 5-point Likert scale to 7-point Likert scale. The Cronbach's alpha of mastery approach-goal orientation, mastery avoidance-goal orientation, performance approach-goal orientation, and performance avoidance-goal orientation are 0.84, 0.88, 0.92, and 0.94, respectively. Overall, results suggested that the AGQ-R is a reliable instrument.

Motivated Strategies for Learning Questionnaire (MSLQ)

Among the many surveys that have been used to measure students' self-regulated learning strategies, MSLQ is the most reliable and popular questionnaire and has been validated and used by many researchers for decades (García-Ros, Pérez-González, & Hinojosa, 2004). It was invented by Paul Pintrich and colleagues at the University of Michigan to evaluate the effectiveness of a "Learning to learn course" for undergraduates (Pintrich et al., 1991), which was developed based on a social-cognitive view of motivation (Pintrich, 2003). The MSLQ consists of 81 items, which aim to evaluate college students' motivational orientations and self-regulated learning for a specific course (Pintrich et al., 1991).

MSLQ has two sections: 1) The Motivation Scales and 2) The Learning Strategies Scales. The Motivation Scales consist of 31 items regarding students' goals, beliefs about their success, and their anxiety about tests regarding a specific course. The Learning Strategies Scales comprise 31 items concerning students' use of different cognitive and metacognitive strategies. Additionally, the second section includes 19 items regarding student management of diverse resources. Specifically, the 19 items were further divided into four sub-scales: Time and Study Environment, Effort Regulation, Peer Learning, and Help Seeking. Since this instrument is modular, which allows scholars to use scales together or individually, only the Learning

Strategies Scales in MSLQ was applied to measure students' resources management strategies based on the needs of the present study.

The items assessing participants' resources management strategies include, "I usually study in a place where I can concentrate on my course work," "I often feel so lazy or bored when I study for this class that I quit before I finish what I planned to do," "I try to work with other students from this class to complete the course assignments," "I ask the instructor to clarify concepts I don't understand well." Students rated themselves on a 7-point Likert scale, from 1 (not at all true of me) to 7 (very true of me). Scores for the individual scales are computed by taking the mean of the items that made up the scale. The Cronbach's alpha of MSLQ ranges from .52 to .93. Specifically, the Cronbach's alpha of the recourse management strategies was .76, .69, .76, and .52, respectively for time and study environment, effort regulation, peer learning, and help seeking. Except for the help seeking scale, others indicated that this section is reliable. As a result, the help seeking scale should be considered carefully during the discussions and implications.

Data Collection Procedures

With the help from the Graduate School, the Multicultural Center, and several student organizations such as the International Student Organization at this university, 779 students participated in answering the survey in the Spring semester of 2016, and 549 respondents were usable, which was 70.5% response rate.

Emails were sent to the Graduate School, the Multicultural Center, and the student organizations for assistance in distributing the survey through group emails to the enrolled students at this institution. Invitation emails were then sent through those third parties every

week and last for one month to all the students in this university. This survey was approved by the Institutional Review Board (IRB) (See Appendix D).

At the beginning of the data collection process, participants were informed of the purpose of the research and the expected time to take the survey. It was also noted that their participation in this study was completely anonymous and voluntary. They were also informed that no foreseeable risks were associated with this study. Furthermore, participants were requested to answer in terms of how well the statement described themselves according to their experience honestly by recalling a course in their major they recently took or were taking, and they were noted that there were no right or wrong answer for each item. In addition, participants were informed that all of the personal information, answers, and responses collected from them will be kept confidential.

Data Analysis Procedures

Data was analyzed through the SPSS-MAC 23.0. The survey scales were examined for reliability, and descriptive and inferential statistics were used to analyze the data. Analysis methods were selected and employed based on each research question. A one-way MANOVA was used to explore the four achievement goal orientations and the four resource management strategies of adult and traditional learners, respectively. Canonical Correlation was applied to investigate the relationship between the achievement goal orientations set and the resource management strategies set for adult and traditional learners, respectively. Finally, discriminant analysis was conducted to investigate how the achievement goal orientations and the resource management strategies differ between these two student groups.

Summary

This chapter provided a review about the methods that were used to investigate learners' achievement goal orientations and recourse management strategies regarding their different status (adult or traditional learners) during their learning process. The population used in this study were students enrolled in a large southeastern research institution during the Spring semester in 2016 in the US. The instrument used for data collection was a combination of AGQ-R and the last part of MSLQ. One-way MANOVA, Canonical Correlation, and Discriminant Analysis were used to analyze the quantitative data. Findings and results were presented and addressed based on the different research questions in the following chapter.

CHAPTER IV: FINDINGS

Overview

In this chapter, demographic data, results, and findings from data analysis will be presented. The results and findings for each research question are described along with the multivariate analysis in tables and figures.

Problem Statement

Previous studies investigated the relationship between achievement goal orientations and self-regulated learning strategies among college students. Although one study examined whether students' SRL strategies predicted goal orientations (Ali, Hatala, Gašević, & Winne, 2014), research has rarely explored whether the various achievement goal orientations led to different SRL strategies. Furthermore, learners' management of resources during their learning process have rarely been examined. However, the management of resource is a significant aspect during individuals' learning process and would influence their academic performance. Some of the research explored goal-orientations and self-regulated strategies among adult learners; however, they have not compared adult and traditional learners.

The purpose of this study was to examine achievement goal orientations and self-regulated learning strategies, focusing on resource management strategies of adult and traditional learners. The difference between achievement goal orientations and resource management strategies of the two groups were addressed. Also, this research examined the relationship of

these two sets of variables, and to further explore how achievement goals and resource management strategies differ between adult learners and traditional students.

Research Questions

This study investigated the following research questions:

1) What are the differences of achievement goal orientations between adult and traditional learners?

2) What are the differences of resource management strategies between adult and traditional learners?

3) What is the relationship of achievement goal orientations and resource management strategies of adult leaners?

4) What is the relationship of achievement goal orientations and resource management strategies of traditional learners?

5) What is the relationship of goal orientations and the resource management strategies between adult and traditional learners?

Data Screening

Outliers were examined through Mahalanobis Distance, which indicated that values larger than 26.124 should be eliminated (df = 8, p = .001, χ^2 = 26.124). Hence, 26 outliers were eliminated from the data set (see Table 3).

Table 3

Mahalanobis Distance (df = 8, p = .001, χ2 = 26.124)

Case Number	Value
1	29.18547
19	41.84496
25	41.84496
60	26.37271
168	26.74463
169	26.77711
224	29.9943
252	34.95658
253	34.89969
260	34.89969
273	37.55311
275	37.70846
282	37.70846
365	26.63444
367	26.49235
370	26.59115
408	43.73505
417	43.73505
429	30.88257
473	31.02834
479	30.13215
535	27.5137
538	26.72756
560	31.67852
564	30.87731
573	30.87731

Demographic Results

A total number of 779 students participated in the study. Among the total replies, 549 responses were usable (usable rate equals to 70.5%) and included in the analysis. Table 4 shows the frequency distribution of the 549 survey participants by each demographic group, while some participants did not identify their demographic information.

Among the valid respondents, 217 were male participants (39.3%) and 306 were female participants (55.4%). In terms of ethnicity, 59.6% of the participants identified themselves as White or Caucasian, 21.6% of them are Asian or Pacific Islander, 5.3% of them are identified as African American, 3.4% of the participants are Hispanic or Latino (3.2%), and 4.9% of them identified themselves as others. Additionally, 46.4% of the participants reported they majored STEM field (Science, Technology, Engineering, and Math), while 48.6% of them majored in non-STEM fields. In terms of student status, 286 (51.8%) participants identified themselves as traditional learners, whereas 238 (43.1%) participants reported they are adult learners.

Table 4

Demographic Characteristics of Participants

Characteristics	f	Percent
Gender		
Female	306	55.4%
Male	217	39.3%
Ethnic		
African American	29	5.3%
Asian or Pacific Islander	119	21.6%
Hispanic or Latino	19	3.4%
White/Caucasian	329	59.6%
Others	27	4.9%
Major		
STEM	256	46.4%
non-STEM	268	48.6%
Student Status		
Traditional Student	286	51.8%
Non-traditional student	238	43.1%

N = 549

Reliability

Using the Cronbach Coefficient Alpha test, the results of the tests for the achievement goal orientations and the resource management strategies are presented in Table 5. A value of .70 or higher was considered evidence of reliability, a value between 0.6 and 0.7 is acceptable, a value between 0.5 and 0.6 is considered a poor reliability, while a value that below 0.5 is unacceptable (Becker, 2000). The value of Cronbach's Alpha for master approach-goal orientation (MAP), master avoidance-goal orientation (MAV), performance approach goal orientation (PAP), and performance avoidance-goal orientation (PAV) were .775, .705, .874, and .882, respectively. The value of Cronbach's Alpha for time and environment (TE), effort regulation (Effort), peer learning (Peer), and help seeking (Help) were .749, .634, .754, and .605, respectively. The Cronbach's Alpha values of Effort (.69) and Help (.52) were acceptable to low in the original reporting, but in this study tested usable and reliable (Pintrich, 1993, 2004). Therefore, the values of these two variables were considered as reliable in this study.

Table 5

Reliability of the Achievement Goal Orientations and Resource Management

	Items	Cronbach's Alpha
Achievement Goal Orientations		
MAP	3	.775
MAV	3	.705
PAP	3	.874
PAV	3	.882
Resource Management Strategies		
TE	8	.749
Effort	4	.634
Peer	3	.754
Help	4	.605

Discussion of Findings

A one-way MANOVA was used to examine the first two research questions, respectively. Canonical Correlation Analysis was applied to investigate the following two research questions, and Discriminant Analysis addressed the last research question. The *p* value of Box's M was set as .005 based on Huberty and Petoskey's (2000) guidelines. Alpha level was set at *p* equals to .05.

Research Question 1: What are the differences of achievement goal orientations between adult and traditional learners?

Box's M test ($F_{(10, 1208970.89)} = 4.416$, $p < .001$) indicated that covariance matrices of the dependent variables are not equal cross groups. Therefore, Pillai's Trace statistic was used to assess the differences. According to Pillai's Trace statistic (Pillai's Trace = .047, $F_{(4, 519)} = 6.368$, $p < .001$), students' statues have a statistically significant influence on the achievement goal orientations but with a small effect size (partial $\eta^2 = .047$).

Univariate ANOVA was conducted to seek further information. Except MAV (Levene's Test = .255), Levene's test indicated that MAP, PAP, and PAV were not equal across groups. However, since an ANOVA is considered a robust test against the normality assumption, it tolerates violations to its normality assumption rather well. Therefore, according to the results, MAP ($F_{(1, 524)} = 8.656$, $p = .003$, partial $\eta^2 = .016$), PAP ($F_{(1, 524)} = 5.647$, $p = .018$, partial $\eta^2 = .011$), and PAV ($F_{(1, 524)} = 8.788$, $p = .003$, partial $\eta^2 = .017$) are significant differences based on the distinct student status but with a small effect size, respectively.

Table 6

Tests of Between-Subjects Effects of Achievement Goal Orientations

Achievement Goals	$F_{(1, 524)}$	*p*-value	Partial η^2
MAP	8.656	.003	.016
MAV	.233	.63	0
PAP	5.647	.018	.011
PAV	8.788	.003	.017

Traditional learners have a higher PAP (M = 5.52, SD = 1.36) and PAV (M = 5.19, SD = 1.54) than adult learners (PAP: M = 5.21, SD = 1.62; PAV: M = 4.75, SD = 1.82). However, adult learners have a higher MAP (M = 6.19, SD = .88) than that of their traditional counterparts (M = 5.94, SD = 1.04).

Table 7

Descriptive Statistics of Achievement Goal Orientations

Achievement Goal Orientations	Student Types					
	Traditional Students			Adult Learners		
	n	M	SD	*n*	M	SD
MAP	286	5.94	1.04	238	6.19	0.88
MAV	286	5.102	1.459	238	5.04	1.58
PAP	286	5.52	1.36	238	5.21	1.62
PAV	286	5.19	1.54	238	4.75	1.82

Research Question 2: What are the differences of resource management strategies between adult and traditional learners?

Box's M test ($F_{(10, 1208970.89)} = 1.634$, $p = .090$) indicated that covariance matrices of the dependent variables are equal cross groups. Therefore, a Wilks' Lambda statistic was used to assess the differences. According to Wilks' Lambda statistic (Wilks' Lambda= .917, $F_{(4, 519)} = 11.674$, $p < .001$), the status of the learners has a statistically significant influence on the resource management strategies but with a moderate effect size (partial $\eta^2 = .083$).

Univariate ANOVA was used to further explore the differences of RMS among these two student groups. Except Time (Levene's Test = .987) and Effort (Levene's Test = .714), Levene's test indicated that Peer (Levene's Test = .041) and Help (Levene's Test = .001) were not equal across groups. However, because an ANOVA is considered a robust test against the normality assumption, it tolerates violations to its normality assumption rather well. Thus, results revealed that all factors are significant different based on distinct student status but with small effect size:

Time ($F_{(1, 524)} = 6.054$, $p = .014$, partial $\eta^2 = .011$), Effort ($F_{(1, 524)} = 26.439$, $p < .001$, partial $\eta^2 = .048$), Peer ($F_{(1, 524)} = 22.446$, $p < .001$, partial $\eta^2 = .041$), and Help ($F_{(1, 524)} = 7.337$, $p = .007$, partial $\eta^2 = .014$).

Table 8

Tests of Between-Subjects Effects of Resource Management Strategies

RMS	$F_{(1, 524)}$	*p*-value	Partial η^2
Time	6.054	0.014	0.011
Effort	26.439	<.001	0.048
Peer	22.446	<.001	0.041
Help	7.337	0.007	0.014

Data presented that traditional learners (M = 4.43, SD = 1.47) may often collaborate with their classmates during their learning process compared to adult learners (M = 3.79, SD = 1.63). Moreover, these students (M = 4.53, SD = 1.08) may seek help from their peers or instructors more often than their adult counterparts (M = 4.25, SD = 1.29). Whereas, adult learners (M = 5.31, SD = .945) are better managing and regulating their time and study environment compared to their traditional peers (M = 5.11, SD = .947). Additionally, they control their effort and attention (M = 5.65, SD = 1.05) in the face of distractions and uninteresting tasks better than those of younger learners (M = 5.17, SD = 1.06).

Table 9

Descriptive Statistics of Resource Management Strategies

	Student Types					
	Traditional Students			Adult Learners		
RMS	*n*	M	SD	*n*	M	SD
Time	286	5.11	.947	238	5.31	.945
Effort	286	5.17	1.06	238	5.65	1.05
Peer	286	4.43	1.47	238	3.79	1.63
Help	286	4.53	1.08	238	4.25	1.29

Research Question 3: What is the relationship of achievement goal orientations and resource management strategies of adult leaners?

Table 10 shows the bivariate correlations for the achievement goal orientations and the resource management strategies of adult learners. The results of the Pearson Correlation suggested that the assumptions of Canonical Correlation Analysis are satisfied.

Table 10

Pearson Correlation of AGO and RMS of Adult Learners

	MAP	MAV	PAP	PAV	Time	Effort	Peer
MAP							
MAV	.35**						
PAP	.291**	.26**					
PAV	.293**	.518	.784**				
Time	.337**	.05	.124	.036			
Effort	.324**	-.019	.058	-.055	.676**		
Peer	.085	.081	.124	.12	-.069	-.069	
Help	.09	.101	.091	.033	-.009	.019	.645**

*$p < .05$

**$p < .01$

Three canonical functions were generated, but only the first canonical function was significant (Wilks' Lambda = 0.779, F = 3.75, p < .001), which with a moderate Canonical Correlation equals to 0.42.

