10-21-2019

The Relationship of Self-Directed Learning Readiness and Completion of Officers in the Army War College Distance Education Program

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A Dissertation Submitted to The Graduate School at the
University of Missouri - St. Louis in partial fulfillment of the requirements
for the degree of Doctor of Education
with an emphasis in Educational Practice

December, 2019

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Abstract

Today, more adults are participating in online education than ever before. The latest data from the Department of Educational Statistics show an increase of students taking all coursework online grew to 15.4% (Ginder, Kelly-Reid, & Mann, 2018). Despite this trend, some adults lack the readiness to engage in formal adult education. Readiness and other factors such as time and personal matters adults encounter are some of the most significant challenges for institutions in addressing attrition rates, which average 38% (USDE, 2011). The Army higher education programs experience the same problem in their educational institutions (U.S. Army War College Data, 2016). Retention and education of military service members directly impacts the readiness of military units. This study examined the relationship of self-directed learning readiness and completion of the Army War College Distance Education Program (AWCDEP). Prior research has examined other aspects of student achievement in the AWCDEP, yet self-directed learning readiness has not been specifically explored. The AWCDEP is the equivalent to a civilian master's program for the Army formal education system. The data for 165 respondents were analyzed which included 134 completers and 31 non-completers. The Self-Directed Learning Readiness Scale (SDLRS) was utilized for the study. Overall the research results indicated a high readiness for self-directed learning by both completers and non-completers of the AWCDEP. The three variables of family, AWCDEP course hours and participant work hours were examined. Participant work hours was the only significant indicator of AWCDEP completion. All participants with part-time (<40 hours) work hours successfully completed the AWCDEP. The SDLRS as an indicator of AWCDEP readiness was not a valid indicator of course completion. Work hours may

impact future preparation of students for successful completion of the AWCDEP.

Dedication

This dissertation is dedicated to my wife Brenda who supported me to pursue my dreams and finish my dissertation and to my parents who taught me a strong work ethic by example.

Acknowledgements

I would like to express my deepest appreciation to my committee Dr. E. Paulette Isaac-Savage, Dr. Kathleen Haywood, Dr. Cheryl Polson and Dr. Michael Porterfield. Their mentoring, encouragement and support made all the difference. Dr. Isaac-Savage kept me motivated and focused on numerous occasions. I would not have finished without her unwavering encouragement and support.

To Dr. John Henschke, who started me down this lifelong learning adventure, I appreciate you teaching and modeling for me how adult education and andragogy is meant to work. I am grateful to Dr. William "Billy" Bridges who explained my data analysis in a way even I could understand.

I am thankful to my family for their years of support. Working on coursework and dissertation on vacations that seemed to never end. I love and cherish the blessings of my wife Brenda to keep on going well past what was reasonable.

And to the many other bosses, colleagues and friends who offered encouragement along the way – thanks. For the many times I answered the question – Are you done yet? The response was always "I'm getting real close." Well now the answer is "Yes, I am done!"

Finally, to this blessing God has given me, I pray I will be the example and use this accomplishment for however he intends to be a blessing to others any way I can.

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CHAPTER I

Introduction

Army officers are committed to succeeding in their profession. The promotion and military education system is designed to identify and develop the best officers based on future potential to serve as leaders in the Army. The demands placed on officers to balance work, family, and education are challenging. This research is focused on discerning how readiness for self-directed learning and other external factors contribute to completion of the Army War College Distance Education Program (AWCDEP).

The AWCDEP is a significant military education program and an integral part of a senior military officers, lieutenant colonel and colonel, development. Only the most accomplished officers are selected for attendance in this demanding program. Our nation and the Army have a vested interest and need for these officers to complete the AWCDEP and continue to serve at the highest ranks in the military. The program is required for army officers' eligibility for promotion to General Officer rank. Yet, nearly one third of officers enrolled do not complete the course. Are there considerations the Army as an institution can learn from these officers who fail to complete the course? Maybe their readiness for completing a distance education course was lacking?

Officers attending the AWCDEP represent Active Army, Army Reserve and Army National Guard organizations. The Army Reserve has the mission that generates combat-ready units and Soldiers for the Army and Joint Warfighter that are trained, equipped, and lethal to win our Nation's wars (U.S. Army Reserve, 2018). The reservists that serve in these units typically train one weekend a month and two weeks a year. Army Reserve

officers have the challenge of managing a full-time civilian career, family, and military duties of their assigned units. These reserve officers have the same educational requirements for the Army as their full-time active duty counterparts. Additionally, they serve in higher level command and staff positions in the Army Reserve commiserate with their experience and education. The AWCDEP completion is an important step to prepare these officers for future significant assignments in the Army Reserve.

Today, more adults are participating in online education than ever before. The latest statistics from Department of Educational Statistics show an increase of students taking all coursework online grew to 15.4 % (Ginder, Kelly-Reid, & Mann, 2018). Despite this trend, some adults lack the readiness to engage in formal adult education. Readiness and other factors such as time and personal matters adults encounter are some of the most significant challenges for institutions in addressing attrition rates, which average 38% (USDE, 2011). The Army higher education programs experience the same problem in their educational institutions (U.S. Army War College Data, 2019). Retention and education of military service members directly impacts the readiness of military units.

The U.S. Army has a long history of formal education for its military members (Stiehm, 2002). When it comes to the military and education, many may initially think of the GI Bill and the educational opportunities it afforded veterans. However, the U.S. Army's educational programming was in place long before the GI Bill (Watson, 2007). Academies are the earliest example of formal military resident education of the officer corps. With the military academy established in 1802, officers were formally educated in

the sciences and techniques of modern warfare (US Military Academy, 2014).

The Army later established the Army War College (AWC) with the first class starting in 1904. The purpose of the United States Army War College (USAWC) is to train officers "who are skilled critical thinkers and complex problem solvers" (Carlisle Barracks public, 2014, para. 2). Its current mission USAWC is to "develop, inspire and serve strategic leaders for the wise and effective application of national power, in a joint, interagency, intergovernmental, and multinational environment, emphasizing development and employment of land power" (Carlisle Barracks, 2018, p. 1). The Army has offered correspondence courses for many years (Duncan, 2005). Soldiers have used distance education for self-directed learning to enhance skills and complete degrees. The military has developed these courses to maximize the limited resources available to train and educate soldiers. The Army Correspondence Course Program (ACCP) made it possible for soldiers to receive qualifications in many occupations (Wisher et al, 1999). In 1973, with the establishment of command and general staff college corresponding studies, the Army adopted the notion that corresponding studies were equivalent to resident education and awarded military education qualifications equal to those officers completing resident education (Clark, 1994; Tseng & Eamonn, 2016; Wisher et al., 1999).

Accredited by the Commission on Higher Education of the Middle States Association of Colleges and Schools, the Army War College Distance Education Program (AWCDEP) awards a Master's of Strategic Studies degree for successful completion of the program. The program allows students to complete their education from anywhere in the world while continuing full-time employment. The course work

requires 15 hours of study per week to be successful (USAWC, 2014). A detailed listing of AWCDEP requirements are shown at Appendix A. The AWCDEP is taught by online classes and discussion forums over two years. It also includes two – two-week resident phases with graduation after the last resident phase. Regardless of the program, there are many factors that contribute to students successfully completing distance education courses including the AWCDEP. (Braxton, Milem & Sullivan, 2000; Duncan, 2005; Long, Dubois, & Faley, 2009).

An issue for officers in the AWC is self-directedness and persistence. Officers must be ready to assume responsibility for their learning. This is an assumption of Self-Directed Learning (SDL) (Knowles, 1975; Knowles, Holton, III, & Swanson, 2014). SDL is a personal attribute and process (Merriam & Bierma, 2014). As a personal attribute, it "refers to an individual predisposition toward this type of learning, and comfort with autonomy in the learning process" (Merriam & Bierma, 2014, p. 63). As a process, it is "an approach to learning that is controlled by the learner" (p. 63). Aspiring to gain knowledge or develop skill, becoming more self-directed, inspiring transformation, and emancipating are four major goals of self-directed learning (Caffarella, 2000).

> One way to be successful in the AWC is persistence. As Tinto (2016) pointed out, Students have to be persistent in their pursuit of their degrees and be willing to expend the effort to do so even when faced with challenges they sometimes encounter. Without motivation and the effort it engenders, persistence is unlikely -- institutional action aside. (para. 2)

The AWCDEP student faces many challenges in completing the program. The problems associated with balancing competing priorities and still persisting is a major problem for

the students.

Nature of the Problem

The AWCDEP is a rigorous two-year distance education program used to train future senior leaders in the military. The course of study is designed to be demanding and rigorous with only the most capable officers selected to participate each year. With nearly 450 officers beginning the course of study each year, the average attrition rate has been 36% during the years 2001 to 2016 (USAWC, 2018).

Advances in technology have allowed the AWC to better communicate and stay connected with students in the AWCDEP. The attrition rate has remained consistent from year to year. The very best officers compete annually for selection to participate in the AWCDEP and officers selected are highly motivated to complete the course of study. Future assignments and promotions in the Army are directly connected to completion of the AWCDEP course of study, the value of finishing benefits both the Army and the officer. The military fully funds the program for those selected to attend, yet over a third fail to complete the two-year distance education program. This is a considerable loss of resources to the military and further has a negative impact on those officers failing to finish the program. It limits their potential for future assignments and promotion in the Army.

For officers, there are limited resident schooling seats available for senior service college (SSC) attendance. The resident course is conducted at Carlisle Barracks, Carlisle Pennsylvania and is an eleven month course. The average SSC resident select rate for Army Reserve officers is 6%. For the fiscal year 2018 SSC resident program, over 300

U.S. Army Reserve (USAR) officers applied for 45 available seats (Fiscal Year (FY) 2018 Professional Development Education [PDE] Board). The only other alternative to stay competitive with peers is to complete the required schooling through the USAWCDEP. For the fiscal year 2018 non-resident USAWCDEP, over 600 USAR officers applied for 176 available seats resulting in a 29% selection rate by the board (USAWC Data, 2018).

The AWC is one of the premier post-secondary educational institutions for senior officers in the military. The typical USAWCDEP class starts with a total of 475 students, from all military services, with an average age of 46 years old (USAWC, 2013). The current class of 2021 consists of active Army (9%), Army National Guard (ARNG) (36%) and U. S. Army Reserve (USAR) (35%) (ISSAWC, 2019). The remaining students come from the Air Force, Navy, Marine Corps, Department of the Army civilians, and International Fellows. Typically, two-thirds of the students have advanced civilian degrees, and 60% have commanded at battalion level or higher (ISSAWC, 2019). Additionally, 25% of the USAWCDEP students of the class of 2016 participated in military campaigns ranging from Iraq to Afghanistan. With keen competition for selection and the significant military experience and background, the USAWCDEP students represent some of the most accomplished officers in the Army. Attrition is still a significant issue to solve for students attending the AWCDEP. Although not completing the AWCDEP does not end an officers service to the military, non-completion may limit future assignments and promotions.

Analysis of results of data from graduates of the AWCDEP began in 2002 by the Office of Institutional Assessment at USAWC. This initial analysis was completed on

graduates of the AWCDEP course. There is limited research available on reasons officers drop out of the AWCDEP to date. From self-reporting, the factors often cited by those officers withdrawing from the program include: lack of time, family commitments and additional job responsibilities. These are common barriers to adult education participation (Bariso, 2008; Cross, 1981). Specific analysis of these adults' readiness for self-directed learning and the factors contributing to the completion or non-completion of students in the AWCDEP has not been conducted previously.

Purpose

The purpose of this study is to determine if there is a relationship between self-directed learning as measured by the Self-Directed Learning Readiness Scale (SDLRS) and officers completing the AWCDEP. Another purpose is to understand specific factors that contribute to officers' non-completion in the AWCDEP.

As the premiere learning institution for teaching senior officers in the military, the AWC at Carlisle Barracks, Pennsylvania, is dedicated to developing the best educational practices to teach adults. The research and analysis of completion trends and factors contributing to success of the distance education program has not been previously completed. With many factors affecting persistence, the researcher will focus on pre-entry attributes of readiness for self-directed learning and the specific variables of family status, work hours and course study hours.

Research Questions

The following research questions are the principal focus of the investigation to be completed:

1. Is there a relationship between self-directed learning readiness as measured by the SLDRS and completion of the Army War College Distance Education Program (AWCDEP)?
2. Is there a relationship between family status (dependents), work hours or AWCDEP study hours as reported on a questionnaire and completion of the AWCDEP?

Significance of Study

Since the abilities of officers selected for the USAWCDEP are among the top 40% of their peers, a closer examination of attrition models and research may identify potential factors contributing to dropout or completion at the USAWCDEP. This could assist in identifying techniques and initiatives to reduce attrition at the USAWCDEP. From 2003-2018 the Army Reserve attrition rate averaged over 34% with class sizes ranging from 180 to 254 students annually (USAWC, 2018). It is important to the Army Reserve and the Army War College to determine what factors may directly contribute to the attrition rate.

This population of graduate level students has seldom been studied with civilian instruments. The findings from the study may provide a better understanding of self-directed learning with a specific population in the military.

In practical terms, the results of this research may present a valid measure of the SDLRS as a predictor of success in the AWCDEP. Other factors that may contribute to

the success of officers in this program may also be identified. This data can be used by future AWCDEP administration in order to reduce the attrition rate for the AWCDEP and the success of other officers attending in the future. Developing a complete understanding of officer readiness for the AWCDEP and the specific factors contributing to success may be applied to future participants and enhance the cost effectiveness of limited training opportunities. The direct result would be more available highly trained officers available to serve at strategic leader levels.

This research may assist other adult education organizations and adult educators with determining how readiness and other factors impact attrition for graduate-level distance education courses and programs. The results may also assist in the comparison of senior army officers' readiness with other adult education distance learning programs. This research may be a valuable contribution to the Army Reserve in both practical and theoretical application for the future.

Definition of Terms and Acronyms

For this study, the following terms and definitions will be used:

Andragogy: The art and science of helping adults learn (Knowles, 1980, p. 43).

Army Reserve Officer: A commissioned officer serving pat time in the Army. Typically serves one weekend a month and two weeks annually in an assigned Army Reserve unit.

Attrition: The dropout of officers in the AWCDEP – specifically those students that do not complete the first-year nonresident phase of the AWCDEP with their original cohort class. This includes deferrals, withdrawals, or any students disenrolling from the AWCDEP.

Completer: Those officers current with their studies at the AWCDEP after the first semester of course work.