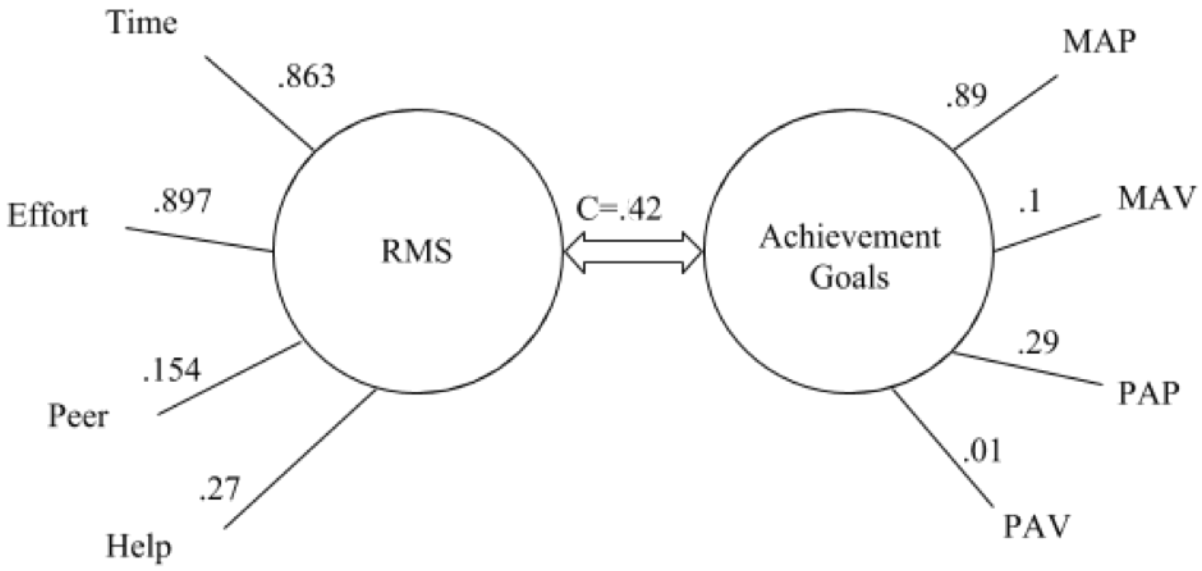

Figure 3 Canonical Correlation of RMS and AGO of Adult Learners

Table 11

Standardized canonical coefficients, structure coefficients, and squared structure coefficients for canonical functions I

Variable	Canonical Function		
	Coefficient	r_s	r_s^2
Achievement Goal Orientations			
MAP	.94	.89	.79
MAV	-.009	.1	.01
PAP	.59	.29	.08
PAV	-.72	.01	.0001
Adequacy	.22		
Redundancy	.07		
Resource Management Strategies			
Time	.48	.86	.74
Effort	.57	.90	.80
Peer	.1	.15	.02
Help	.2	.27	.07
Adequacy	.41		
Redundancy	.04		

N= 238. r_s=structure coefficient; r_s^2=squared structure coefficient

A cutoff structure coefficient of 0.30 was applied to identify the relationship of Achievement Goal Orientations (AGO) and Resource Management Strategies (RMS). Figure 3 and Table 11 show that MAP (.89) was the only variable in the AGO set that was correlated with the AGO variables. In terms of the RMS set, only Time (.86) and Effort (.90) were variables that were correlated with the RMS variables. Mastery approach-goal orientation (MAP) was 79%

useful in explaining the variance in the AGO set, whereas Time was 74% useful and Effort was 80% useful in explaining the variance in the RMS set. Therefore, the pair of canonical variables that comprise the canonical function suggests that adult learners with a strong MAP are more likely to use Time and Effort strategies.

Research Question 4: What is the relationship of achievement goal orientations and resource management strategies of traditional learners?

Table 12 shows the bivariate correlations for the AGO set and the RMS set. The results of the Pearson Correlation suggested that the assumptions of Canonical Correlation Analysis are satisfied.

Table 12

Pearson Correlation of AGO and RMS of Traditional Learners

	MAP	MAV	PAP	PAV	Time	Effort	Peer
MAP							
MAV	.498**						
PAP	.408**	.308**					
PAV	.288**	.422**	.81**				
Time	.422**	.186**	.049	-.04			
Effort	.417**	.225**	.09	.024	.703**		
Peer	.213**	.139*	.185**	.137*	.059	-.086	
Help	.115	.073	.122*	.131*	.066	.062	.58**

*$p < .05$

**$p < .01$

Three canonical functions were generated. Similarly, only the first canonical function was significant (Wilks Lambda = 0.694, F = 6.74, p < .001), and it has a moderate canonical function equals to 0.52.

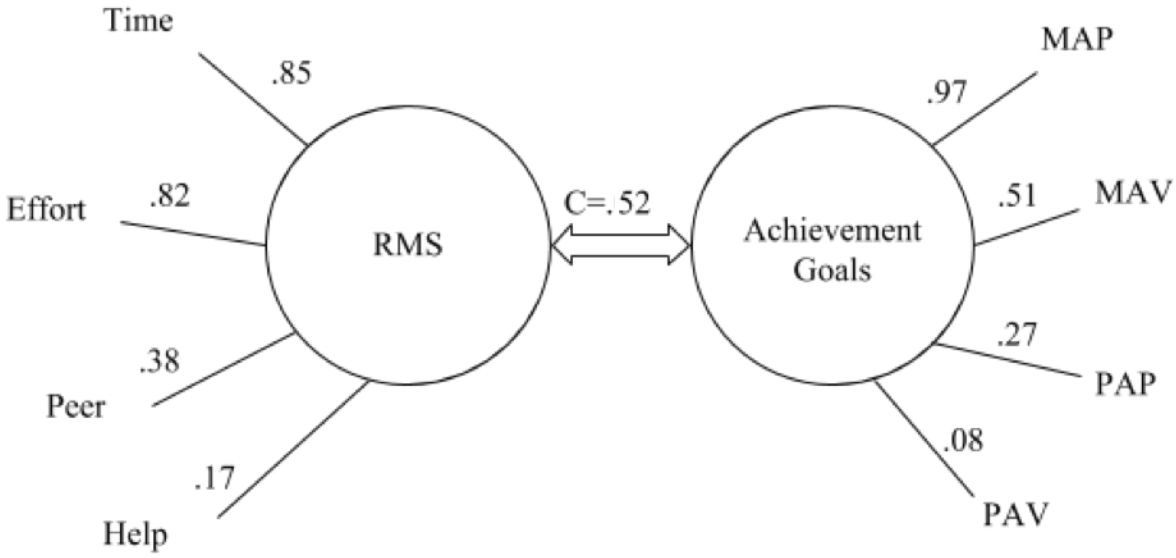

Figure 4. Canonical Correlation of RMS and AGO of Traditional Learners

Table 13

Standardized Canonical Coefficients, Structure Coefficients, and squared structure coefficients for canonical functions I

Variable	Canonical Function		
	Coefficient	r_s	r_s^2
Achievement Goal			
MAP	.94	.97	.94
MAV	.15	.51	.26
PAP	.15	.27	.07
PAV	-.37	.17	.03
Adequacy	.33		
Redundancy	.11		
Resource Management Strategies			
Time	.43	.85	.72
Effort	.58	.82	.67
Peer	.51	.38	.14
Help	-.19	.17	.03
Adequacy	.39		
Redundancy	.09		

N= 286. r_s=structure coefficient; r_s^2=squared structure coefficient

A cutoff structure coefficient of 0.30 was used to identify the relationship of AGO and RMS. MAP (.97) and Mastery avoidance-approach goal orientation (MAV) (.51) were the only variables in the AGO set that were correlated with the AGO variables. In the RMS set, Time (.85), Effort (.82), and Peer (.38) were variables that were correlated with the RMS variables. MAP was 94% useful and MAV was 26% useful in explaining the variance in the AGO set,

whereas Time was 72% useful, Effort was 67% useful, and Peer was 14% useful in explaining the variance in the RMS set. Therefore, the pair of canonical variables that comprise the canonical function suggests that traditional learners with both strong MAP and MAV are more likely to use Time, Effort, and Peer strategies during their learning process.

Research Question 5: What is the relationship of goal orientations and the resource management strategies between adult and traditional learners?

Discriminant Function Analysis was conducted to investigate the final research question. Test of Equality of Group Means indicated that except MAV, all other factors were significant.

Table 14

Tests of Equality of Group Means

Variables	Wilks' Lambda	F	Sig.
MAP	.984	8.66	.003
MAV	1	.233	.63
PAP	.989	5.65	.018
PAV	.983	8.79	.003
Time	.989	6.05	.014
Effort	.952	26.44	<.001
Peer	.959	22.45	<.001
Help	.986	7.34	.007

Box's M test indicated that the equal population covariance was not violated ($F_{(10, 1208970,892)} = 2.288$, $p = .011$). Stepwise statistics was conducted and indicated that four factors

were entered into the model: Effort, Peer, PAV, and MAP. Wilks' lambda for each step shown that the model is a good fit for the data with one predictor, two predictors, three predictors, or four predictors.

Table 15

Variables Entered/Removed

			Wilks' Lambda		
				Exact F	
Step	Entered	Number of Variables	Statistic	Statistic	Sig.
1	Effort	1	.952	26.44	<.001
2	Peer	2	.92	22.65	<.001
3	PAV	3	.911	16.91	<.001
4	MAP	4	.899	14.64	<.001

Note. At each step, the variable that minimizes the overall Wilks' Lambda is entered.

One discriminant function was generated with a moderate effect size (Wilks' Lambda = .899, $\chi^2 = 55.577$, $p < .001$, $\eta^2 = .10$).

Table 16

Wilks' Lambda and Eigenvalues of Function I

	Wilks' Lambda				Eigenvalues	
Test of Function	Wilks' Lambda	Chi-square	df	sig.	Eigenvalues	Canonical Correlation
1	0.899	55.56	4	<.001	0.113	0.318

Based on the results of Standardized Coefficients, the discriminant function is demonstrated as the following equation (1). Along with the Structure Matrix and Standardized Coefficients (see Table 17), it suggested that Peer and Effort have the highest relationship with this function, which indicated that these two variables have the strongest influence in differentiating adult and traditional learners.

$$DF = (-0.425) \cdot MAP + 0.425 \cdot PAV + (-0.457) \cdot Effort + 0.593 \cdot Peer \quad (1)$$

Table 17

Structure Matrix and Standardized Coefficients of Function I

	Standardized Canonical Discriminant Function Coefficients	Structure Matrix
	Function 1	Function1
MAP	-0.425	-0.383
PAV	0.425	0.386
Effort	-0.457	-0.67
Peer	0.593	0.617
Time[a]		-0.482
Help[a]		0.335
PAP[a]		0.247
MAV[a]		0.032

Note. Pooled within-groups correlations between discriminating variables and standardized canonical discriminant functions Variables ordered by absolute size of correlation within function.

a. This variable not used in the analysis.

Functions at Group Centroids (see Table 18) indicated that individuals with discriminant function scores that close to .306 belong to the traditional learner group, while those with discriminant function scores close to -.367 belong to the adult learner group. Combined with the discriminant function, it is suggested that traditional learners may have a lower level of MAP, and they may spend less Effort during their learning process. Whereas, they have a higher level of PAV and they often study with their classmates. Meanwhile, adult learners have a higher level of MAP, and they may also have a high commitment of accomplishing their study goals, while they have a lower level of PAV, and they do not usually work with their peers during their learning process.

Table 18

Functions at Group Centroids

	Functions at Group Centroids
	Function1
Traditional Learners	0.306
Adult Learners	-0.367

This group classification results revealed that original grouped cases were classified with 63.4% overall accuracy. Accuracy by each group was 73.4% for the traditional learner group and 51.3% for the adult learner group. The cross-validated results supported original accuracy levels with 62.6% correctly classified overall, 72.7% for traditional learner group, and 50.4% for adult

learner group. Results indicated that these variables are more accurately predicted traditional learners compared to adult learners.

Table 19

Classification Results

			Predicted Group Membership		Total
			Traditional Learners	Adult Learners	
Original	Count	Traditional Learners	210	76	
		Adult Learners	116	122	
		Ungrouped Cases	19	9	28
	Percent(%)	Traditional Learners	73.4	26.6	100
		Adult Learners	48.7	51.3	100
		Ungrouped Cases	67.9	32.1	100
Cross-validated	Count	Traditional Learners	208	78	286
		Adult Learners	118	120	238
	Percent(%)	Traditional Learners	72.7	27.3	100
		Adult Learners	49.6	50.4	100

Note. a. 63.4% of original grouped cases correctly classified.

b. Cross validation was conducted only for those cases in the analysis. In cross validation, each case is classified by the functions derived from all cases other than that case.

c. 62.6% of cross-validated grouped cases correctly classified.

Summary

The quantitative data addressed the five research questions of the present study: 1) What are the differences of achievement goal orientations between adult and traditional learners? 2) What are the differences of resource management strategies between adult and traditional learners? 3) What is the relationship of achievement goal orientations and resource management strategies of adult leaners? 4) What is the relationship of achievement goal orientations and resource management strategies of traditional learners? 5) What is the relationship of goal orientations and the resource management strategies between adult and traditional learners?

For Research Question 1, results of one-way MANOVA indicated that adult learners had a higher score of MAP (mean = 6.19), while traditional learners had a higher score on PAP (mean = 5.52). One-way MANOVA also addressed Research Question 2 by demonstrating that traditional learners preferred to use Peers (mean = 3.79) and Help (mean = 4.53) learning strategies, while their adult counterparts were more likely to adopt Effort (mean = 5.65) and Time (mean = 5.31) strategies during the learning process.

To answer Research Question 3 and 4, Canonical Correlation Analysis illustrated that the achievement goal orientations and the resource management strategies had a moderate canonical correlation of both adult and traditional learners. To be more specific, adult learners who had a strong MAP were more likely to use Time and Effort strategies, whereas traditional learners with strong MAP and MAV were more likely to adopt Time, Effort, and Peer strategies during their learning process.

Discriminant function analysis was conducted to address the last research question. Results indicated that Effort, Peer, PAV, and MAP may differ between these two learner groups.

Additionally, data suggested that traditional learners may had a lower level of MAP, and they spent less Effort during their learning process, whereas they had a higher level of PAV and they may usually study with their classmates. Meanwhile, adult learners had a higher level of MAP, and these learners had a high commitment of completing their study goals, but they may have a lower level of PAV, and they did not often collaborate with their peers during the learning process. Furthermore, Peer and Effort had the strongest effect in distinguishing group memberships. Finally, results implied that these variables were more accurately predicting traditional learner group rather than predicting adult learner group.

CHAPTER V: SUMMARY, CONCLUSIONS, IMPLICATIONS, LIMITATIONS AND RECOMMENDATIONS FOR FUTURE RESEARCH

Introduction

This chapter presents the study summary, conclusions based on the data analysis, implications of the findings, limitations and results. Recommendations for future research are also described.

Problem Statement

Previous studies investigated the relationship between achievement goal orientations and self-regulated learning strategies among college students. Although one study examined whether students' SRL strategies predicted goal orientations (Ali, Hatala, Gašević, & Winne, 2014), research has rarely explored whether the various achievement goal orientations led to different SRL strategies. Furthermore, learners' management of resources during their learning process have rarely been examined. However, the management of resource is a significant aspect during individuals' learning process and would influence their academic performance. Some of the research explored goal-orientations and self-regulated strategies among adult learners; however, they have not compared adult and traditional learners.