Family Status: Operational variable reported as with or without dependents (wife or children).

Non-completer: Officers not current in the AWCDEP after the first semester. A non-completer will include officers academically dropped, voluntarily withdrawing or deferring to the next class of AWCDEP. These officers are included in attrition figures.

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

Self-Directed Learning Readiness Scale (SDLRS): It is a self-report instrument that was developed by Dr. Lucy M. Guglielmino to measure the complex of attitudes, abilities, and characteristics that comprise readiness to engage in self-directed learning.

Work Hours: Variable of hours worked combining both civilian and military jobs.

Acronyms

ALM: Army Learning Model

ARNG: Army National Guard

AWC: Army War College

NCO: Non-Commissioned Officer

TRADOC: Training and Doctrine Command

USAR: United States Army Reserve

Assumptions

The study will rest upon the following assumptions:

1. All participants made honest accurate responses after carefully considering each question.
2. Research data collected from subjects will be representative of the entire class.
3. The subjects are able to accurately answer the profile information.
4. The Self-directed Learning Readiness Scale results will maintain similar validity and reliability to previous studies conducted with this instrument.

Limitations

The limitations of this research include:

1. The research results collected may not be generalized to the civilian distance education graduate programs.
2. Recent world events may affect research results that were not issues present in past years course attrition.
3. Surveys may make respondents feel special or different and may produce responses that are slanted.
4. Officers selected for AWCDEP attendance but decline to enroll are not included in the sample population.
5. The research is only considering Army Reserve officers enrolled in AWCDEP and may not generalize to other AWCDEP participants.
6. Attrition factors are limited to very specific variables although additional factors could impact attrition at AWCDEP.

Chapter Summary

Based on the attrition rate for the AWCDEP, is the readiness of officers for self-directed learning a significant factor in determining course completion? The SDLRS, and specific variables may predict the success of Army Reserve officers at the AWCDEP.

This research study is organized as follows: the first chapter discussed the rigors of the Army War College Distance Education Program. This included a profile of a typical class, selection and motivation of officers to complete the course of instruction, and attrition rates. The problem, purpose of the study, definition of terms, and assumptions and limitations of the study were also stated.

Chapter two covers the literature review and is organized into three sections. The first section is a review of adult education and self-directed learning readiness theory. The second section is an examination of distance education. The third section is a review of persistence research and its application to distance education studies. Included in this review of the literature are persistence models widely accepted by distance education researchers. The literature review concludes with gaps in the research identified that support the need for this study.

In chapter three, the research methods of the study are discussed. It includes the research design, population and sample to be studied, methodology, instrumentation, data collection and analysis. Chapter four provides the data analysis and results of the study. It will include the results and answers to the research questions presented in the study. In chapter five, the research findings are discussed and recommendations for future research are recommended.

CHAPTER II
Review of the Literature

This review will summarize representative research from the literature related to readiness for self-directed learning and the persistence of adults to complete distance education programs. The review is organized into four sections. The first section is a review of Army officer education. The second section covers self-directed learning and readiness. The third section is an exploration of distance education, and the fourth section is an examination of persistence research and its application to distance education. Included in this review of the literature are persistence models that are widely accepted by distance education researchers. Finally, the literature review concludes with a summary of the chapter explaining the gaps in research and the need for this study.

Army Learning Model

The Army training and education system is outlined in TRADOC regulation 350-70, Army Learning Policies and Systems. It describes the Army Learning Model (ALM) as:

> Outcome-oriented instructional strategies that foster thinking, initiative, and provide operationally relevant context. It features learning beyond the learning institution in a career long continuum of learning through the significantly expanded use of network technologies. (p. 24)

The ALM has two themes. The first theme focuses on improving the quality, relevance, and effectiveness of traditional (face-to-face) learning experiences through outcome-oriented instructional strategies fostering thinking, initiative, and provide

context that is operationally relevant. On the other hand, theme two extends learning beyond the typical classroom in a career-long "continuum of learning through the significantly expanded use of network technologies" (Army Learning Model 2015, p. 1). This is a lifelong learning system that involves both progressive assignments to develop experience and formal education at prescribed intervals in an officer's career. Officers start by being in charge of smaller groups (25 soldiers) as a lieutenant. The progress to commanding a company of soldiers (100 or more) as a captain then as a lieutenant colonel command more than 400 soldiers. The specific intervals for the formal military education is outlined in table 2.1 below. This prepares the Army officer for future more challenging assignments in the military. In 2015, the ALM included the initiative to add Connecting Soldiers to Digital Apps (CSDA). The CSDA was an initiative established by the "Army Capabilities Integration Center (ARCIC) and the Army CIO/G6, with support from Army Training and Doctrine Command, the TRADOC deputy commanding general for Initial Military Training, and other Army organizations" (TRADOC, 2014, para. 1). It was implemented in two phases. The first phase consisted of several pilot projects that involved smart phones. The second involved assessing the "value of apps for tactical operations" (TRADOC, 2014, para. 4). The stated purpose of CSDA is to improve the ability of the Army to produce technology-enhanced products to support education, training, and job performance (Stafford & Thornhill, 2012). The initiative encourages all training centers to develop mobile applications to soldiers to learn and sustain their education. The success of automation integration has resulted in the Army placing more emphasis on self-regulated learning (SRL) (Johnston, Goodwin, Moss, Sottilare, Ososky, Cruz, & Graesser, 2015). The future of soldier education is trending

toward distance education applications and SRL.

Army Officer Education

The U.S. Army is the oldest and the largest branch of the Department of Defense. Established on 14 June 1775, the Army currently has over 472,000 active and 565,00 Army National Guard and Army Reserve soldiers serving in the military (Statista, 2019). Thus, it is no surprise that Army military education of officer's dates back to the Revolutionary War. Adult education in the military began with literacy education and advanced to test specific training (Wilds, 1938). Today's military education has an emphasis on solving complex problems in unique and changing environments. Critical thinking and problem solving is a key element for officers to become strategic thinkers today (Persyn & Polson, 2012).

Professional military education (PME) for Army officers establishes a timeline for training and education that is a structured approach to education. For officers to advance in their career they follow the established timeline to qualify for future promotions. Selection to the highest military ranks, colonel and general officer, selection and completion of the Army War College (AWC) is essential for advancement in the Army. Both active duty officers and members of the Army Reserve have the same requirements for AWC for future promotions. Table 2.1 shows the established timelines and what officers must complete for rank promotions in the Army. It provides an example of an officer professional development timeline during a typical career; a recurring pattern of institutional training/education followed by assignment to the operational force (HRC, (2019).

Table 2.1

Army Officer Professional Training and Education Timeline

Years in Service	Rank	Army School	Course Length	Attendees
0	Second Lieutenant	Basic Officer Leader Course (BOLC)	18 ½ weeks	All officers
3	Captain	Captains Career Course (CCC)	24 weeks	All officers
10-12	Major	Intermediate Level Education (ILE) - Command and General Staff College (CGSC)	1 academic year	All officers
11-13	Major	School of Advanced Military Studies (SAMS)	1 academic year	Board selection 100 officers per year
15	Lieutenant Colonel	School for Command Preparation (SCP)	5-7 weeks	Officers selected for battalion and higher command (About 480 per year)
20	Colonel	War College and Fellowships	1 academic year	Board selection (About 370 per year)

DA Pam 600.3 (2014, p. 65).