The purpose of this study was to examine achievement goal orientations and self-regulated learning strategies, focusing on resource management strategies of adult and traditional learners. The difference between achievement goal orientations and resource management strategies of the two groups were addressed. Also, this research examined the relationship of

these two sets of variables, and to further explore how achievement goals and resource management strategies differ between adult learners and traditional students.

Research Questions

This study investigated the following research questions:

1) What are the differences of achievement goal orientations between adult and traditional learners?

2) What are the differences of resource management strategies between adult and traditional learners?

3) What is the relationship of achievement goal orientations and resource management strategies of adult leaners?

4) What is the relationship of achievement goal orientations and resource management strategies of traditional learners?

5) What is the relationship of goal orientations and the resource management strategies between adult and traditional learners?

Summary

Study Overview

Learners often hold various achievement goal orientations when taking a course, and they manage resources differently during their learning process. Based on different student status', adult and traditional learners may have distinct achievement goal orientations and they may adopt different resource management strategies when taking a course. For example, previous studies noted adult learners are more mastery goal-oriented than their traditional counterparts (Morris, Brooks, & May, 2003). In terms of learning strategies, studies have been debated regarding traditional college students' use of resource management strategies. However, limited

studies investigated these strategies of adult learners. Moreover, it is assumed that various achievement goal orientations would lead to the different adoption of resource management strategies, which is a significant aspect during individuals' learning process and would influence their academic performance. Therefore, the purpose of this study was to examine the achievement goal orientations and the resource management strategies of adult and traditional learners.

Elliott and McGregor's (2001) achievement goal theoretical framework and Pintrinch and colleagues' (1991) self-regulated learning conceptual framework were provided as the frameworks for this study. A quantitative research design was used to address five research questions. Students who were enrolled at a large southeastern public research institution during the Spring semester in 2016 were invited to participate in this study.

A survey containing the Achievement Goal Questionnaire–Revised (AGQ-R) (Elliot & Murayama, 2008), and resource management strategies from the Motivated Strategies for Learning Questionnaire (MSLQ) (Pintrich et al., 1991) was used in this research. A total number of 779 students participated in this study, with 549 usable responses (usable rate equals to 70.5%). Among the valid respondents, 286 (51.8%) participants identified themselves as traditional learners, whereas 238 (43.1%) reported they are adult learners. Additionally, there were more responses from female students (55.4%) than male students (39.3%), and 46.4% of the participants majored in STEM (Science, Technology, Engineering, and Math), while 48.6% of them reported they were studying in non-STEM fields. Data collected from this survey was analyzed through one-way MANOVA, Canonical Correlation, and Discriminant Function Analysis in order to examine the achievement goal orientations and the resource management

strategies of these two learner groups, the relationship of these two variables sets, and how these variables differ between adult and traditional learners.

Findings of the Survey

Research Question 1 examined the differences of achievement goal orientations between adult and traditional learners. Adult and traditional learners had significant differences in adopting achievement goal orientations. Adult learners had a high level of mastery approach-goal orientation, while traditional learners were more performance approach-goal oriented.

Research Question 2 explored the differences of the resource management strategies between adult and traditional learners. Data demonstrated that traditional learners used peer learning and help seeking strategies more often, while their adult counterparts were more likely to adopt effort regulation and time and study environment strategies during their learning process.

Research Question 3 investigated the relationship of the achievement goal orientation and the resource management strategies of adult leaners. Adult learners who had a strong mastery approach-goal orientation were more likely to have a high commitment of completing their study goals and manage their study time.

Research Question 4 investigated the relationship of the achievement goal orientation and the resource management strategies of traditional learners. Results indicated that traditional learners with a strong mastery approach-goal orientation and a mastery avoidance-goal orientation preferred to manage study time, had a high commitment to accomplish study goals, and collaborated with their peers during their learning process.

Research Question 5 examined the relationship of achievement goal orientations and the resource management strategies between adult and traditional learners. Results revealed that two strategies and two achievement goal orientations were different between these two learner groups:

effort regulation, peer learning, performance avoidance-goal orientation, and mastery approach-goal orientation. Traditional learners had a lower level of mastery approach-goal orientation and they also had a lower commitment of completing their study goals. Whereas traditional learners had a higher level of performance avoidance-goal orientation and they often collaborated with their classmates. Meanwhile, adult learners had a higher level of mastery approach-goal orientation and they also had a high commitment of accomplishing their study goals, while they had a lower level of performance avoidance-goal orientations and they did not usually study with their peers during the learning process. Additionally, peer learning and effort regulation have the strongest effect in distinguishing adult and traditional learners. Finally, data indicated the four variables (MAP, MAV, Effort, Peer) were more accurately predicted traditional learners than to predict adult learners.

Conclusions

Similar to previous studies (Morris, Brooks, & May, 2003), this study demonstrates that adult learners were more mastery goal-oriented, especially approach-goal oriented compared to their traditional counterparts. Meanwhile, traditional learners were found to be performance approach- and avoidance-goal orientated. In other words, adult learners usually have a desire to master an academic task or certain skills when they learn. In terms of traditional learners, some of them learn because they desire to show that they are more competent than their peers, while others try to avoid showing that they lack the skills or knowledge to master an academic task compared to their peers.

Conflicting with previous studies that indicated traditional college students have negative feelings towards peer learning and help seeking (Chen, 2000; Karabenick & Knapp, 1991), this study revealed that traditional leaners preferred to collaborate with their classmates and they

often sought help from their peers and instructors during the learning process. These results supported ideas of several previous studies (Ericsson, 1997; Nielsen, 2004). Furthermore, different than traditional learners, adult learners have a strong commitment of completing their study goals when they learn. In other words, adult learners may put great effort in mastering an academic task. Additionally, they often better manage and schedule their study time during their learning process.

In terms of the relationship between achievement goal orientations and the resource management strategies, results of this study concluded that traditional learners' mastery goal-orientations, both approach- and avoidance-goal orientations, have a positive correlation with their time and study environment, effort regulation, and peer learning strategies. Similarly, adult learners who have a strong mastery approach-goal orientation more often adopt time and study environment and effort regulation strategies. These findings indicated that the desire to obtain certain knowledge or skills motivates learners to spend more time and great effort in learning. Specifically, the desire to avoid misunderstanding of an academic task by traditional learners also affected their learning strategies. One significant difference between adult and traditional learners was that younger learners' mastery goal orientations also led to their collaboration with peers during their learning process, while adult learners did not adopt this strategy when they study. These findings in some part mirror Suárez Reveiro and colleagues' (2001) study that students with a mastery approach-goal orientation were more likely to adopt time and study environment strategy. However, no correlation was found between mastery or performance goal orientations with help seeking, which contradicted what had been found before in that goal orientations predicted help seeking strategies (Karabenick, 2004). Although Elliot and colleagues

(1999) noted that performance avoidance-goal orientation had a strong relationship to time and study environment strategies, no evidence was found in this study.

In addition, adult and traditional learners can be distinguished by mastery approach-goal orientation, performance avoidance-goal orientation, peer learning, and effort regulation strategies. Findings demonstrated that learners who had a strong mastery approach-goal orientation and would like to put more effort to reach their study goals were more likely to be adult learners, whereas those who had a strong performance avoidance-goal orientation and often studied with their peers during their learning process were more likely to be traditional learners. Furthermore, results indicated that peer learning and effort regulation were the most significant variables to differ between adult and traditional learners. In other words, without knowing learners' achievement goal orientations, those who usually study with classmates have a high probability to be traditional learners, whereas those who put great effort during their learning process may usually be adult learners.

Implications

Important educational implications for educational professionals are provided in order to address areas for development and improvement for diverse learners' curriculum, instruction, and teaching methods.

Assisting Adult Learners

Adult learners often consider education as "a process of developing increased competence to achieve their full potential in life", and they desire to "be able to apply whatever knowledge and skill they gain today to living more effectively tomorrow" (Knowles, 1970, p. 44). Based on their orientations, several suggestions for practice were provided by Knowles (1970). For instance, instructors should first involve adult learners in a process of self-diagnosis

of needs for learning, including letting them know the reason of learning certain knowledge. Second, instructors need to help adult learners in "objectively assessing the strengths and weaknesses of their performance" (p. 48). Finally, instructors need to help adult learners measure the gaps between their current competencies and the required performance, so that they are able to identify "the distance between where they are and where they would like to be, and so are able to identify specific directions of desirable growth" (p. 48). In addition, adult learners are self-directed learners (Knowles, 1959), therefore, when facing these types of students, instructors may consider it a challenge. Instructors could "leave the learner largely alone to carry it out, intervening only when asked to help—and then not help meet the challenge, but instead help empower the learner to meet the challenge" (Grow, 1991, p.136).

Combining with Knowles' suggestions and the findings of the present study, it is significant for faculty to provide extra learning materials for adult learners since they are interested in acquiring knowledge and mastering an academic task. Additionally, since these learners are willing to take responsibility for their learning, direction, and productivity, and they often plan their study time to accomplish their study goals, instructors should consider cultivating their ability to learn. For instance, faculty may consider to consult with adult learners to develop their learning materials and strategies such as written criteria, timetables, and management charts for any projects they develop. Furthermore, instructors could also arrange regular meetings with these learners to discuss their progress and problems during their learning process. It may also be important to assign adult learners with more advanced projects in order to satisfy their learning needs and to assist them in achieving their study goals.

Assisting Traditional Learners

During their learning process, traditional learners prefer to study with their peers and they may often seek help from classmates and/or instructors. Therefore, faculty may consider using collaborative learning to assist these learners. Gokhale (1995) defined collaborative learning as a strategy to group and pair students for the purpose of achieving an academic goal. This instruction method encourages students at various performance levels to work together in small groups to complete a common goal, and they are responsible for not only their own learning but also that of others. Vygosky (1978) noted that students may perform at higher intellectual levels when they are asked to work in collaborative situations compared to working individually. Furthermore, studies demonstrated that collaborative learning could improve problem-solving strategies since students face different interpretations of the given situations, and the support from peers makes it possible for them to internalize both external knowledge and critical thinking skills (Bruner, 1985). Similarly, collaborative learning provides students with opportunities to analyze, synthesize, and evaluate ideas cooperatively, which help them learn from each others' scholarship, skills, and experiences (Gokhale, 1995). Therefore, in order to help traditional learners, instructors should often apply collaborative learning such as assigning group activities or team work projects. In addition, it would be beneficial for faculty to arrange time for regular meetings with traditional learners to discuss problems or issues they encounter during their learning process since they may often seek help from their peers and/or instructors.

Since traditional learners desire to show that they are more competent than their classmates or avoid appearing they lack the skills or knowledge in mastering an academic task, a proper use of competition in class may be effective in enhancing traditional learners' interest in learning. Some scholars (Petten, n.d) considered competition in education could motivate

students to complete their school work and to get a good grade. In addition, competition in education may encourage students to know about their strengths and weaknesses, thus to improve themselves during the learning process. Competition in class could also encourage students to use their specific strengths and intelligences to stand out from their peers. Shindler (2009) noted that competition may increase the level of anxiety or threat for a performance, which may refine skills given a more demanding performance context. Second, competition could provide a dimension, which may reinforce group interdependence and or team skills. Lastly, competition may increase the level of fun and or drama in an activity.

However, previous studies noted that competition may shift learners' attention from the task itself to attention to the cost of their performance in the task (Johnson & Johnson, 2006; Reeve & Deci, 1996). Shindler (2009) described that when a competitive goal is presented, learners would focus more on the outcome of the effort but not on the process, and they will pay great attention to what it takes to win instead of learning for its own sake. As a result, Shindler (2009) provided several suggestions for creating a healthy competition environment for learners:

1) the primary goal is fun

2) the competitive goal is not valuable/real nor it is characterized that way

3) the learning and/or growth goal is conspicuously characterized as valuable

4) the competition has a short duration and is characterized by high energy

5) there is no long-term effect from the episode

6) all individuals or groups see a reasonable chance of winning

7) the students all firmly understand these points

Some other competition examples, such as trivia contests, short-term competitions for a solely symbolic reward can be lighthearted challenges between groups where there is no reward.

Collaborative learning is significant in assisting traditional learners during their learning process, which should be considered as an important instruction method. Meanwhile, applying competition in class may enhance these learners' learning interest and motivation, but at the same time instructors must plan any competition activities carefully and properly.

Adult and Traditional Learners

When teaching a course with both adult and traditional learners, instructors should consider ways of balancing the needs of both learners. For instance, instructors should provide a proper amount of extra readings or assignments in order to satisfy adult learners' learning needs but without reducing traditional learners' learning interest at the same time. Meanwhile, since adult learners do not often study with peers, instructors need to assign a proper amount of group activities to enhance traditional learners' learning passion, and to provide a comfortable learning environment for adult learners simultaneously.

Limitations

There are several limitations in this study. First, the present study involves the use of a self-reported questionnaire. Thus, students may not thoroughly understand their achievement goal orientations and resource management strategies, and some of them may also adopt two or more goal orientations. Second, two learner groups were excluded from the study: those who are younger than 25 years old but do not have an unbroken linear academic path, and those who are 25 or older but with an unbroken linear path in education system. Third, information was collected from participants in a large southeastern research institution, which may not represent all adult and traditional learners in the U.S. In addition, the effect size was small, which indicated that the implications of the achievement goal orientations and the resource management strategies between adult and traditional learners needed to be evaluated carefully. Furthermore,

this study only involved student status (adult vs. traditional), while learners' gender and major may influence their adoption of the achievement goal orientations and the resource management strategies. Lastly, limited studies have investigated the relationship between the achievement goal orientations and the resource management strategies, specifically whether the achievement goal orientations could predict the resource management strategies, as well as how those variables differed between these two learner groups.

Recommendations for Future Research

First, empirical and qualitative studies such as observation, focus group or interviews are needed to explore the achievement goal orientations and the resource management strategies during the learning process of adult and traditional learners. These studies could also serve as evidence or arguments to the findings of the present study.

Second, factors such as gender and major should be included to further investigate diverse learners' achievement goal orientations and their resource management strategies. It is also suggested to compare international students with native students regarding their achievement goal orientations and the learning strategies during their learning process.

Thirdly, follow-up studies are needed to clarify why adult learners do not often study with their peers. Lin (2016) suggested that adult learners may confront a generation gap between their traditional counterparts, and their multiple roles as full-time employers and/or parents often prevent them from spending much time in campus, which then leads to their having few campus peers to whom they may discuss education topics with. Future studies are needed to further investigate why adult learners do not usually study with their peers.

Finally, the various course formats should be considered for future studies. Today, many face-to-face courses have moved to the internet, or at least combined with some kinds of

education technology. This trend raises questions such as have adult learners' goal orientations and their learning strategies changed in order to adapt to the new teaching and learning format? Do they apply resource management strategies differently in a face-to-face course format from an online class? As a result, future studies may be considered to explore related questions through comparing different course formats (face-to-face, hybrid, online) among adult and traditional learners regarding the goal orientations and their learning strategies.

REFERENCES

Adesope, O. O., Gress, C. L. Z., & Nesbit, J. C. (2008). Validating the psychometric properties of achievement goals questionnaire using item response theory. Paper presented at the *meeting of the Canadian Society for the Study of Education*, Vancouver, B. C., Canada.

Alderman, M. K. (1999). *Motivation for achievement: Possibilities for teaching and learning.* Mahwah, NJ: Lawrence Erlbaum Associates.

Allen, P., Withey, P., Lawton, D., & Aquino, C. T. (2016). Andragogical Teaching Methods to Enhance Nontraditional Student Classroom Engagement. *i-Manager's Journal of Educational Technology, 13*(2), 47.