The approximate attendance for the Army schools shown in Figure 2.1 for academic year 2018 was the following:

Basic Officer Leader Course (BOLC) – 10,644
Captains Career Course (CCC) – 3,050
Command and General Staff College (CGSC) – 1,200

As shown in Table 2.1, the AWC selects officers with approximately 20 years in service. About 370 Army officers per year are selected for the resident program. A resident program is a year-long education program requiring a move to Carlisle Barracks, Pennsylvania. The curriculum results in the awarding of a Masters in Strategic Studies

degree from the US Army War College. Of the 370 Army officers selected, less than 45 are Army Reserve officers. For the AY 2018 selection board over 300 Army officers applied for 45 slots which is a 15% selection rate. For officers not selected for the resident Army War College, the only other alternative is selection for the Army War College Distance Education Program (AWCDEP). The AWCDEP is a rigorous two-year program requiring two resident components after each year in the nonresident program. The course program of instruction is outlined at Appendix A. Selection for the AWCDEP meets the educational requirements for selection to general officer for members of the Army Reserve officer corps. Those officers who successfully complete the program earn a Master's of Science degree in Strategic Studies from the US Army War College. Additionally, officers completing the program are awarded military education level 1 (MEL 1). This is the highest education level for officers that qualifies them for future strategic and joint level assignments. The AWCDEP is a rigorous program that requires officers to be motivated and self-directed to complete the program.

Self-Directed Learning and Readiness

Some of the basic theories of learning include behaviorists, humanists, cognitivist, social cognitivist, and constructivists (Merriam, Cafferalla, & Baumgarter, 2007). As expected, the views of learning, the locus of learning, and the purpose of learning are different. Closely related to the current study is the humanist learning theory. Carl Rogers is the primary individual associated with the humanistic theory. He took the research of Abraham Maslow which included innate drive to self-actualization and added the positive beliefs about one's self as important to self-actualization (Rogers, Lyon, & Tausch (2014). The goal of learning is to help the learning become self-actualized and

autonomous. The humanist theory focuses of dignity, freedom, and potential of the learner and the central assumption is learners act with intentionality and values (Huitt, 2001, Duff, Rubenstein & Prilleltensky, (2016). The individualized approach of the humanistic theory of Carl Rogers centered on the individual with the intent to empower and motivate the individual to progress. Each of these theories are appropriate to the subjects of this research. These theories are used today to effectively address the learner needs of officers in the military. Army officers are expected to become strategic thinkers through the Army's training and education system. Specifically, the Army's training model states:

> The next generation learner must be adaptive on several levels if it is to support the qualities of operational adaptability in the force. First, the Army learning model must develop adaptable Soldiers and leaders who have the cognitive, interpersonal, and cultural skills necessary to make sound judgments in complex environments, from the tactical to strategic level. (U.S. Army TRADOC Pamphlet 525-8-2, 2010, p. 16)

Using values in the decision-making process is part of the Army culture. This supports the humanist learning theory for education in Army officer education. Often associated with the humanist learning theory is self-directed learning.

Self-Directed Learning

Self-directed learning continues to be an important aspect of the understanding of adult education. There are many definitions in the field of self-directed learning. The term self-directed learning is used interchangeably with self-instruction, independent learning, and self-teaching. Pilling-Cormick (1998) focuses on self-directed

learning as a process. The learner and the educator affect each other as they interact in the learning process. With a focus on self-direction in learning, Brocket and Hiemstra (1991) refer "to both the external characteristics of an instructional process and the internal characteristics of the learning, where the individual assumes primary responsibility for the learning experience (p. 24). The learning process for self-directed learners relies on the interaction being positive in order for effective learning to take place. Morris (2019) sees self-directed learning as a "critical competence that empowers adults to adapt accordingly to fluid and complex social contextual changes" (p. 57). This critical competence may enable adults to avoid skill and knowledge deficits, protect them from unemployment, and "facilitate progression towards self-actualization" (Morris, 2019, p. 57). This is espoused by Yasmin, Naseem, and Masso (2019) who stated that "the SDL approach provides baccalaureate social sciences, medical, and engineering graduates with lifelong learning skills that ensure competence in their professional life (p. 35). Knowles (1980) states the term self-directed learning points to a change of role from teacher to a facilitator of learning. Hiemstra (1994) supports the notion of instructor as facilitator. He defines self-directed learning as:

> A process in which students take the initiative to diagnose their learning needs, formulate learning goals, identify resources for learning, select and implement learning strategies, and evaluate learning outcomes. The role of the instructor shifts from being the 'sage on the stage' to the 'guide on the side' in a self-directed learning environment. (p. 12)

Knowles (1975) on the other hand defines it as

> 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. (p. 18)

Knowles (1975) is careful to note that other definitions imply learning in isolation and that learning typically takes place with the assistance of various kinds of help that include teachers and resource people. This supports the research model of Kember (1995) that focuses on learning as a collaborative effort with outside influences determining success in self-directed learning environments.

One effective approach to lifelong learning is to become a self-directed learner by taking control of both methods (means) and content (objectives) Knowles (1975). Self-directed learning is an andragogical approach to adult education and is relevant because of the importance of self-directed learning with relationship to the success of distance learning (Brockett & Hiemstra, 1991, p. 19). Becoming a self-directed learner may require adults to move through different stages of self-direction.

Self-Directed Learning Model and Stages

There are different models of self-directed learning. In the early stages of self-directed learning, Tough (1971) visualized it as a linear process. In this model, learners move "through a series of steps to reach their learning goals in a self-directed manner" (Merriam, Caffarella, & Baumgartner, 2007, p. 110). "Subsequent models . . . were more interactive in design and incorporated both the context and the nature of the learning process" (Grover, Miller, Swearingen, & Wood, 2014, p. 13). Learning is not well planned. Spear's model proposes three elements: "the opportunities people find in their own environments, past or new knowledge, and chance occurrences" (Merriam et al.,

2007, p. 112). Brockett and Hiemstra (1991) developed the Personal Responsibility Model. Their model consists of self-directed learning or what they termed the instructional method processes and learning self-direction or "personality characteristics" of an individual learner (p. 24). Other self-directed learning models "incorporate dimensions of the learning process, such as cognitive and motivational constructs" (Beach, 2017, p. 61). One of the most popular models is that of Grow. Grow (1991) sees self-directed learners as "those who, within a teacher-controlled setting, take greater charge of their own motivation, goal setting, learning, and evaluation" (p. 128). Using a model by Hersey and Blanchard (1988), Grow (1996) developed the Staged Self-Directed Learning (SSDL) Model. In the SSDL model, Grow (1991) describes the process of stages in the development from dependent learner to self-directed learner as developing in four stages. The goal of the educator is to match the "learner's stage of self-directedness and prepare the learning to advance to higher stages" (Grow, 1996, p. 127). The first stage is the dependent stage, followed by the interested stage, then the involved stage and progressing to the self-directed stage. With the progression through the stages, Grow (1991) equates the following levels of self-directedness:

Stage 1: Learners of Low Self-Direction
Stage 2: Learners of Moderate Self-Direction
Stage 3: Learners of Intermediate Self-Direction
Stage 4: Learners of High Self-Direction

In the first stage, learners are seen as dependent on the educator. The educator on the other hand is an authority or coach. Examples of instructional techniques used include informational lectures and drilling. In the next stage, learners are interested, while the educator is seen more as a motivator or guide. In this stage, the educator might use guided discussions and/or inspiring lectures. When learners are in the next stage, they are

closer to complete self-direction. The educator uses facilitation and may participate as a co-learner with students. In the final stage, learners are completely self-directed and the educator serves as a consultant or delegator. Formal instructional techniques are not used, as the learning takes place outside the classroom. Thus, internships or a study group that is self-directed is used.

The Staged Self-Directed Learning model does not require a linear progression. The learner's stage is clearly dependent of the learner's activity. This further supports the research of Knowles (1980), in that "adults almost always turn to someone for help in the learning sequence" (p. 42). This is a key distinction for self-directed learning in relationship to distance education; support is essential.

Self-directed learning uses a more humanistic approach to learning (Hiemstra & Brockett, 1994; Stockdale & Brockett, 2011, Arghode, Brieger, & McLean, 2017). The humanistic approach uses teacher as facilitator and emphasizes the person-centered approach with a focus on empathy and caring about students (Rogers, Lyon, & Tausch, 2014; Arghode, Brieger, & McLean,2017). This humanistic approach is the basis for the self-directed learning theory used by educational systems in the Army Reserve today. The emphasis in the education of adults is on identifying individual needs or outcomes and having the learner determine the method and means to accomplish the learning.

Understanding that adults desire to apply acquired knowledge to improve their situations (Knowles, 1980), the barriers to obtaining these skills becomes important. Zirkle (2004) suggests there are both perceived and actual barriers to adult self-directed learning. Zirkle (2004) further suggested these self-directed learning barriers may be put in three general categories; situational barriers, institutional barriers, and dispositional

barriers. These barriers align with Cross' (1981) categories. Situational barriers are fact based and include issues such as time, costs of participating and transportation (Porras-Hernández & Salinas-Amescua, 2012). Institutional barriers are out of the control of learners and lie totally on the institution. For example, lack of course offerings, times when courses are offered, and policies can deter adults from participating. Finally, dispositional barriers are often attitudinal. An individual's belief that she is not smart enough or too old are examples of dispositional barriers (Cross, 1981; Porras-Hernández & Salinas-Amescua, 2012). This study focused on the dispositional barriers defined as the attitudes and perceptions of the student toward being a self-directed learner.

In summary, self-directed adults take control of the methods and objectives of their learning (Brockett & Hiemstra, 1991). Adults progress through stages of self-direction depending on the learning activity (Grow, 1991). The learning is not done in isolation. Rather, self-directed learners often turn to others for help (Hiemstra & Brockett, 1994; Knowles, 1975; Tough, 1979, Jennings, 2007). This supports the study of officer attrition at the AWCDEP in that it seeks to establish the extent that SDLR affects success in the AWCDEP.

Self-Directed Learning Readiness

An essential part to self-directed learning is the extent of readiness for autonomy in the adult learner. Although many variables affect a student's success or failure in a distance education course, research has shown readiness for self-directed learning can be measured using the Self-Directed Learning Readiness Scale (SDLRS) as an indicator for persistence in distance education (Delahaye & Choy, 2000; Ellinger, 2004; Grow, 1991;

Guglielmino, 1978).

As adult learners develop they have a need to learn in order to deal with real life problems or tasks that they encounter (Knowles, 1980; Hiemstra, 2008). There is a connection to the ability to accomplish tasks and the need to learn and grow. For adults, the connection to learn and solve real life problems or complete tasks adds to the relevance for learning. The development of an adult's readiness for learning can be predicted through a measure of learner readiness using the SDLRS. The SDLRS, developed by Guglielmino in 1977, is a self-reporting instrument used to predict learner readiness for self-directed learning. It has been used for numerous research investigations over a wide range of audiences (Delahaye & Choy, 2000; Merriam, Caffarella, & Baumgartner, 2007) including English as second language learners (Grover, Miller, , Swearingen, & Wood, 2014), nurses (Alharbi, 2018; Yumiko Fujino-Oyama, Maeda, Maru, & Tomoko, 2016), older adults (LaPorte, 2015), as well as students involved in distance education learning (Mohammadi & Araghi, 2013). Representative sources of the significant research are cited in Appendix E. Through research, a positive correlation has been made to SDLRS scores and the number of research projects taken on by adults (Delahaye & Choy 2000; Guglielmino, 1978; Merriam, Caffarella & Baumgartner, 2007). The validity and reliability of the SDLRS will be discussed in more detail in chapter three.

The SDLRS is cited in more research than any other instrument as a predictor of learner readiness. Research using the SDLRS was cited five times more than the next closest instrument in determining learning readiness (Merriam, Caffarella & Baumgartner, 2007).

While the SDLRS has its proponents, there have been some critiques of the scale. One of the most vocal opponents to the SDLRS has been Fields (1989), who challenged the construct bias of the instrument. He reported a concern that the norming population was too homogeneous and that the educationally advantaged scored significantly better than those with minimal educational backgrounds. Bonham (1991) cited concerns for low SDLRS scores. The conclusion was low SDLRS scores do not measure low readiness, but rather dislike for any kind of learning. Delahaye and Choy (2000) addressed the criticisms by stating that, "while bearing some cautions in mind, the SDLRS can be used with acceptable confidence to provide an accurate measurement of readiness for self-directed learning"(p. 861).

In addition to the instrument, there have been some critiques of self-directed learning in general. For example, Yasmin et al. (2019) point out “several well-known educators and researchers agree that SDL is not universally acceptable to all learners and all situations” (p. 35).

Although some limitations noted above may exist, numerous researches in adult education articles and books continue to show the effectiveness of the SDLRS to measure readiness for self-directed learning in adults. It is one of the most valid and often used instruments in adult education research (Merriam, Caffarella, & Baumgartner 2007, Zhoc, & Chen 2016). Self-directed learning has become an essential aspect of distance education. Students, while receiving guidance from an instructor must also take responsibility for their learning as many distance education courses are asynchronous.

Distance Education

Distance education has been around for centuries and significantly evolved over the years (Stubblefield & Keane, 1994). From correspondence courses to online learning, distance education has progressed in its format. Distance education refers to teaching and learning situations in which the instructors and learners are geographically separated and rely on electronic devices and printed materials for instructional delivery (Keegan, 1986). It has also been defined as "teaching and planned learning in which teaching normally occurs in a different place from the learning, requiring communication through technologies as well as special instructional organization" (Moore & Kearsey, 2012, p. 36). With rapid advances in technology, universities have also seen rapid growth in distance education in an attempt to meet the needs of returning adult students (Allen & Seaman, 2011). This growth in distance education has resulted in over one thousand empirical studies conducted between 1996 and 2008 (U.S. Department of Education [DOE], 2011). The trend in higher education has shown a drop in higher education enrollment in recent years. From 2012 to 2015 there has been a drop of 3.2% (662,076 students) in student enrollments (Allen & Seaman, (2017). During this same period (Allen & Seaman, (2017) students taking at least one distance education course at higher education institutions is up 29.7%. A total of 14.3% of the students are taking all of their course work online.

The significant amounts of research on the effectiveness of distance education available still holds a strong tie to basic principles on adult education theories. Using the DOE meta-analysis of 50 selected studies, it was found student outcomes for distance education learners were slightly better than face-to-face delivery (DOE, 2011, p. ix).