Ali, L., Hatala, M., Gašević, D., & Winne, P. H. (2014). Leveraging MSLQ Data for Predicting Students Achievement Goal Orientations. *Journal of Learning Analytics, 1*(3), 157-160.

Ames, C. (1992). Classrooms: Goals, structures, and student motivation. *Journal of educational psychology, 84*(3), 261. doi:10.1037/0022-0663.84.3.261

Ames, C., & Archer, J. (1988). Achievement goals in the classroom: Students' learning strategies and motivation processes. *Journal of Educational Psychology, 80*(3), 260-267.

Ames, R., & Lau, S. (1982). An attributional analysis of help seeking in academic setting. *Journal of Educational Psychology, 74*(4), 414-423.

Anderman, E. (Sep, 2015). Goal Orientation Theory. *Education*. Retrieved from: http://www.education.com/reference/article/goal-orientation-theory/

Anderman, E., &Maehr, M. (1994). Motivation and schooling in the middle grades. *Review of Educational Research, 64*, 287–309.

Archer, J. (1994). Achievement goals as a measure of motivation in university students. *Contemporary educational psychology, 19*(4), 430-446.

Aslanian, C. B. (2001). You're Never Too Old... Excerpts from" Adult Students Today.". *Community College Journal, 71*(5), 56-8.

Aspinwall, L. G., & Taylor, S. E. (1997). A stitch in time: self-regulation and proactive coping. *Psychological bulletin, 121*(3), 417. http://dx.doi.org/10.1037/0033-2909.121.3.417

Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, NJ: Prentice- Hall, Inc.

Bandura, A. (1991). Self-regulation of motivation through anticipatory and self-regulatory mechanisms. In R. A. Dienstbier (Ed.), *Perspectives on motivation: Nebraska symposium on motivation* (Vol. 38, pp. 69-164). Lincoln: University of Nebraska Press.

Barron, K. E., Finney, S. J., Davis, S. L. & Owens, K. M. (2003, April). Achievement goal pursuit: Are different goals activated and more beneficial in different types of academic situations? Paper presented at *the meeting of the American Educational Research Association*, Chicago, Il.

Beaty, E., Dall'Alba, G., & Marton, F. (1997). The personal experience of learning in higher education: Changing views and enduring perspectives. In P. Sutherland (Ed.), *Adult learning: A reader*, (pp. 150-165). London: Kogan Page.

Becker, G. (2000). Creating comparability coefficients: The case of Cronbach alpha and Cohen kappa. *Psychological Reports, 87*, 1171-1182.

Beinart, S., & Smith, P. (1998). *National adult learning survey 1997* (Research Report No. 49). Sheffield: Department for Education and Employment. Retrieved from https://www.education. gov.uk/publications/eOrderingDownload/RR49.pdf

Benshoff, J. M., & Lewis, H. A. (1992). *Nontraditional college students* (Report No. EDO-CG-92-16). Washington, DC: Office of Educational Research and Improvement.

Bergin, S., Reilly, R., & Traynor, D. (2005, October). Examining the role of self-regulated learning on introductory programming performance. In *Proceedings of the first international workshop on Computing education research* (pp. 81-86). ACM.

Boekaerts, M., Pintrich, P., & Zeidner, M. (Eds.). (2000). *Handbook of self-regulation*. San Diego, CA: Academic Press.

Bouffard, T., Boisvert, J., Vezeau, C., & Larouche, C. (1995). The impact of goal orientation on self-regulation and performance among college students. *British Journal of Educational Psychology, 65*, 317-329.

Brackney, B. E., & Karabenick, S. A. (1995). Psychopathology and academic performance: The role of motivation and learning strategies. *Journal of Counseling Psychology, 42*(4), 456-465. http://dx.doi.org/10.1037/0022-0167.42.4.456

Brackney, B. E., & Karabenick, S. A. (1995). Psychopathology and academic performance: The role of motivation and learning strategies. *Journal of Counseling Psychology, 42*(4), 456.

Britton, B., & Tesser, A. (1991). Effect of time-management practices on college grades. *Journal of Educational Psychology, 83*, 405–410. http://dx.doi.org/10.1037/0022-0663.83.3.405

Brockett, R. G., & Donaghy, R. C. (2005). Beyond The Inquiring Mind: Cyril Houle's Connection to Self-Directed Learning. *Proceedings from AERC, 5.*

Bruner, J. (1985). Vygotsky: An historical and conceptual perspective. *Culture, communication, and cognition: Vygotskian perspectives*, 21-34. London: Cambridge University Press.

Butler, D., & Winne, P. (1995). Feedback and self-regulated learning: A theoretical synthesis. *Review of Educational Research, 65*, 245-281.

Butler, R. (1987). Task-involving and ego-involving properties of evaluation: Effects of different feedback conditions on motivational perceptions, interest, and performance. *Journal of Educational Psychology, 79*, 474-482.

Button, S. B., Mathieu, J. E., & Zajac, D. M. (1996). Goal orientation in organizational research: A conceptual and empirical foundation. *Organizational behavior and human decision processes, 67*(1), 26-48. doi:10.1006/obhd.1996.0063

Bye, D., Pushkar, D., & Conway, M. (2007). Motivation, interest, and positive affect in traditional and nontraditional undergraduate students. *Adult education quarterly, 57*(2), 141-158.

Campen, D. (2010). *An Investigation of Achievement Goals and Time Perspective in Community College Students Engaged in a First-Year Experience Course*. ProQuest LLC. 789 East Eisenhower Parkway, PO Box 1346, Ann Arbor, MI 48106.

Carney-Crompton, S., & Tan, J. (2002). Support systems, psychological functioning, and academic performance of nontraditional female students. *Adult Education Quarterly, 52,* 140-154.

Cellar, D. F., Stuhlmacher, A. F., Young, S. K., Fisher, D. M., Adair, C. K., Haynes, S., Twichell, E., Arnold, K. A., Royer, K., Denning, B. L.,& Riester, D. (2011). Trait goal orientation, self-regulation, and performance: A meta-analysis. *Journal of Business and Psychology, 26*(4), 467-483. DOI: 10.1007/s10869-010-9201-6

Chen, C. S. (2002). Self-regulated learning strategies and achievement in an introduction to information systems course. *Information Technology, learning, and performance Journal, 20*(1), 11.

Church, M. A., Elliot, A. J., & Gable, S. L. (2001). Perceptions of classroom environment, achievement goals, and achievement outcomes. *Journal of educational psychology, 93*(1), 43-54. http://dx.doi.org/10.1037/0022-0663.93.1.43

Clayton, D. E., & Smith, M. M. (1987). Motivational typology of reentry women. *Adult Education Quarterly, 37*(2), 90-104. doi: 10.1177/0001848187037002003

Comings, J. (2007). Persistence: Helping adult education students reach their goals. In J. Comings, B. Garner, & C. Smith (Eds.), *Review of Adult Learning and Literacy* (Vol. 7, pp. 3-46). Cambridge, MA: National Center for the Study of Adult Learning and Literacy.

Compton, J. I., Cox, E., & Laanan, F. S. (2006). Adult learners in transition. *New directions for student services, 2006*(114), 73-80. http://dx.doi.org/10.1002/ss.208

Conley, A., & Pintrich, P. (2004). *Construct validity and the measurement of achievement goals*. Manuscript submitted for publication, University of Michigan.

Corno, L. (1994). Student volition and education: Outcomes, influences, and practices. In B. J. Zimmerman & D. H. Schunk (Eds.), *Self-regulation of learning and performance* (pp. 229-254). Hillsdale, NJ: Lawrence Erlbaum Associates.

Coutinho, S. A. (2007). The relationship between goals, metacognition, and academic success. *Educate, 7*(1), 39-47.

Covington, M. (1999). Caring about learning: The nature and nurturing of subject matter appreciation. *Educational Psychologist, 34*, 127-136.

Cross, K. P. (1980). Our changing students and their impact on colleges: Prospects for a true learning society. *The Phi Delta Kappan, 61*(9), 627-630.

Curtis, R. C. (2000). Using goal-setting strategies to enrich the practicum and internship experiences of beginning counselors. *Journal of Humanistic Counseling, Education & Development, 38*(4), 194-206.

Cury, F., Elliot, A. J., Da Fonseca, D., & Moller, A. C. (2006). The social-cognitive model of achievement motivation and the 2 X 2 achievement goal framework. *Journal of Personality and Social Psychology, 90*(4), 666-679.

DeGeest, D., & Brown, K. G. (2011). The role of goal orientation in leadership development. *Human Resource Development Quarterly, 22*(2), 157-175. DOI: 10.1002/hrdq.20072

DeShon, R. P., & Gillespie, J. Z. (2005). A motivated action theory account of goal orientation. *Journal of Applied Psychology, 90*(6), 1096. http://dx.doi.org/10.1037/0021-9010.90.6.1096

Dill, P. L., & Henley, T. B. (1998). Stressors of college: A comparison of traditional and nontraditional students. *The Journal of Psychology, 132*(1), 25-32. http://dx.doi.org/10.1080/00223989809599261

Doljanac, R. F. (1994). Using motivational factors and learning strategies to predict academic success. *Dissertation Abstracts International, 56*(1), 142A. (UMI 9513340).

Duda, J., & Nicholls, J. (1992). Dimensions of achievement motivation in schoolwork and sport. *Journal of Educational Psychology, 84*(3), 290–299.

Dweck, C. S. (1986). Motivational processes affecting learning. *American psychologist, 41*(10), 1040-1048. http://dx.doi.org/10.1037/0003-066X.41.10.1040

Dweck, C. S., & Elliot, E. S. (1983). Achievement motivation. In P. Mussen & E. M. Heatherington (Eds.), *Handbook of child psychology* (pp. 643–691). New York: Wiley.

Dweck, C. S., & Leggett, E. L. (1988). A social-cognitive approach to motivation and personality. *Psychological review, 95*(2), 256. doi:10.1037/0033-295X.95.2.256

Elliot, A. (1997). Integrating the ‘‘classic’’ and ‘‘contemporary’’ approaches to achievement motivation: A hierarchical model of approach and avoidance achievement motivation. In M. Maehr, & P. Pintrich (Eds.), *Advances in motivation and achievement*, Vol. 10 (pp. 143–179). Greenwich, CT: JAI Press.

Elliot, A. J. (1999). Approach and avoidance motivation and achievement goals. *Educational psychologist, 34*(3), 169-189. DOI: 10.1207/s15326985ep3403_3

Elliot, A. J. (2006). The hierarchical model of approach-avoidance motivation. *Motivation and emotion, 30*(2), 111-116. DOI: 10.1007/s11031-006-9028-7

Elliot, A. J. & McGregor, H. A. (2001). A 2 X 2 achievement goal framework. *Journal of Personality and Social Psychology, 80*(3), 501-519.

Elliot, A. J. & Murayama, K. (2008). On the measurement of achievement goals: Critique, illustration, and application. *Journal of Educational Psychology, 100*(3), 613-628.

Elliot, A. J., & Church, M. A. (1997). A hierarchical model of approach and avoidance achievement motivation. *Journal of personality and social psychology, 72*(1), 218. http://dx.doi.org/10.1037/0022-3514.72.1.218

Elliot, A. J., & Harackiewicz, J. M. (1996). Approach and avoidance achievement goals and intrinsic motivation: A mediational analysis. *Journal of Personality and Social Psychology, 70*, 461-475.

Elliot, A. J., & McGregor, J. A. (2001). A 2x2 achievement goal framework. *Journal of Personality and Social Psychology, 80*, 501-519. http://dx.doi.org/10.1016/j.psychsport.2005.08.012.

Elliot, A. J., & Thrash, T. M. (2001). Achievement goals and the hierarchical model of achievement motivation. *Educational Psychology Review, 13*, 139–156.

Elliot, A. J., McGregor, H. A., & Gable, S. (1999). Achievement goals, study strategies, and exam performance: A mediational analysis. *Journal of Educational Psychology, 91*(3), 549-563.

Elliot, E. S., & Dweck, C. S. (1988). Goals: An approach to motivation and achievement. *Journal of Personality and Social Psychology, 54*, 5-12.

Ely, E. E. (1997, April). The non-traditional student. Paper presented at the *American Association of Community Colleges annual conference*, Anaheim, CA.

Eppler, M. A., & Harju, B. L. (1997). Achievement motivation goals in relation to academic performance in traditional and nontraditional college students. *Research in Higher Education, 38*, 557–573. doi:10.1023/A:1024944429347

Ericsson, K.A. (1997) 'Deliberate Practice and the Acquisition of Expert Performance: An Overview', in H. Jørgensen and A.C. Lehmann (eds) *Does Practice Make Perfect? Current Theory and Research on Instrumental Music Practice,* pp. 9–51. Oslo: Norwegian State Academy of Music.

Flett, G. L., Hewitt, P. L., Blankstein, K. R., & Gray, L. (1998). Psychological distress and the frequency of perfectionistic thinking. *Journal of personality and social psychology, 75*(5), 1363. http://dx.doi.org/10.1037/0022-3514.75.5.1363

Flippo, R. (2001). *Reading Researchers in Search of Common Ground*. International Reading Association: Newark, DE.

Fraser, B. J., & Fisher, D. L. (1986). Using short forms of classroom climate instruments to assess and improve classroom psychosocial environment. *Journal of Research in Science Teaching, 23*(5), 387-413. DOI: 10.1002/tea.3660230503

Fuchs, L. S., Fuchs, D., & Deno, S. L. (1985). Importance of goal ambitiousness and goal mastery to student achievement. *Exceptional Children, 52*, 63-71.

Garavalia, L. S., & Gredler, M. E. (2002). An exploratory study of academic goal setting, achievement calibration and self-regulated learning. *Journal of Instructional Psychology, 29*, 221–231.

García-Ros, R., Pérez-González, F., & Hinojosa, E. (2004). Assessing Time Management Skills as an Important Aspect of Student Learning The Construction and Evaluation of a Time Management Scale with Spanish High School Students. *School Psychology International, 25*(2), 167-183. DOI: 10.1177/0143034304043684

Garrison, D. R. (1997). Self-directed learning: Toward a comprehensive model. *Adult education quarterly, 48*(1), 18-33.

Gokhale, A. A. (1995). Collaborative learning enhances critical thinking. *Journal of Technology Education, 7*, 22-30. Retrieved from http://scholar.lib.vt.edu/ejournals/JTE/v7n1/gokhale.jte-v7n1.html?ref=Sawos.Org

Goldfinch, J., & Hughes, M. (2007). Skills, learning styles and success of first-year undergraduates. *Active learning in higher education, 8*(3), 259-273.

Graham, S., & Donaldson, J. F. (1999). Adult students' academic and intellectual development in college. *Adult Education Quarterly, 49*(3), 147-161.

Grow, G. O. (1991). Teaching learners to be self-directed. *Adult education quarterly, 41*(3), 125-149. DOI: 10.1177/0001848191041003001

Harackiewicz, J. M., & Sansone, C. (1991). Goals and intrinsic motivation: You can get there from here. In M. L. Maehr & P. R. Pintrich (Eds.), *Advances in motivation and achievement* (Vol. 7, pp. 21-49). Greenwich, CT: JAI Press.

Harackiewicz, J. M., Barron, K. E., Pintrich, P. R., Elliot, A. J., & Thrash, T. M. (2002). Revision of achievement goal theory: Necessary and illuminating. *Journal of Educational Psychology, 94*(3), 638-645. http://dx.doi.org/10.1037/0022-0663.94.3.638

Harackiewicz, J. M., Barron, K. E., Tauer, J. M., & Elliot, A. J. (2002). Predicting success in college: A longitudinal study of achievement goals and ability measures as predictors of interest and performance from freshman year through graduation. *Journal of Educational Psychology, 94*(3), 562. http://dx.doi.org/10.1037/0022-0663.94.3.562

Hardin, C. J. (2008). Adult students in higher education: A portrait of transitions. *New directions for higher education, 2008*(144), 49-57.

Hosenfeld, C. (1976). Learning about learning: Discovering our student's strategies. *Foreign Language Annals, 9*, 117-129.

Houle, C. O. (1961). *The inquiring mind*. Oklahoma Research Center for Continuing Professional and Higher Education, University of Oklahoma.

Hoyert, M. S., & D O'Dell, C. (2009). Goal orientation and academic failure in traditional and nontraditional aged college students. *College Student Journal, 43*(4), 1052.

Huberty, C. J., & Petoskey, M. D. (2000). Multivariate analysis of variance and covariance. In H. Tinsley and S. Brown (Eds.) *Handbook of applied multivariate statistics and mathematical modeling*. New York: Academic Press.

Hussar, W. J. & Bailey, T. M. (2011). *Projections of education statistics to 2020* (NCES 2011-026). U.S. Department of Education, National Center of Education Statistics. Retrieved

from the National Center of Education Statistics website: http://nces.ed.gov/pubs2011/2011026.pdf.

Jagacinski, C., & Duda, J. (2001). A comparative analysis of contemporary achievement goal orientation measures. *Educational and Psychological Measurement, 61*(6), 1013–1039.

Johnson, D. W., & Johnson, R. (2006). Conflict resolution, peer mediation and peacemaking. In C.M. Evertson & C.S. Weinstein, (Eds.) *Handbook of classroom management*. (pp. 803-832). Mahwah, NJ: Lawrence Erlbaum Associates.

Johnson, L., Graham, S., & Harris, K. (1997). The effects of goal setting and selfinstruction on learning a reading comprehension strategy: A study of students with learning disabilities. *Journal of Learning Difficulties, 30*, 80-91.

Jones, M. H., Alexander, J. M., & Estell, D. B. (2010). Homophily among peer groups members' perceived self-regulated learning. *The Journal of Experimental Education, 78*(3), 378-394. http://dx.doi.org/10.1080/00220970903548020

Justice, E. M., & Dornan, T. M. (2001). Metacognitive differences between traditional-age and nontraditional-age college students. *Adult Education Quarterly, 51*(3), 236-249. DOI: 10.1177/07417130122087269

Kaplan, A., & Maehr, M. L. (2007). The contributions and prospects of goal orientation theory. *Educational Psychology Review, 19*(2), 141-184. DOI: 10.1007/s10648-006-9012-5

Karabenick, S. A. (1998). Help seeking as a strategic resource. In S. Karabenick (Ed.), *Strategic help seeking: Implications for learning and teaching* (pp. 1-11). Mahwah, NJ: Lawrence Erlbaum Associates.

Karabenick, S. A. (2004). Perceived achievement goal structure and college student help seeking. *Journal of educational psychology, 96*(3), 569. http://dx.doi.org/10.1037/0022-0663.96.3.569

Karabenick, S. A., & Knapp, J. R. (1991). Relationship of academic help seeking to the use of learning strategies and other instrumental achievement behavior in college students. *Journal of Educaitonal Psychology, 83*(2), 221-230.

Karabenick, S. A., & Sharma, R. (1994). Seeking academic assistance as a strategic learning resource. In P. Pintrich, D. Brown, & C. E. Weinstein (Eds.), *Student motivation, cognition, and learning: Essays in honor of Wilbert J. McKeachie* (pp. 189-211). Hillsdale, NJ: Erlbaum.

Kasworm, C. (2003). Adult meaning making in the undergraduate classroom. *Adult Education Quarterly, 53*(2), 81-98.

Kasworm, C. E., Polson, C. J., & Fishback, S. J. (2002). *Responding to Adult Learners in Higher Education. Professional Practices in Adult Education and Human Resource Development Series*. Melbourne, FL: Krieger Publishing Company.

Kerka, S. (2005). Learner Persistence in Adult Basic Education. *California Adult Education Research Digest, 2,* 1-4.

Kilgore, D., & Rice, P. J. (2003). *Meeting the special needs of adult students* (No. 102). Jossey-Bass Inc Pub.

Klein, J. D. (1990). An analysis of the motivational characteristics of college reentry students. *College Student Journal, 24*(3), 281-286.

Knowles, M. S. (1975) *Self Directed Learning: A Guide for Learners and Teachers*. Chicago: Association Press.

Knowles, M. S. (1959). The church can help adults learn. *The Church School, 13*(1), 9-10.

Knowles, M. S. (1970). *The modern practice of adult education* (Vol. 41). New York: New York Association Press.

Knowles, M. S. (1973). *The adult learner: A neglected species*. Houston: Gulf Publishing Company. Revised Edition 1990.

Krager, L., Wrenn, R., & Hirt, J. (1990). Perspectives on age differences. *New Directions for Student Services, 51*, 37-47. http://dx.doi.org/10.1002/ss.37119905105

Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal. and coping*. New York: Springer.

Lee, L. H. (1997). Goal orientation, goal setting, and academic performance in college students: An integrated model of achievement motivation in school settings. *Dissertation Abstracts International, 56*(6), 1905A. (UMI 9835095).

Lin, X. (2016). Barriers and Challenges of Female Adult Students Enrolled in Higher Education: A Literature Review. *Higher Education Studies, 6*(2), 119. doi:10.5539/hes.v6n2p119

Lin, X., & Wang, C. H. (2015). Factors that Affect Returning to Graduate School for International and American Adult Learners. *Institute for Learning Styles Journal, 1*, 40-53.

Locke, E. A., & Latham, G. P. (1990). *A theory of goal setting and task performance*. Englewood Cliffs, NJ: Prentice Hall.

Loyens, S. M., Magda, J., & Rikers, R. M. (2008). Self-directed learning in problem-based learning and its relationships with self-regulated learning. *Educational Psychology Review, 20*(4), 411-427. DOI: 10.1007/s10648-008-9082-7

McCollum, D. L. (2004). Development of integrated taxonomy of social goals (Doctoral dissertation, Penn State, 2004). *Dissertation Abstracts International 65*(9-A), 3279.

McCollum, D. L., & Kajs, L. T. (2007). Applying goal orientation theory in an exploration of student motivations in the domain of educational leadership. *Educational Research Quarterly, 31*(1), 45.

McGregor, H. A., & Elliot, A. J. (2002). Achievement goals as predictors of achievementrelevant processes prior to task engagement. *Journal of Educational Psychology, 94*(2), 381-395.

Meece, J. L., Blumenfeld, P. C., & Hoyle, R. H. (1988). Students' goal orientations and cognitive engagement in classroom activities. *Journal of Educational Psychology, 80*, 514-523.

Merriam, S. B. (2001). Andragogy and self-directed learning: Pillars of adult learning theory. *New directions for adult and continuing education, 2001*(89), 3-14.

Middleton, M., & Midgley, C. (1997). Avoiding the demonstration of lack of ability: An underexplored aspect of goal theory. *Journal of Educational Psychology, 89*, 710-718.

Midgley, C., Arunkumar, R., & Urdan, T. C. (1996). " If I don't do well tomorrow, there's a reason": Predictors of adolescents' use of academic self-handicapping strategies. *Journal of Educational Psychology, 88*(3), 423. http://dx.doi.org/10.1037/0022-0663.88.3.423

Midgley, C., Feldlaufer, H., & Eccles, J. S. (1988). The transition to junior high school: Beliefs of pre- and post-transition teachers. *Journal of Youth and Adolescence, 17*, 543–562.

Midgley, C., Kaplan, A., & Middleton, M. (2001). Performance-approach goals: Good for what, for whom, under what circumstances, and at what cost? *Journal of Educational Psychology, 93*(1), 77-86.

Midgley, C., Maehr, M. L., Hruda, L. Z., Anderman, E., Anderman, L., Gheen, K. E., Kaplan, A. Kumar, R. Middleton, M. J., Nelson, J. Roeser, R. Urdan, T. (2000). *Manual for the Patterns of Adaptive Learning Scales*. Ann Arbor, MI: University of Michigan.

Miller, R. B., Behrens, J. T., Greene, B. A., & Newman, D. (1993). Goals and perceived ability: Impact on student valuing, self-regulation, and persistence. *Contemporary Educational Psychology, 18*, 2 –14.

Morris, E. A., Brooks, P. R., & May, J. L. (2003). The relationship between achievement goal orientation and coping style: Traditional vs. nontraditional college students. *College Student Journal, 37*(1), 3.

Morris, R. L. & Kavussanu, M. (2009). Role of approach-avoidance versus task and ego goals in enjoyment and cognitive anxiety in youth sport. *International Journal of Sport and Exercise Psychology, 7*(2), 185-202.

Murphy, K. P., & Alexander, P. (2000). A motivated exploration of motivation terminology. *Contemporary Educational Psychology, 25*, 3-53.

Murray-Harvey, R. (1993). Identifying characteristics of successful tertiary students using path analysis. *Australian Educational Researcher, 20*(3), 63–81.

National Center for Education Statistics. (1997). *Median age of enrolled students and the percent of enrolled students who are under 25 in Title IV eligible degree-granting institutions, by student level, attendance status, and sex; 50 states and the District of Columbia* [Online]. Retrieved August 24, 2000, from http://nces.ed.gov

Nelson-Le Gall, S. (1981). Help-seeking: An understudied problem solving skill in children. *Developmental Review, 1*, 224-246.

Nelson-Le Gall, S. (1985). *Help-seeking behavior in learning. Review of research in education* (Vol. 12, pp. 55-90). Washington, DC: American Educational Research Association.

Nelson-Le Gall, S. A. (1987). Necessary and unnecessary help-seeking in children. *The Journal of genetic psychology, 148*(1), 53-62.

Nelson-Le Gall, S., Gumerman, R., & Scott-Jones, D. (1983). Instrumental help-seeking and everyday problem-solving. In B. M. Depaulo, A. Nadler, & J. D. Fisher (Eds.), *New directions in helping: Vol. 1. Help-seeking*, (pp. 265-283). San Diego, CA: Academic Press.

Newman, R. (1991). Goals and self-regulated learning: What motivates children to seek academic help? In M.L. Maehr & P.R. Pintrich (Eds.), *Advances in motivation and achievement: Goals and self-regulatory processes* (Vol. 7, pp. 151-183). Greenwich, CT: JAI Press.

Nicholls, J. (1984). Achievement motivation: Conceptions of ability, subjective experience, task choice, and performance. *Psychological Review, 91,* 328–346.

Nicholls, J. G., Patashnick, M., & Nolen, S. B. (1985). Adolescents' theories of education. *Journal of Educational Psychology, 77*, 683– 692.

Nielsen, S. G. (2004). Strategies and self-efficacy beliefs in instrumental and vocal individual practice: A study of students in higher music education. *Psychology of Music, 32*(4), 418-431. doi: 10.1177/0305735604046099

Nolen, S. B. & Haladyna, T. M. (1990). Personal and environ mental influences on students' beliefs about effective study strategies. *Contemporary Educational Psychology, 15*, 116-130.

Nonis, S. A., Philhours, M. J., & Hudson, G. I. (2006). Where does the time go? A diary approach to business and marketing students' time use. *Journal of Marketing Education, 28,* 121–134.

Norman, G. R. (1999). The adult learner: a mythical species. *Academic Medicine, 74*(8), 886-9.

Nurmi, J. E., Salmela‐Aro, K., & Ruotsalainen, H. (1994). Cognitive and attributional strategies among unemployed young adults: A case of the failure‐trap strategy. *European Journal of Personality, 8*(2), 135-148.DOI: 10.1002/per.2410080205

O'Donnell, A. M., & King, A. (1999). *Cognitive perspectives on peer learning*. Mahwah, NJ: Lawrence Erlbaum.

Padula, M. A. (1994). Reentry women: A literature review with recommendations for counseling and research. *Journal of Counseling and Development, 73*, 10-16. http://dx.doi.org/10.1002/j.1556-6676.1994.tb01703.x

Paris, S.G., & Byrnes, J.P. (1989). The constructivist approach to self-regulation and learning in the classroom. In B. Zimmerman & D. Schunk (Eds.), *Self-regulated learning and academic achievement: Theory, research and practice* (pp. 169-200). New York: Springer-Verlag.

Pastor, D. A., Barron, K. E., Miller, B. J., & Davis, S. L. (2007). A latent profile analysis of college students' achievement goal orientation. *Contemporary Educational Psychology, 32*(1), 8-47. http://dx.doi.org/10.1016/j.cedpsych.2006.10.003

Payne, S. C., Youngcourt, S. S., & Beaubien, J. M. (2007). A meta-analytic examination of the goal orientation nomological net. *Journal of Applied Psychology, 92*(1), 128. http://dx.doi.org/10.1037/0021-9010.92.1.128

Petten, V. V. (n. d.). Does Competition in Education Enhance the Learning Environment? *Rdical Parenting*. Retrieved from http://www.radicalparenting.com/2009/09/29/does-competition-in-education-enhance-the-learning-environment-teen-article/

Pintrich, P. R. (1986, April). Motivation and learning strategies interactions with achievement. Paper presented at the *Annual Convention of the American Educational Research Association,* San Francisco, CA.

Pintrich, P. R. (1989). The dynamic interplay of student motivation and cognition in the college classroom. In C. Ames & M. Maehr (Eds.), *Advances in motivation and achievement: Motivation enhancing environments* (Vol. 6, pp. 117-160). Greenwich, CT: JAI Press.

Pintrich, P. R. (1995). Understanding self‐regulated learning. *New directions for teaching and learning, 1995*(63), 3-12. DOI: 10.1002/tl.37219956304

Pintrich, P. R. (2000a). An achievement goal theory perspective on issues in motivation terminology, theory, and research. *Contemporary educational psychology, 25*(1), 92-104. http://dx.doi.org/10.1006/ceps.1999.1017

Pintrich, P. R. (2000b). Multiple goals, multiple pathways: The role of goal orientation in learning and achievement. *Journal of educational psychology, 92*(3), 544. http://dx.doi.org/10.1037/0022-0663.92.3.544

Pintrich, P. R. (2003). A motivational science perspective on the role of student motivation in learning and teaching contexts. *Journal of Educational Psychology, 95*(4), 667-686.

Pintrich, P. R. (2004). A conceptual framework for assessing motivation and self-regulated learning in college students. *Educational psychology review, 16*(4), 385-407. DOI: 10.1007/s10648-004-0006-x

Pintrich, P. R., & De Groot, E. V. (1990). Motivational and self-regulated learning components of classroom academic performance. *Journal of Educational Psychology, 82*, 33-40.

Pintrich, P. R., & Garcia, T. (1991). Student goal orientation and self-regulation in the college classroom. In M. L. Maehr & P. R. Pintrich (Eds.), *Advances in motivation and achievement: Goals and self-regulatory processes* (Vol. 7, pp. 371-402). Greenwich, CT: JAI Press.

Pintrich, P. R., & Schrauben, B. (1992). Students' motivational beliefs and their cognitive engagement in classroom tasks. In D. Schunk & J. Meece (Eds.), *Student perceptions in the classroom: Causes and consequences* (pp. 149-183). Hillsdale, NJ: Erlbaum.

Pintrich, P. R., Conley, A. M., & Kempler, T. M. (2003). Current issues in achievement goal theory and research. *International Journal of Educational Research, 39*(4), 319-337.