Distance Education Learners

Many theories are available for distance learners, but in distance education the andragogical theory of adults as self-directed learners is appropriate. Adults have to rely on their ability to learn independently yet still use others to help in the learning sequence (Grow, 1991; Hiemstra, 2008; Kember, 1989; Knowles, 1975). Synchronous and asynchronous delivery methods allow nontraditional adult students increased educational opportunities (Mabrito, 2006).

The desire for adults to learn and advance professionally has resulted in an increase of need distance education opportunities (Cain, Marrara, Pitre, & Armour, 2003). In 2015, over six million adults had enrolled in at least one distance education course (Online Learning Consortium [OLC], 2017). Other key findings from OLC, 2017 indicated that the number of students taking traditional course formats (e.g., face to face) declined by almost one million over a 3-year period and that the largest portion of distance learners were enrolled in public institutions. College campuses and higher education programs are seeing fewer young adults as full-time students and more adults seeking part-time programs (Casey, 2008; Weiss & Roksa, 2016). Decades ago, Morrison (1989) concluded there were challenges facing distance education in light of the changing student population. Two of the factors cited by Morrison pertain to the AWCDEP population in the current study:

1. The need to balance quantity with equity in its contribution to the development.
2. The need to broaden the concept of distance education in order for it to enhance access to and success in learning.

Adults in a distance education environment need to be more proficient in the use of

technology and working in a non-structured environment (Mupigna, Nora, & Yaw, 2006). The balance of quantity and success tie to the research question of this investigation. (Balance of quantity is the factor of available time by the participants for the AWCDEP). Success is the factor measured with attrition in the AWCDEP. Both quantity and success are potentially significant factors for which the study sought to establish a baseline of data with this research investigation.

Distance Learning

The history of distance learning as a viable means for delivery of education has been established in the past decade (Keegan 1995). Even during the end of the last century, Wilson (1991) noted, "The gap between Higher Education and Distance Education is narrowing through training, further understanding of the philosophy and methodology in Distance Education and the cost effectiveness of Distance Education for the expansion of conventional Higher Education" (p. 53).

There are many different means for conducting distance education. The two main categories for system delivery of distance education are synchronous and asynchronous (Moore & Kearsey, 2012). Synchronous distance education is the participation of the instructor and learner at the same time as classes are taught. This simultaneous participation is effective but limits the flexibility as to when the student can be taught in direct correlation to the availability of the instructor (Moore & Kearsey, 2012). Asynchronous distance education separates the students and instructor by space and time, thus overcoming "the constraints of time, place and pace" (Jiang, 2017, p. 84). The flexibility is significant for adult learners because students can interact with the materials and the instructor on their own schedule (Cain et al., 2003).

Many methods are available for both synchronous and asynchronous distance education. These include a variety of methods including correspondence courses, audio courses, web-based delivery. Numerous research studies have been conducted to compare the effectiveness of the various distance learning delivery means with traditional classroom instruction. Most studies have found no difference in learner achievement at a distance with traditional classroom settings (Harasim 2017; Hunter, Renckly, Smith & Tussey, 1995; U.S DOE 2010; Kentnor, 2015; Tseng & Eamonn 2016).

Some researchers have examined many studies to establish the "no significant difference" theory (Hunter, Renckly, Smith, & Tussey, 1995). For example, Russell (1992) examined research from 800 studies that included subjects from elementary through graduate level and military students. Russell concluded that a wide variety of subjects could be learned equally well through distance education. In a meta-analysis of literature on online learning from 1996 through 2008, Means, Toyama, Murphy, Bakia, Jones (2009) found "that on average, students in online learning conditions performed better than those receiving face-to-face instruction" (p. ix). Shortly thereafter, the US DOE Office of Planning, Evaluation, and Policy Development conducted a meta-analysis of research also determined that online students actually had a slight advantage for learner outcome over face-to-face learners (Bates, 2015; US DOE, 2011).

Distance learning and the military. The military has a long history of using distance education. It dates back to extensive use of correspondence courses for training numerous job skills (Duncan, 2005). "With its huge variety of training needs, the military has often played a leading role in the development of distance education, pioneering innovations that have later been adopted by higher education, business and the

computer gaming industry" (Military Seizes, 2006, p. 4). In addition to distance learning, e-learning systems for military education are becoming more common because of increasing need to "train line officers for rapidly changing international conflict scenarios" (Tung, Huang, Keh, & Wai, 2009, p. 654). Correspondence courses shipped from Fort Eustis Virginia in the 1990s made it one of the largest post offices in the United States (Saba, 2014). The military had significant growth in the military distance learning when the Department of Defense's adopted the Advanced Distributed Learning (ADL) Initiative.

The ADL was adopted in 1997 and moved the military from the primarily paper based and television delivery to internet-based applications (Duncan, 2005). The ADL initiative brought the military to the front of course development. Duncan (2015) noted the development did not come with some resistance and failures along the way. The main concern being can distance learning courses be as effective as traditional face-toface programs.

Research conducted by Hunter, Renckly, Smith, and Tussey (1995) compared the performance of traditional resident instruction of 270 Non-commissioned Officers (NCO's) taking the NCO academy curriculum by two different methods. They compared a 114-hour satellite delivery and a two-week resident phase course with traditional six-week resident program. There were no significant differences in learning as measured by exams and written requirements. In 1996, the Army produced the first distance learning plan which established a plan for distance learning development (Department of the Army, 1996; Duncan, 2005).

Growth of Distance Education

Decades ago, it was the case that "distance-delivered instruction was a relatively insignificant percentage of all teaching being offered" (Simonson, 2017, p. 60). Time brings about a change. As previously mentioned, distance education has shown steady growth with increased course offerings and enrollment throughout higher education institutions (OLC, 2017; US DOE, 2011). Because of the advances in technology, the use of distance learning is growing throughout corporate and educational settings to include the military. Accesses to distance education programs are readily available for military members worldwide.

Just a few years ago, adult learner statistics available from the National Council of Education Statistics (NCES) (2011) showed a continuing growth of online education for adult learners. Opportunities to complete post-secondary degrees through distance education have grown tremendously in recent years. A survey by the U.S. Department of Education's National Center for Education Statistics (NCES) found that from 2000 to 2008 the number of students taking at least one course by distance education increased from 8% to 20%. More recently, online graduate programs have continued to show increases in enrollments. While large four-year institution enrollments have remained steady or decreased, online enrollments increased by 337,000 or 5.6% from 2012 to 2015 (Seaman, et al.,2018). Six percent of all higher education students take at least on distance education course. The trend for distance education increases are reflected by the drop of on campus students by over one million students from 2012 to 2016 (U.S. DOE (NCES) (IPED), 2018).

Growth of distance education in the military. Use of distance learning in the military included some of the earliest traditional distance education methods, such as correspondence courses (Saba, 2014). The critical aspect of learning achievement is evaluated carefully. From Air Controller courses to mechanics, the question of "Is distance learning an effective tool for teaching?" is always evaluated. In their report on evaluating distance education, Wisher et al. (1999) perceived learning of subjects favorably in a variety of teaching media. Their report supports the many other research studies that find no significant difference in face-to-face and distance learning programs. Correspondence courses were managed through the United States Armed Forces Institute (USAFI). More than 6,000 correspondence courses were offered ranging from single skills refresher to job certification in a new career area (Defense Activity for Non-Traditional Education Support, 2007, p. 1).