Pintrich, P. R., Smith, D. A. F., Garcia, T., & McKeachie, W. J. (1993). Reliability and predictive validity of the Motivated Strategies for Learning Questionnaire (MSLQ). *Educational and Psychological Measurement, 53,* 801-813.

Pintrich, P. R., Smith, D. A., García, T., & McKeachie, W. J. (1991). *A manual for the use of the Motivated Strategies for Learning Questionnaire (MSLQ).* Ann Arbor, MI: NCRIPTAL - The University of Michigan.

Pintrich, P.R. (1999). The role of motivation in promoting and sustaining self-regulated learning. *International Journal of Educational Research, 31*(6).459-470. http://dx.doi.org/10.1016/S0883-0355(99)00015-4

Pintrich, P.R., & Schunk, D.H. (2002). *Motivation in education: Theory, research and application* (2nd ed.). Upper Saddle River, NJ: Prentice Hall.

Reeve, J., & Deci, E.L. (1996) Elements of the competitive situations that affect intrinsic motivation. *Personality and Social Psychology Bulletin, 22*, 24-33.

Remedios, R., & Richardson, J. T. (2013). Achievement goals in adult learners: Evidence from distance education. *British Journal of Educational Psychology, 83*(4), 664-685.

Richardson, J. T. E. (1994). Mature students in higher education: I. A literature survey on approaches to studying. *Studies in Higher Education, 19*, 309-325.

Richardson, J. T. E. (1995). Mature students in higher education: II. An investigation of approaches to studying and academic performance. *Studies in Higher Education, 20*, 5-17.

Richardson, V. (1997). Constructivist teaching and teacher education: Theory and practice. In V. Richardson (Ed.), *Constructivist teacher education: Building a world of new understandings*, (pp. 3-14). Washington, DC: Falmer Press.

Rifenbary, D. (1995). Reentering the Academy: The Voices of Returning Women Students. *Initiatives, 56*(4), 1-10.

Roedel, T. D., Schraw, G. & Plake, B. S. (1994). Validation of a measure of learning and performance goal orientations. *Educational and Psychological Measurement, 54*(4), 1013-1021.

Roedel, T. D., Schraw, G., & Plake, B. S. (1994). Validation of a measure of learning and performance goal orientations. *Educational and Psychological Measurement, 54*, 1013–1021.

Roehl, J. E., & Okun, M. A. (1984). Depression symptoms among women reentering college: The role of negative life events and family social support. *Journal of College Student Personnel, 25*(3), 251-254.

Ryan, A. M., & Pintrich, P. R. (1997). " Should I ask for help?" The role of motivation and attitudes in adolescents' help seeking in math class. *Journal of educational psychology, 89*(2), 329-341. http://dx.doi.org/10.1037/0022-0663.89.2.329

Sachs, J. (2001). A path model for adult learner feedback. *Educational Psychology, 21*, 267–275. doi:10.1080/01443410120065478

Sales, A., Drolet, R., & Bonneau, I. (2001). Academic paths, ageing and the living conditions of students in the late 20th century. *Canadian Review of Sociology and Anthropology, 38*, 167-188.

Schunk, D. (1994). Self-regulation of self-efficacy and attributions in academic settings. In D. Schunk & B. Zimmerman (Eds.), *Self-regulation of learning and performance: Issues and educational applications* (pp. 75-99). Hillsdale, NJ: Erlbaum.

Schunk, D. (2009). Self-Regulated Learning. *Education.com*. Retrieved from http://www.education.com/reference/article/self-regulated-learning/

Schunk, D. H. (1996). Goal and self-evaluative influences during children's cognitive skill learning. *American Educational Research Journal, 33*, 359-382.

Schunk, D., & Zimmerman, B. (1994). *Self-regulation of learning and performance: Issues and educational applications*. Hillsdale, NJ: Erlbaum.

Scott, C., Burns, A., & Cooney, G. (1996). Reasons for discontinuing study: The case of mature age female students with children. *Higher Education, 31*(2), 233-253. http://dx.doi.org/10.1007/BF02390446

Shindler, J. (2009). Examining the use of competition in the classroom. *Transformative Classroom Management*. Retrieved from https://web.calstatela.edu/faculty/jshindl/cm/Chapter18competition-final.htm

Skaalvik, E. (1997). Self-enhancing and self-defeating ego orientations: relations with task and avoidance orientation, achievement, self-perceptions, and anxiety. *Journal of Educational Psychology, 89*, 71-81.

Smith, M., Duda, J., Allen, J., & Hall, H. (2002). Contemporary measures of approach and avoidance goal orientations: Similarities and differences. *British Journal of Educational Psychology, 72*, 155–190.

Snyder, T. D., & Dillow, S. A. (2013). *Digest of Education Statistics*, 2012. NCES 2014-015. National Center for Education Statistics.

Spence, J. T., & Helmreich, R. L. (1983). Achievement-related motives and behaviors. In J. T. Spence (Ed.), *Achievement and achievement motives: Psychological and sociological approaches* (pp. 7–74). San Francisco: Freeman.

Suárez Riveiro, J. M., Cabanach, R. G., & Arias, A. V. (2001). Multiple‐goal pursuit and its relation to cognitive, self‐regulatory, and motivational strategies. *British Journal of Educational Psychology, 71*(4), 561-572. DOI: 10.1348/000709901158677

Taylor, L., Morgan, A.,& Gibbs, G. (1981). The "orientation" of Open University foundation students to their studies. *Teaching at a Distance, 20*, 3–12.

Tinto, V. (1993). *Leaving college: Rethinking the causes and cures of student attrition* (2nd ed.). Chicago: University of Chicago Press.

Treasure, D. C., & Roberts, G. C. (1994). Perception of success questionnaire: Preliminary validation in an adolescent population. *Perceptual and Motor Skills, 79*, 607– 610.

Tuckman, B. W. (2003). The effect of learning and motivation strategies on college students' achievement. *Journal of College Student Development, 44*, 430–437.

Utman, C. H. (1997). Performance effects of motivational states: A meta-analysis. *Personality and Social Psychology Review, 1*, 170–182.

Vallerand, R. J., Deci, E. L., & Ryan, R. M. (1985). Intrinsic motivation in sport. In K. B. Pandolf (Ed.), *Exercise and sport sciences reviews* (Vol. 15, pp. 389-425). New York: MacMillan.

Vandewalle, D. (1997). Development and validation of a work domain goal orientation instrument. *Educational and Psychological Measurement, 57*, 995– 1015.

VandeWalle, D., Cron, W. L., & Slocum Jr, J. W. (2001). The role of goal orientation following performance feedback. *Journal of Applied Psychology, 86*(4), 629. http://dx.doi.org/10.1037/0021-9010.86.4.629

Vrugt, A., & Oort, F. J. (2008). Metacognition, achievement goals, study strategies and academic achievement: pathways to achievement. *Metacognition and Learning, 3*(2), 123-146. DOI 10.1007/s11409-008-9022-4

Vygotsky , L. S. (1978). *Mind in society: The development of higher psychological processes*. Cambridge: Harvard University Press.

Vygotsky, L. S. (1962). *Thought and language*. Cambridge MA: MIT Press.

Weiner, B. (1986). *An attributional theory of achievement motivation and emotion*. New York: Springer.

Weinstein, C. E., & Mayer, R.E. (1986). The teaching of learning strategies. In M. C. Wittrock (Ed.), *Handbook of research on teaching* (3rd ed. pp. 315-327). New York: Macmillan.

Wentzel, K., Wigfield, A., & Miele, D. (Eds.). (2009). *Handbook of motivation at school*. New York: Routledge.

Winne, P. H., & Hadwin, A. F. (1998). Studying as self-regulated learning. In D. J. Hacker, J. Dunlosky & A. C. Graesser (Eds.), *Metacognition in educational theory and practice* (pp. 277-304). Mahwah, NJ: Lawrence Erlbaum Associates.

Winston, R. B., Vahala, M. E., Nichols, E. C., & Gillis, M. E. (1994). A measure of college classroom climate: The College Classroom Environment Scales. *Journal of College Student Development, 35*(1), 11-18.

Wolters, C. A. (1998). Self-regulated learning and college students' regulation of motivation. *Journal of Educational Psychology, 90*, 224–235.

Wolters, C. A. (2003). Understanding procrastination from a self-regulated learning perspective. *Journal of Educational Psychology, 95*(1), 179-87.

Wolters, C. A. (2004). Advancing Achievement Goal Theory: Using Goal Structures and Goal Orientations to Predict Students' Motivation, Cognition, and Achievement. *Journal of educational psychology, 96*(2), 236-250. http://dx.doi.org/10.1037/0022-0663.96.2.236

Wolters, C. A., Yu, S. L., & Pintrich, P. R. (1996). The relation between goal orientation and students' motivational beliefs and self-regulated learning. *Learning and Individual Differences, 8* (3), 211-238. http://dx.doi.org/10.1016/S1041-6080(96)90015-1

Zimmerman, B. (1989). Models of self-regulated learning and academic achievement. In B. Zimmerman & D. Schunk (Eds.), *Self-regulated learning and academic achievement: Theory, research, and practice* (pp. 1-25). New York: Springer-Verlag.

Zimmerman, B. (1990). Self-regulated learning and academic achievement: An overview. *Educational Psychologist, 25*, 3-17.

Zimmerman, B. J. (2001). Theories of self-regulated learning and academic achievement: An overview and analysis. In B. J. Zimmerman & D. H. Schunk (Eds.), *Self-regulated*

learning and academic achievement: Theoretical perspectives (2nd ed., pp. 1–37). Mahwah, NJ: Erlbaum.

Zimmerman, B. J. (2008). Investigating self-regulation and motivation: Historical background, methodological developments, and future prospects. *American Educational Research Journal, 45*(1), 166-183.

Zimmerman, B. J. & Risemberg, R. (1997). Self-regulatory dimensions of academic learning and motivation. In G. D. Phye (Ed.), *Handbook of academic learning: Construction of knowledge* (pp. 105- 125). San Diego, CA: Academic Press.

Zimmerman, B. J., & Martinez-Pons, M. (1990). Student differences in self-regulated learning: relating grade, sex and giftedness to self-efficacy and strategy use. *Journal of Educational Psychology, 82*, 51–59.

Zimmerman, B. J., & Martinez-Pons, M. A. N. G. E. L. (1992). Perceptions of efficacy and strategy use in the self-regulation of learning. In. D. H. Schunk & J. Meese (Eds.), *Student perceptions in the classroom*, (pp. 185-207). Hillsdale, NJ: Erlbaum.

Zimmerman, B. J., & Pons, M. M. (1986). Development of a structured interview for assessing student use of self-regulated learning strategies. *American educational research journal, 23*(4), 614-628.

Zimmerman, B. J., & Schunk, D. H. (2008). Motivation: An essential dimension of self-regulated learning. In D. H. Schunk & B. J. Zimmerman (Eds.), *Motivation and self-regulated learning: Theory, research, and applications* (pp. 1–30). Mahwah, NJ: Lawrence Erlbaum Associates.

Zimmerman, B. J., & Schunk, D. H. (Eds.) (2001). *Self-regulated learning and academic achievement: Theoretical perspectives* (2nd ed.). Mahwah, NJ: Lawrence Erlbaum.

Zimmerman, B. J., & Schunk, D. H. (Eds.). (1989). *Self-regulated learning and academic achievement: Theory, research, and practice*. New York: Springer.

Zimmerman, B. J., Greenberg, D., & Weinstein, C. E. (1994). Self-regulating academic study time: A strategy approach. In D. H. Schunk & B. J. Zimmerman (Eds.). *Self-regulation of learning and performance: Issues and educational applications* (pp. 181-199). Hillsdale, NJ: Lawrence Erlbaum Associates.

APPENDIX A

The Online Survey

INFORMATION LETTER
for a Research Study entitled
" Comparing Learning Experiences between International and American Students "

You are invited to participate in a research study to understand your learning experiences. The study is being conducted by Chih-hsuan Wang, assistant professor at Educational Foundations, Leadership, and Technology, Jamie Harrison, and Victoria Cardullo, assistant professors at Curriculum and Teaching, in the Auburn University. You are invited to participate because you are a student at Auburn University and are age 18 or older.

What will be involved if you participate? Your participation is completely voluntary. If you decide to participate in this research study, you will be asked to complete an electronic survey hosted at Qualtrics.com. Your total time commitment will be approximately 30 to 40 minutes. All responses will be anonymous, and no email or IP addresses, or student ID will be collected. All information you provided will be summarized by groups so that no individual answers will be identified.

Are there any risks or discomforts? The risks associated with participating in this study are minimum. You will answer questions regarding your learning experiences.

Are there any benefits to yourself or others? If you participate in this study, you can expect to be a part of assisting in understanding the differences in learning experiences between international and American students as well as between traditional and adult learners.

Will you receive compensation for participating? To thank you for your time you will have the option to enter an instant random drawing. If you decide to participate in the random drawing, you will be redirect to a third party webpage and have the chance to receive one of four Amazon Kindle Fire as our appreciation.

Are there any costs? There is no cost to participate in this study.

If you change your mind about participating, you can withdraw at any time during the survey by closing the browser. If you choose to withdraw, your data can be withdrawn as long as it is identifiable. Once you've completed the survey and submitted anonymous data, it cannot be withdrawn since it will be unidentifiable. Your decision about whether or not to participate or to stop participating will not jeopardize your future relations with Auburn University, the Department of Educational Foundations, Leadership, and Technology or Curriculum and Teaching.

Any data obtained in connection with this study will remain anonymous. We will protect your privacy and the data you provide will be recorded anonymously. Information collected through your participation may be used to prepare manuscripts for publication or conference presentations.

If you have questions about this study, please contact Chih-hsuan Wang at 334-844-7986 or Jamie Harrison at 334-844-8278 or Victoria Cardullo at 334-844-6882.

If you have questions about your rights as a research participant, you may contact the Auburn University Office of Research Compliance or the Institutional Review Board by phone (334) 844-5966 or e-mail at IRBadmin@auburn.edu or IRBChair@auburn.edu.

HAVING READ THE INFORMATION ABOVE, YOU MUST DECIDE IF YOU WANT TO PARTICIPATE IN THIS RESEARCH PROJECT. IF YOU DECIDE TO PARTICIPATE, PLEASE

CLICK ON THE LINK BELOW.
YOU MAY PRINT A COPY OF THIS LETTER TO KEEP.

Chih-hsuan Wang, EFLT
Jamie Harrison, ESOL
Victoria Cardullo, Curriculum and Teaching

The Auburn University Institutional Review Board has approved this document for use from _____ to _____. Protocol #_____

Are you 19 years old or older?

- Yes.
- No.

Are you an international student?

- Yes
- No

Block 7

How many years have you studied English?

How many years have you lived in the United States?

Block 2

Using the scale below and please indicate how confident you are as an international student at AU that you could successfully complete the following tasks. If you are extremely confident, mark 7; if you are not at all

confident, select 1; if you are more or less confident, find the number between 1 to 7 that best describes you. There is no right or wrong answer. Please respond the statements based on your true feelings.

	Not At All Confident 1	2	3	4	5	6	Extremely Confident 7
Click to write Statement 10	○	○	○	○	○	○	○
I can make new sentences with words just learned.	○	○	○	○	○	○	○
I can understand American English TV programs.	○	○	○	○	○	○	○
I can understand stories told in English?	○	○	○	○	○	○	○
I can do assignments alone when they include reading English texts.	○	○	○	○	○	○	○
I can write messages in English on the internet (such as email, facebook, twitter, blogs, ...etc.).	○	○	○	○	○	○	○
I can tell a story in English.	○	○	○	○	○	○	○
I can write English essays assigned by my instructor.	○	○	○	○	○	○	○
I can give directions from the place I live to Auburn University in English.	○	○	○	○	○	○	○
I can describe Auburn University to other people in English.	○	○	○	○	○	○	○

Using the scale below and please indicate how confident you are as an international student at AU that you could successfully complete the following tasks. If you are extremely confident, mark 7; if you are not at all confident, select 1; if you are more or less confident, find the number between 1 to 7 that best describes you. There is no right or wrong answer. Please respond the statements based on your true feelings.

	Not At All Confident 1	2	3	4	5	6	Extremely Confident 7
I can understand radio programs in English	○	○	○	○	○	○	○
I can explain my ideas about class material in English to my classmates.	○	○	○	○	○	○	○
If someone left a voice message on my phone, I can understand it.	○	○	○	○	○	○	○
I can understand my instructor's lectures.	○	○	○	○	○	○	○
I can keep up to date with my coursework even if it is in English.	○	○	○	○	○	○	○
When I read English articles, I can guess the meaning of unfamiliar words.	○	○	○	○	○	○	○
I can understand the English information on the Internet (such as news, articles, fashion tips...etc.).	○	○	○	○	○	○	○
I can take good class notes in English.	○	○	○	○	○	○	○
I can leave a note for my friend in English.	○	○	○	○	○	○	○
I can participate in class discussions in English.	○	○	○	○	○	○	○

Using the scale below and please indicate how confident you are as an international student at AU that you could successfully complete the following tasks. If you are extremely confident, mark 7; if you are not at all confident, select 1; if you are more or less confident, find the number between 1 to 7 that best describes you. There is no right or wrong answer. Please respond the statements based on your true feelings.

	Not At All Confident 1	2	3	4	5	6	Extremely Confident 7
I can introduce my instructor/advisor to someone else in English.	○	○	○	○	○	○	○
I can have a conversation in English with my friends.	○	○	○	○	○	○	○
I can watch English movies without subtitles and understand it.	○	○	○	○	○	○	○
I can make sentences with English idiom phrases (for example: it is raining cats and dogs).	○	○	○	○	○	○	○
I can ask questions in English in class.	○	○	○	○	○	○	○
I can perform well on exams even it is in English.	○	○	○	○	○	○	○
I understand the information presented in my textbooks.	○	○	○	○	○	○	○
I can understand English songs.	○	○	○	○	○	○	○
I can answer my instructor's questions in English.	○	○	○	○	○	○	○
I can read short English stories.	○	○	○	○	○	○	○

Using the scale below and please indicate how confident you are as an international student at AU that you could successfully complete the following tasks. If you are extremely confident, mark 7; if you are not at all confident, select 1; if you are more or less confident, find the number between 1 to 7 that best describes you. There is no right or wrong answer. Please respond the statements based on your true feelings.

	Not At All Confident 1	2	3	4	5	6	Extremely Confident 7
I can explain my ideas about class material in English to my instructors/professors.	○	○	○	○	○	○	○
I can read English newspapers.	○	○	○	○	○	○	○
I can introduce myself in English.	○	○	○	○	○	○	○
I can understand new reading materials selected by my instructors.	○	○	○	○	○	○	○
I can understand English articles about my own culture.	○	○	○	○	○	○	○
I can find out the meaning of new words by using English-English dictionaries.	○	○	○	○	○	○	○
I can write personal thoughts in English.	○	○	○	○	○	○	○
I can use resources in AU library or Internet to research material for a term paper.	○	○	○	○	○	○	○
I can have a conversation with my instructor in English.	○	○	○	○	○	○	○
I can understand numbers spoken in English.	○	○	○	○	○	○	○

Block 4

Think about a class you are taking or you took and indicate the extent to which each of the statements best describes you. There is no right or wrong answers. If you strongly agree with the statement, select 7; if you strongly disagree with the statement, select 1; However, if your disagreement or agreement with the statement is in between, find the number between 1 and 7 that best describes you.

	Strongly

	Disagree 1	2	3	4	5	6	Strongly Agree 7
My aim is to perform well relative to other students.	○	○	○	○	○	○	○
My aim is to completely master the material presented in this class.	○	○	○	○	○	○	○
My aim is to avoid learning less than I possibly could.	○	○	○	○	○	○	○
I am striving to do well compared to other students.	○	○	○	○	○	○	○
My goal is to avoid performing poorly compared to others.	○	○	○	○	○	○	○
My goal is to learn as much as possible.	○	○	○	○	○	○	○

Think about a class you are taking or you took and indicate the extent to which each of the statements best describes you. There is no right or wrong answers. If you strongly agree with the statement, select 7; if you strongly disagree with the statement, select 1; however, if your disagreement or agreement with the statement is in between, find the number between 1 and 7 that best describes you.

	Strongly Disagree 1	2	3	4	5	6	Strongly Agree 7
My goal is to perform better than the other students.	○	○	○	○	○	○	○
My goal is to avoid learning less than it is possible to learn.	○	○	○	○	○	○	○
My aim is to avoid doing worse than other students.	○	○	○	○	○	○	○
I am striving to understand the content of this course as thoroughly as possible.	○	○	○	○	○	○	○
I am striving to avoid performing worse than others.	○	○	○	○	○	○	○
I am striving to avoid an incomplete understanding of the course materials.	○	○	○	○	○	○	○

lock 3

The following statements relate to your attitudes toward the classes you have at AU. Think about a course you recently take in your major area, using the scale to the right of each statement, select the answer that best describes you. Remember, there are no right or wrong answers, just respond as best you can. If you think the statement is very true of you, select 7; if a statement is not at all true of you, select 1. If the statement is more or less true of you, find the number between 1 and 7 that best describes you.

	Not at All TRUE of Me 1	2	3	4	5	6	Very TRUE of Me 7
I believe I will receive an excellent grade in this class.	○	○	○	○	○	○	○
Getting a good grade in this class is the most satisfying thing for me right now.	○	○	○	○	○	○	○
When I take a test I think about items on other parts of the test I can't answer.	○	○	○	○	○	○	○
I'm certain I can understand the most difficult material presented in the readings for this course.	○	○	○	○	○	○	○
In a class like this, I prefer course material that really challenges me so I can learn new things.	○	○	○	○	○	○	○

When I take a test I think about how poorly I am doing compared with other students.	○	○	○	○	○	○	○
I think I will be able to use what I learn in this course in other courses.	○	○	○	○	○	○	○
If I study in appropriate ways, then I will be able to learn the material in this course.	○	○	○	○	○	○	○

The following statements relate to your attitudes toward the classes you have at AU. Think about a course you recently take in your major area, using the scale to the right of each statement, select the answer that best describes you. Remember, there are no right or wrong answers, just respond as best you can. If you think the statement is very true of you, select 7; if a statement is not at all true of you, select 1. If the statement is more or less true of you, find the number between 1 and 7 that best describes you.

	Not at All TRUE of Me 1	2	3	4	5	6	Very TRUE of Me 7
If I can, I want to get better grades in this class than most of the other students.	○	○	○	○	○	○	○
It is my own fault if I don't learn the material in this course.	○	○	○	○	○	○	○
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.	○	○	○	○	○	○	○
When I take tests I think of the consequences of failing.	○	○	○	○	○	○	○
I'm confident I can learn the basic concepts taught in this course.	○	○	○	○	○	○	○
I'm confident I can understand the most complex material presented by the instructor in this course.	○	○	○	○	○	○	○
In a class like this, I prefer course material that arouses my curiosity, even if it is difficult to learn.	○	○	○	○	○	○	○
It is important for me to learn the course material in this class.	○	○	○	○	○	○	○

The following statements relate to your attitudes toward the classes you have at AU. Think about a course you recently take in your major area, using the scale to the right of each statement, select the answer that best describes you. Remember, there are no right or wrong answers, just respond as best you can. If you think the statement is very true of you, select 7; if a statement is not at all true of you, select 1. If the statement is more or less true of you, find the number between 1 and 7 that best describes you.

	Not at All TRUE of Me 1	2	3	4	5	6	Very TRUE of Me 7
I'm confident I can do an excellent job on the assignments and tests in this course.	○	○	○	○	○	○	○
I am very interested in the content area of this course.	○	○	○	○	○	○	○
I think the course material in this class is useful for me to learn.	○	○	○	○	○	○	○
If I try hard enough, then I will understand the course material.	○	○	○	○	○	○	○
I have an uneasy, upset feeling when I take an exam.	○	○	○	○	○	○	○
I expect to do well in this class.	○	○	○	○	○	○	○
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.							
The most satisfying thing for me in this course is trying to understand the content as thoroughly as possible.	○	○	○	○	○	○	○

The following statements relate to your attitudes toward the classes you have at AU. Think about a course you recently take in your major area, using the scale to the right of each statement, select the answer that best describes you. Remember, there are no right or wrong answers, just respond as best you can. If you think the statement is very true of you, select 7; if a statement is not at all true of you, select 1. If the statement is more or less true of you, find the number between 1 and 7 that best describes you.

	Not at All TRUE of Me 1	2	3	4	5	6	Very TRUE of Me 7
Considering the difficulty of this course, the teacher, and my skills, I think I will do well in this class.	○	○	○	○	○	○	○
If I don't understand the course material, it is because I didn't try hard enough.	○	○	○	○	○	○	○
Understanding the subject matter of this course is very important to me.	○	○	○	○	○	○	○
I want to do well in this class because it is important to show my ability to my family, friends, employer, or others.	○	○	○	○	○	○	○
I like the subject matter of this course.	○	○	○	○	○	○	○
I'm certain I can master the skills being taught in this class.	○	○	○	○	○	○	○
I feel my heart beating fast when I take an exam.	○	○	○	○	○	○	○

The following statements relate to your learning strategies and study skills toward the classes you have at AU. Think about a course you recently take in your major area, using the scale to the right of each statement, select the answer that best describes you. Remember, there are no right or wrong answers, just respond as best you can. If you think the statement is very true of you, select 7; if a statement is not at all true of you, select 1. If the statement is more or less true of you, find the number between 1 and 7 that best describes you.

	Not at All TRUE of Me 1	2	3	4	5	6	Very TRUE of Me 7
When I become confused about something I'm reading for this class, I go back and try to figure it out.	○	○	○	○	○	○	○
When studying for this course, I often try to explain the material to a classmate or friend.	○	○	○	○	○	○	○
When reading for this course, I make up questions to help focus my reading.	○	○	○	○	○	○	○
I often find myself questioning things I hear or read in this course to decide if I find them convincing.	○	○	○	○	○	○	○
I usually study in a place where I can concentrate on my course work.	○	○	○	○	○	○	○
I often feel so lazy or bored when I study for this class that I quit before I finish what I planned to do.	○	○	○	○	○	○	○
During class time I often miss important points because I'm thinking of other things.	○	○	○	○	○	○	○
When I study the readings for this course, I outline the material to							

help me organize my thoughts.	○	○	○	○	○	○	○
When I study for this class, I practice saying the material to myself over and over.	○	○	○	○	○	○	○
Even if I have trouble learning the material in this class, I try to do the work on my own, without help from anyone.	○	○	○	○	○	○	○

The following statements relate to your learning strategies and study skills toward the classes you have at AU. Think about a course you recently take in your major area, using the scale to the right of each statement, select the answer that best describes you. Remember, there are no right or wrong answers, just respond as best you can. If you think the statement is very true of you, select 7; if a statement is not at all true of you, select 1. If the statement is more or less true of you, find the number between 1 and 7 that best describes you.

	Not at All TRUE of Me 1	2	3	4	5	6	Very TRUE of Me 7
I make simple charts, diagrams, or tables to help me organize course material.	○	○	○	○	○	○	○
I make good use of my study time for this course.	○	○	○	○	○	○	○
When a theory, interpretation, or conclusion is presented in class or in the readings, I try to decide if there is good supporting evidence.	○	○	○	○	○	○	○
I work hard to do well in this class even if I don't like what we are doing.	○	○	○	○	○	○	○
I try to work with other students from this class to complete the course assignments.	○	○	○	○	○	○	○
If course readings are difficult to understand, I change the way I read the material.	○	○	○	○	○	○	○
When I study for this course, I go through the reading and my class notes and try to find the most important ideas.	○	○	○	○	○	○	○
When studying for this course, I read my class notes and the course readings over and over again.	○	○	○	○	○	○	○
I treat the course material as a starting point and try to develop my own ideas about it.	○	○	○	○	○	○	○
When studying for this course, I often set aside time to discuss course material with a group of students from the class.	○	○	○	○	○	○	○

The following statements relate to your learning strategies and study skills toward the classes you have at AU. Think about a course you recently take in your major area, using the scale to the right of each statement, select the answer that best describes you. Remember, there are no right or wrong answers, just respond as best you can. If you think the statement is very true of you, select 7; if a statement is not at all true of you, select 1. If the statement is more or less true of you, find the number between 1 and 7 that best describes you.

	Not at All TRUE of Me 1	2	3	4	5	6	Very TRUE of Me 7
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.	○	○	○	○	○	○	○
Before I study new course material thoroughly, I often skim it to see how it is organized.	○	○	○	○	○	○	○

I memorize key words to remind me of important concepts in this class.	○	○	○	○	○	○	○
I find it hard to stick to a study schedule.	○	○	○	○	○	○	○
When course work is difficult, I either give up or only study the easy parts.	○	○	○	○	○	○	○
I try to change the way I study in order to fit the course requirements and the instructor's teaching style.	○	○	○	○	○	○	○
I ask myself questions to make sure I understand the material I have been studying in this class.	○	○	○	○	○	○	○
I often find that I have been reading for this class but don't know what it was all about.	○	○	○	○	○	○	○
When I study for this class, I pull together information from different sources, such as lectures, readings, and discussions.	○	○	○	○	○	○	○
I ask the instructor to clarify concepts I don't understand well.	○	○	○	○	○	○	○

The following statements relate to your learning strategies and study skills toward the classes you have at AU. Think about a course you recently take in your major area, using the scale to the right of each statement, select the answer that best describes you. Remember, there are no right or wrong answers, just respond as best you can. If you think the statement is very true of you, select 7; if a statement is not at all true of you, select 1. If the statement is more or less true of you, find the number between 1 and 7 that best describes you.

	Not at All TRUE of Me 1	2	3	4	5	6	Very TRUE of Me 7
When I study for this course, I go over my class notes and make an outline of important concepts.	○	○	○	○	○	○	○
When reading for this class, I try to relate the material to what I already know.	○	○	○	○	○	○	○
I make sure that I keep up with the weekly readings and assignments for this course.	○	○	○	○	○	○	○
I try to relate ideas in this subject to those in other courses whenever possible.	○	○	○	○	○	○	○
When I study for this course, I write brief summaries of the main ideas from the readings and my class notes.	○	○	○	○	○	○	○
When I can't understand the material in this course, I ask another student in this class for help.	○	○	○	○	○	○	○
I try to play around with ideas of my own related to what I am learning in this course.	○	○	○	○	○	○	○
I try to understand the material in this class by making connections between the readings and the concepts from the lectures.	○	○	○	○	○	○	○
Whenever I read or hear an assertion or conclusion in this class, I think about possible alternatives.	○	○	○	○	○	○	○
I have a regular place set aside for studying.	○	○	○	○	○	○	○

The following statements relate to your learning strategies and study skills toward the classes you have at AU. Think about a course you recently take in your major area, using the scale to the right of each statement, select the answer that best describes you. Remember, there are no right or wrong answers, just respond as best you can. If you think the statement is very true of you, select 7; if a statement is not at all true of you, select 1. If the statement is more or less true of you, find the number between 1 and 7 that best describes you.