The AWC first instituted a non-resident program for officers in 1967. Later in 1975 the program became a corresponding studies course (Carlisle, 2014). The corresponding studies program expanded over the years and is called the United States Army War College Distance Education Program (USAWCDEP). The USAWCDEP is accredited by the Commission on Higher Education of the Middle States Association of Colleges and Schools and awards a Master's in Strategic Studies to graduates of the program.

The USAWCDEP has averaged 180 Army Reserve officers over the past eight years for SY 2011 to SY 2018. The attrition rate during the same period has averaged 17 %. A 20 % improvement since the eight years prior, SY 2003 to SY 2010 (USAWC Data, 2019).

In summary, distance education is an accessible and viable means to obtaining higher education degrees (Carlisle, 2014; Duncan, 2005; US DOE NCES, 2011). Many traditional institutions now offer full degree programs by distance education. With more students needing distance learning opportunities to achieve their goal of obtaining a post-secondary education, research to determine the effectiveness of programs during significant growth may assist in reducing attrition at the AWCDEP. A closer look at attrition research may contribute to the body of knowledge on persistence as a whole and, specifically, to the small amount of research available on military subjects to date.

Persistence in Distance Education

Great interest exists in regard to the lack of persistence in all aspects of education. A possibility exists in all settings that a student will fail academically, withdraw from classes, or drop out altogether. Persistence or attrition in distance education is of interest in many higher education settings (Hills, 2010). The NCES defines attrition as a student that fails to re-enroll for a class in subsequent semesters.

Decreasing the rates of attrition is important to all educational institutions. Decades ago, Tinto (1982), in a report on undergraduate residential university programs, reported the dropout rate from year one to year two in U.S. universities averaged a consistent 45%. Years later, a review of public and private higher education institutions showed a range from 34% to 64% (American College Testing Program, 2009). In distance learning, research has shown this rate to be significantly higher than 70% attrition in some programs (Aversa & MacCall, 2013). Kember (1989) suggested that the lack of academic integration into full-time work and social commitments are likely contributors to the difference in distance learning attrition. Aversa and MacCall (2013)

identified some of the same barriers to current rates of success or attrition as time management, isolation, and financial issues. Although numerous factors influence distance learning attrition, time management and integration into work and social commitments are common in past and present research (Wheeler, 2006). Other barriers include isolation and lack of instructor feedback (Isaac, 2010).

While all students may drop out of college, first-year distance education students tend to be one of the most significant groups at risk of dropping out (Barefoot, 2004; Seaman, et al. 2018). Academic integration in a distance education program is difficult. The challenge for academic integration is that learning often takes place in isolation.

DOE statistics for civilian learning institutions has shown significant attrition rates for degree completion programs using distance education (NCES, 2003). One explanation for higher attrition rates at civilian distance learning degree programs is the individualized nature of the programs. AWCDEP students have similar demands plus the demands of their Army Reserve responsibilities. Students must balance the demands of the AWCDEP with jobs, families, and military duties. The AWCDEP uses cohort classes for enrollment and progress which may increase academic integration and student support. Cohorts are often a group of 10-30 students "that enroll at one time and advance through a program taking the same courses at the same time" (Spaid & Duff, 2009, p. 104). Often civilian institutions allow students open entry and exit from their programs. This flexibility may create greater attrition in programs or attrition reporting. There does not seem to be consistent methods for reporting attrition from one institution to another.

Attrition Models

One avenue to better understand attrition is through the use of attrition models.

Attrition models depict the inter-relationships of factors that contribute to an effective distance education program. Examining established attrition models contributes to better analysis in developing strategies for improving education and decreasing attrition. "An attrition model assists in implementing effective retention programs that promote academic success and retention" (Tinto, 1988, p. 87). There are few models that have specifically tried to address the issue of attrition in education.

Tinto's (1975) model (See Figure 2.1) is often cited as the earliest attempt at addressing dropout in higher education. Derived from Durkhiem's model of suicide, the emphasis on social and academic integration are key factors cited that affect dropout rates. Tinto's model purports "students begin studies in higher education with many factors that affect persistence to include individual attitudes, family background, and a variety of previous experiences" (p. 99). Tinto determined that "drop-out" of school is primarily associated with the students' ability to socially and academically integrate into the program. Tinto's model is based on his research involving residential higher education institutions.

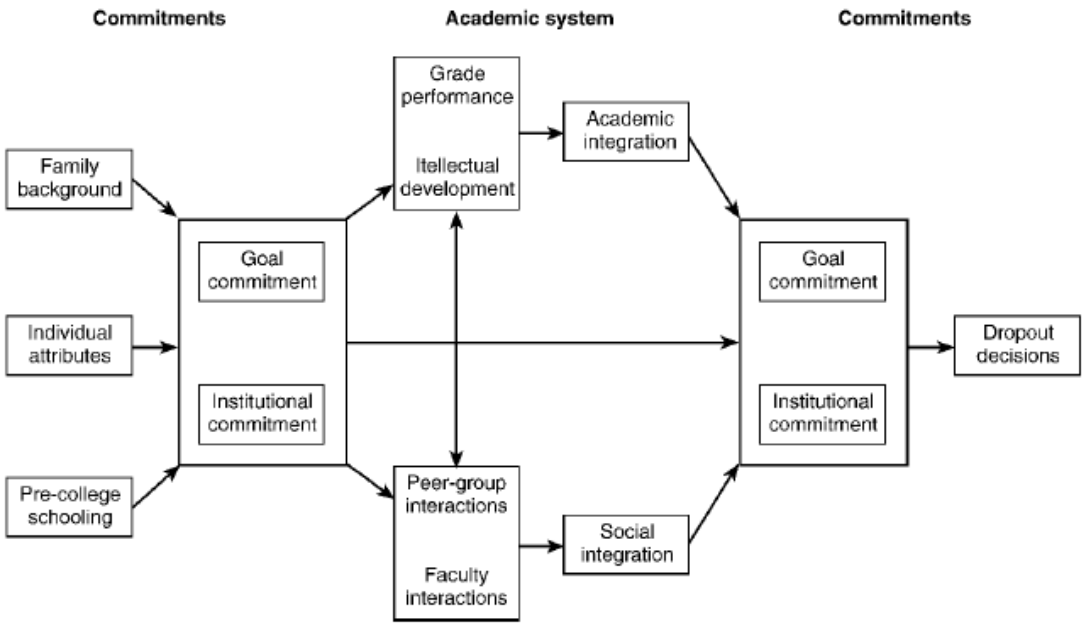


Figure 2.1
Tinto Dropout Model
Adapted by Woodley from Tinto, V. (1975). "Dropout from higher education: A theoretical synthesis of recent research. *Review of Educational Research, 45*(1), p. 95.

In 1989, Kember's adaptation of the Tinto model was developed for application to distance education drop out research. Kember used six elements of distance education which Keegan (1980) has shown as having a positive impact on student progress. These six elements are:

1. Separation of teacher and learner;
2. Influence of the education organization;
3. Use of media technology;
4. Provision of two-way communication;
5. Possibility of occasional meetings; and
6. Participation in an industrialized form of education (the use of mass produced learning materials).