	Not at All TRUE of Me 1	2	3	4	5	6	Very TRUE of Me 7
When studying for this course I try to determine which concepts I don't understand well.							
If I get confused taking notes in class, I make sure I sort it out afterwards.							
I try to apply ideas from course readings in other class activities such as lecture and discussion.							
I make lists of important items for this course and memorize the lists.							
Even when course materials are dull and uninteresting, I manage to keep working until I finish.							
When I study for this class, I set goals for myself in order to direct my activities in each study period.							
I often find that I don't spend very much time on this course because of other activities.							
I attend this class regularly.							
I rarely find time to review my notes or readings before an exam.							
I try to identify students in this class whom I can ask for help if necessary.							

Block 4

The following statements relate to your attitudes toward the course you took in your MAJOR area of study. Using the scale to the right of each statement, select the answer that best describes you. Remember there is no right or wrong answer; just respond as best you can. If you strongly agree with the statement, select "7"; if you strongly disagree with the statement, select "1". If you do not strongly agree or disagree with the statement, find the number between "1" and "7" that best describe you.

	Strongly Disagree 1	2	3	4	5	6	Strongly Agree 7
I should put in minimal effort to learn the material for a class.							
It's all right to lie to an instructor to get the grade I deserve.							
I should only be required to do a minimal amount of thinking to get an A in a class.							
Instructors should bend the rules for me.							
It is the instructor's fault if I get a bad grade.							
When I get a bad grade it is because the instructor gave it to me.							
I should get special treatment in my courses.							
I get irate when an instructor will not take my work even though it is late.							
An instructor should modify course requirements to help me.							
I shouldn't have to think too hard to learn the material for a class.							
Doing well in school should not take too much effort on my part.							

The following statements relate to your attitudes toward the course you took in your MAJOR area of study. Using the scale to the right of each statement, select the answer that best describes you. Remember there is no right or wrong answer; just respond as best you can. If you strongly agree with the statement, select "7"; if you strongly disagree with the statement, select "1". If you do not strongly agree or disagree with the statement, find the number between "1" and "7" that best describe you.

	Strongly Disagree 1	2	3	4	5	6	Strongly Agree 7
I would demand that an instructor make an exception for me.	○	○	○	○	○	○	○
I would argue with the instructor to get more points on a test.	○	○	○	○	○	○	○
I cannot tolerate it when an instructor does not accommodate my personal situation.	○	○	○	○	○	○	○
I would tell an instructor to give me extra credit.	○	○	○	○	○	○	○
I felt I deserved a higher grade, I would tell the instructor.	○	○	○	○	○	○	○
I would attempt to negotiate my grade with my instructor.	○	○	○	○	○	○	○
I would confront an instructor to argue about my grade.	○	○	○	○	○	○	○
If I thought a test/assignment was unfair, I would tell the instructor.	○	○	○	○	○	○	○
If I felt an instructors' grading was unfair, I would tell the instructor.	○	○	○	○	○	○	○
I would complain to the dean or higher level of authority to get the grade I deserve.	○	○	○	○	○	○	○

ock 5

In the following question, you will find two statements in each question. Choose one of the statements that best matches you (even if it's not a perfect fit). Remember there is no right or wrong answer; just respond as best you can.

- ○ When people compliment me, I sometimes get embarrassed.
- ○ I know that I am good because everybody keeps telling me so.

In the following question, you will find two statements in each question. Choose one of the statements that best matches you (even if it's not a perfect fit). Remember there is no right or wrong answer; just respond as best you can.

- ○ I prefer to blend in with the crowd.
- ○ I like to be the center of attention.

In the following question, you will find two statements in each question. Choose one of the statements that best matches you (even if it's not a perfect fit). Remember there is no right or wrong answer; just respond as best

you can.

- I am no better or worse than most people.
- I think I am a special person.

In the following question, you will find two statements in each question. Choose one of the statements that best matches you (even if it's not a perfect fit). Remember there is no right or wrong answer; just respond as best you can.

- I like to have authority over other people.
- I don't mind following orders.

In the following question, you will find two statements in each question. Choose one of the statements that best matches you (even if it's not a perfect fit). Remember there is no right or wrong answer; just respond as best you can.

- I find it easy to manipulate people.
- I don't like it when I find myself manipulating people.

In the following question, you will find two statements in each question. Choose one of the statements that best matches you (even if it's not a perfect fit). Remember there is no right or wrong answer; just respond as best you can.

- I insist upon getting the respect that is due me.
- I usually get the respect that I deserve.

In the following question, you will find two statements in each question. Choose one of the statements that best matches you (even if it's not a perfect fit). Remember there is no right or wrong answer; just respond as best you can.

- I try not to be a show off.
- I will usually show off if I get the chance.

In the following question, you will find two statements in each question. Choose one of the statements that best matches you (even if it's not a perfect fit). Remember there is no right or wrong answer; just respond as best you can.

- I always know what I am doing.
-

Sometimes I am not sure of what I am doing.

In the following question, you will find two statements in each question. Choose one of the statements that best matches you (even if it's not a perfect fit). Remember there is no right or wrong answer; just respond as best you can.

- Sometimes I tell good stories.
- Everybody likes to hear my stories.

In the following question, you will find two statements in each question. Choose one of the statements that best matches you (even if it's not a perfect fit). Remember there is no right or wrong answer; just respond as best you can.

- I expect a great deal from other people.
- I like to do things for other people.

In the following question, you will find two statements in each question. Choose one of the statements that best matches you (even if it's not a perfect fit). Remember there is no right or wrong answer; just respond as best you can.

- I really like to be the center of attention.
- It makes me uncomfortable to be the center of attention.

In the following question, you will find two statements in each question. Choose one of the statements that best matches you (even if it's not a perfect fit). Remember there is no right or wrong answer; just respond as best you can.

- Being an authority doesn't mean that much to me.
- People always seem to recognize my authority.

In the following question, you will find two statements in each question. Choose one of the statements that best matches you (even if it's not a perfect fit). Remember there is no right or wrong answer; just respond as best you can.

- I am going to be a great person.
- I hope I am going to be successful.

In the following question, you will find two statements in each question. Choose one of the statements that best matches you (even if it's not a perfect fit). Remember there is no right or wrong answer; just respond as best you can.

- ○ People sometimes believe what I tell them.
- ○ I can make anybody believe anything I want them to.

In the following question, you will find two statements in each question. Choose one of the statements that best matches you (even if it's not a perfect fit). Remember there is no right or wrong answer; just respond as best you can.

- ○ I am more capable than other people.
- ○ There is a lot that I can learn from other people.

In the following question, you will find two statements in each question. Choose one of the statements that best matches you (even if it's not a perfect fit). Remember there is no right or wrong answer; just respond as best you can.

- ○ I am much like everybody else.
- ○ I am an extraordinary person.

ock 6

What is your gender?

- ○ Male
- ○ Female

What is your age?

What is your ethnicity?

- ○ White/Caucasian

- African American
- Hispanic or Lantino
- Asian or Pacific Islander
- Others, please specify:

What is your educational classification?

- Freshman
- Sphomore
- Junior
- Senior
- Master
- Specilist
- Doctorate
- Others, please specify:

What is your major area?

- STEM (Sciences, Technology, Engineering, and Math)
- non-STEM

Are you a traditional or non-traditional student?

- I am a **TRADITIONAL** student. (A traditional student is a student who **directly** pursue his/her next degree right after receiving his/her previous degree/diploma.)
- I am a **NON-TRADITIONAL** student. (A non-traditional students is a student who does not directly pursue his/her next degree right after receiving his/her previous degree/diploma.)

What was the amount of time between your previous degree and the time you enrolled in your current program?

- Less than 1 year.
- 1 year to almost 2 years.
- 2 years to almost 3 years.

- 3 years to almost 4 years.
- 4 years to almost 5 years.
- 5 or more years. Please specify:

Block 8

Thank you for your participation. Please click NEXT to submit your answers.

APPENDIX B

Information Letter of the Online Survey for this Study

AUBURN UNIVERSITY

COLLEGE OF EDUCATION

The Auburn University Institutional Review Board has approved this Document for use from 01/07/16 to 01/06/19 Protocol # 15-535 EX 1601

Add this approval information in sentence form to your electronic information letter!

EDUCATIONAL FOUNDATIONS, LEADERSHIP AND TECHNOLOGY

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

INFORMATION LETTER
for a Research Study entitled
" Comparing Learning Experiences between International and American Students "

You are invited to participate in a research study to understand your learning experiences. The study is being conducted by Chih-hsuan Wang, assistant professor at Educational Foundations, Leadership, and Technology, Jamie Harrison, and Victoria Cardullo, assistant professors at Curriculum and Teaching, in the Auburn University. You are invited to participate because you are a student at Auburn University and are age 18 or older.

What will be involved if you participate? Your participation is completely voluntary. If you decide to participate in this research study, you will be asked to complete an electronic survey hosted at Qualtrics.com. Your total time commitment will be approximately 30 to 40 minutes. All responses will be anonymous, and no email or IP addresses, or student ID will be collected. All information you provided will be summarized by groups so that no individual answers will be identified.

Are there any risks or discomforts? The risks associated with participating in this study are minimum. You will answer questions regarding your learning experiences.

Are there any benefits to yourself or others? If you participate in this study, you can expect to be a part of assisting in understanding the differences in learning experiences between international and American students as well as between traditional and adult learners.

Will you receive compensation for participating? To thank you for your time you will have the option to enter an instant random drawing. If you decide to participate in the random drawing, you will be redirect to a third party webpage and have the chance to receive one of four Amazon Kindle Fire as our appreciation.

Are there any costs? There is no cost to participate in this study.

4036 Haley Center, Auburn, AL 36849-5221; Telephone: 334-844-4460: Fax: 334-844-3072

w w w . a u b u r n . e d u

If you change your mind about participating, you can withdraw at any time during the survey by closing the browser. If you choose to withdraw, your data can be withdrawn as long as it is identifiable. Once you've completed the survey and submitted anonymous data, it cannot be withdrawn since it will be unidentifiable. Your decision about whether or not to participate or to stop participating will not jeopardize your future relations with Auburn University, the Department of Educational Foundations, Leadership, and Technology or Curriculum and Teaching.

Any data obtained in connection with this study will remain anonymous. We will protect your privacy and the data you provide will be recorded anonymously. Information collected through your participation may be used to prepare manuscripts for publication or conference presentations.

If you have questions about this study, please contact Chih-hsuan Wang at 334-844-7986 or Jamie Harrison at 334-844-8278 or Victoria Cardullo at 334-844-6882.

If you have questions about your rights as a research participant, you may contact the Auburn University Office of Research Compliance or the Institutional Review Board by phone (334) 844-5966 or e-mail at IRBadmin@auburn.edu or IRBChair@auburn.edu.

HAVING READ THE INFORMATION ABOVE, YOU MUST DECIDE IF YOU WANT TO PARTICIPATE IN THIS RESEARCH PROJECT. IF YOU DECIDE TO PARTICIPATE, PLEASE CLICK ON THE LINK BELOW.
YOU MAY PRINT A COPY OF THIS LETTER TO KEEP.

Link to Survey: https://auburn.qualtrics.com/SE/?SID=SV_dcFLu3KvTqUrFfT

Investigator: Chih-hsuan Wang	Date
Co-Investigator: Jamie Harrison	Date
Co-Investigator: Victoria Cardullo	Date

The Auburn University Institutional Review Board has approved this document for use from _____ to _____. Protocol #_____

Add this approval information in sentence form to your electronic information letter!

The Auburn University Institutional Review Board has approved this Document for use from 01/07/16 to 01/06/19 Protocol # 15-535 EX 1601

APPENDIX C

The Invitation Email for the Online Survey

Dear Students:

You are invited to participate in a research study to understand your learning experiences at Auburn University. The study is being conducted by Chih-hsuan Wang, assistant professor in Educational Foundations, Leadership, and Technology, Jamie Harrison, and Victoria Cardullo, assistant professors in Curriculum and Teaching, at Auburn University. You are invited to participate because you are a student at Auburn University.

Your participation is completely voluntary. If you decide to participate in this research study, you will be asked to complete an electronic anonymous survey hosted at Qualtrics.com. Your total time commitment will be approximately 30 to 40 minutes. In return for your participation, you will have the option to enter an instant random drawing to receive **one of 6 Amazon Kindle Fire 7"** as our gift of appreciation.

The risk or discomforts associated with participating in this study are minimum. Your participation will contribute to the understanding of the differences in learning experiences between international and American students as well as between traditional and adult learners.

If you change your mind about participation, you can withdraw at any time during the survey by closing the browser. If you have questions about this study, please contact Chih-hsuan Wang at wangchi@auburn.edu, Jamie Harrison at jlh0069@auburn.edu, or Victoria Cardullo at vmc0004@auburn.edu.

You can complete the survey by click the following link:

https://auburn.qualtrics.com/SE/?SID=SV_dcFLu3KvTgUrFfT

Thank you very much.

Sincerely,
Chih-hsuan Wang, EFLT
Jamie Harrison, C&T
Victoria Cardullo, C&T

APPENDIX D

Approved Email from Office of Research Compliance of Auburn University

Thursday, December 22, 2016 at 6:23:36 PM Central Standard Time

Subject: FW: Approval, Exempt Protocol # 15-535 EX 1601
Date: Monday, January 11, 2016 at 1:12:09 PM Central Standard Time
From: Chih-hsuan Wang
To: Jamie Harrison, Victoria Cardullo, Xi Lin
Attachments: Investigators Responsibilities rev 1-2011.docx, Wang 15-535 EX 1601 New.pdf

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From: IRB Administration
Sent: Monday, January 11, 2016 1:10 PM
To: Chih-hsuan Wang
Cc: Sheri Downer
Subject: Approval, Exempt Protocol # 15-535 EX 1601

*Use IRB**submit**@auburn.edu for protocol-related submissions and IRBadmin@auburn.edu for questions and information.*
The IRB only accepts forms posted at https://cws.auburn.edu/vpr/compliance/humansubjects/?Forms and submitted electronically.

Dear Dr. Wang,

Your protocol entitled " Comparing Learning Experiences between International and American Students " has been approved by the IRB as "Exempt" under federal regulation 45 CFR 46.101(b)(2).

The IRB reviewer notes that you should have checked the second box in #4d, Waiver of documentation of consent. This means that the IRB is waiving the requirement that you obtain a signature as documentation of consent.

Official notice:
This e-mail serves as official notice that your protocol has been approved. A formal approval letter will not be sent unless you notify us that you need one. By accepting this approval, you also accept your responsibilities associated with this approval. Details of your responsibilities are attached. Please print and retain.

Electronic Information Letter:
A scan of your approved letter is attached. However you still need *to add the following IRB approval information to your information letter(s):* "The Auburn University Institutional Review Board has approved this document for use from January 7, 2016 to January 6, 2019. Protocol # 15-535 EX 1601 " (Also attached is a scan of your approved protocol.)

You must use the updated document to consent participants.

Expiration – Approval for three year period:
Your protocol will expire on **January 6, 2019.** About three weeks before that time you will need to submit a renewal request.

When you have completed all research activities, have no plans to collect additional data and have destroyed all identifiable information as approved by the IRB, please notify this office via e-mail. A final report is no longer required for Exempt protocols.

If you have any questions, please let us know.
Best wishes for success with your research!
Susan

Susan Anderson, IRB Administrator
Office of Research Compliance
115 Ramsay Hall (basement)
Auburn University, AL 36849
(334) 844-5966
IRBadmin@auburn.edu *(for general queries)*
IRB**submit**@auburn.edu *(for protocol submissions)*