In addition to the six elements listed above, Kember's (1995) model included the addition of work background and work environment as factors contributing to persistence in distance education. This is significant because most adults, one study (Government Accounting Office [GAO], 2002) reported 79%, participating in distance education, are

full-time employees. This is specifically applicable to the majority of all the officers participating at USAWCDEP. Further, the Kember model looks at the integration of the student into the academic way of life. Specifically, can the student integrate academics into family, work and social life? Kember's model places emphasis on the student's ability to integrate the distance education academics into other commitments. This is particularly relevant to officers in the USAWCDEP who would typically have significant job responsibilities, in addition to the USAWCDEP.

A more recent instrument was developed by York (2014) bears mentioning. It was developed the Factors Impacting Student Attrition (FISA) instrument. The instrument focuses on 13 factors and 60 sub factors affecting attrition of online students. The focus of the instrument and analysis is on Distance Learning Only Education Environment (DLOEE) which could have been considered but is an application less proven and the AWCDEP also incorporated resident phases. Thus, the DLOEE is less applicable.

A review of attrition at the USAWCDEP will give an indication of the scope and causes of attrition. Specifically, does the work environment and intrusion on a student's family, work and social life appear as a significant factor as Kember suggests? This requires a detailed look at the reasons for attrition at the USAWCDEP.

Attrition at the Army War College Distance Education Program

The AWC (2011), cites a "significant reason for students failing to complete the AWCDEP is that the program is very demanding of a student's time and energy" (p. 3). Since a preponderant number of students in the AWCDEP are in the National Guard or Army Reserve, these students are faced with responsibilities in their civilian jobs, reserve component duties, and of course, family responsibilities. These competing demands on

the student, demands over which he or she has little direct control, may cause program failure resulting in a subsequent drop out. In the Resident Program, however, students have the luxury of concentrating solely on their studies and thus far fewer competing demands, their retention rate should be, and is, better.

The primary reason cited for USAWCDEP attrition by the Army War College Office of Institutional Assessment is that the program is very demanding of a student's time and energy. The three main reasons reported for reserve (USAR and ARNG) officers dropping the program, in order of frequency are

1. personal reasons
2. civilian duties being too heavy, and
3. lack of academic progress (USAWC Data, 2019).

Reserve officers typically represent 76% of the students in the USAWCDEP and most of the attrition annually (n=136 for AY 2003). Reserve officers are attempting to integrate a civilian job, military duties, family and the academics of the USAWCDEP. Efforts to address attrition for reserve officers affect the most significant amount of attrition and have the greatest potential to provide significant improvement to attrition at the USAWCDEP.

The AWCDEP has tracked attrition over the past years. Table 2.2 provides enrollment and attrition rates for Army Reserve AWCDEP students.

Table 2.2

Army War College Distance Education Program Army Reserve Class Attrition, Selected Years, 2003-2018

Year	Total Started	Number Dropped	Percent Dropped
2003	180	64	36%
2004	183	84	46%
2005	200	83	42%
2006	195	76	39%
2007	158	65	41%
2008	163	52	32%
2009	161	47	29%
2010	254	89	35%
2011	243	40	16%
2012	172	41	24%
2013	162	29	18%
2014	177	19	11%
2015	172	24	14%
2016	168	24	14%
2017	173	24	14%
2018	175	43	25%

A current challenge to addressing attrition at the AWCDEP is the documented reasons for leaving the AWCDEP are documented into a single broad category. All

attrition is recorded into one of the following 15 Department of Distance Education Disenrollment Codes:

1. Retire
2. Lack of Academic Progress
3. Military Duties too Heavy
4. Civilian duties too heavy
5. Insufficient Time
6. Senior Service College [Resident student select]
7. Health
8. Deferral Disapproved
9. Deceased
10. Personal Reasons
11. Unknown
12. Non-Select for Promotion
13. For Cause
14. Academic Failure
15. Without Prejudice

These broad categories provide limited insight for future attrition study. Each of the reporting components, active army, USAR and ARNG, may define the categories differently. What is the difference between academic failure and lack of academic progress? More detailed information from the officers who drop out would provide better information for future analysis for program policy changes. It would also provide insights as to whether the officers' attrition is linked to institutional systems or learner issues. Currently the reporting of reasons for attrition covers too broadly of a spectrum, and no further follow-up with the officer is done to gain insight from those leaving the program. Martinez (as cited in Tyler-Smith, 2006) summarizes the issue:

> Collecting data about persistence associated with e-learning and course completion has the potential benefit of guiding management decision-making with respect to planning, policy making, and providing future services aimed at learner support and improved learner investment. (p. 9)

With a desire for improving the USAWCDEP and increasing retention, attrition management should start with a better understanding of the problem. Much of this information is available directly from the students who depart the program.

Based on officers' self-reported reasons for leaving the AWCDEP, Kember's (1989) model is relevant to student attrition in AWCDEP. For example, the work environment applies to both "military duties too heavy" and "civilian duties too heavy" as reasons for leaving the AWCDEP. Army Reserve officers typically have both factors affecting persistence in the AWCDEP. The factors identified by Kember that are not addressed specifically by the USAWCDEP disenrollment codes are the integration of school with family and social life. If the reported reason for disenrollment is "lack of academic progress", what is the fundamental cause of the failure to make progress in the program? Without specific details, it is difficult for the USAWC to identify if changes to curriculum or administrative support could affect future attrition in the distance education program.

A recent change to Army regulation 350-1, Army Training and Education, increases the importance for specific disenrollment information. AR 350-1, Paragraph 3-18, o. (2) states that a student disenrolled from USAWCDEP may be reinstated if "The student's original disenrollment was voluntary and not the result of lack of academic progress, failure to maintain academic standards, or misconduct".

The factors often cited by those officers withdrawing from the program, personal reasons, civilian duties too heavy, and lack of academic progress, are too broad and general in terms of being beneficial for future improvement of attrition at USAWCDEP. Specific details of attrition are needed for effective analysis of attrition, execution of recent regulation changes for USAWCDEP reenrollment and support initiation of an attrition management plan.

Tinto (1975) stressed social integration through peer group and faculty interactions in his model. These interactions serve as a basis for academic and social integration into the learning community. Distance education attrition may be linked to this lack of integration into the learning community. The sense of isolation and lack of social presence from non-integration may contribute directly to a decision to drop out in an educational program when challenges emerge (Kember, 1995; Isaac, 2010).

The varied approaches to self-directed learning for adults generally conclude that a self-directed learner is seen as a motivated learner. Although Tinto (1975) has developed a model for dropout in higher education, the conclusions are based on research of resident students. The Kember (1995) model is more appropriate to the distance education learning environment than the Tinto model because of the inclusion of family, work and social life in the factors impacting an adult learner's decision to continue educational programs. This is specifically relevant to students at the Army War College Distance Education program.

Summary

The theoretical research on distance learning persistence has clearly addressed issues associated with residential higher education students (Tough, 1971). The

application of theory to the factors of distance learning persistence is more limited. Distance learning is showing tremendous growth, and the need for addressing attrition factors still has few significant new theories being developed.

Empirical research on persistence in distance education is targeted toward undergraduate and open learning adult education learning environments. The military has had few studies address the issues associated with readiness for self-directed learning and the factors effecting attrition. The readiness for self-directed learning could play a significant role in improving the drop-out rates at the Army War College Distance Education Program.

The next chapter provides the methodological research method for the study. It includes a discussion on the sample and research design.

CHAPTER III
Methodology

The methodology chapter is presented in sections to outline the research methods and procedures for this study. The first section provides the research design for the study. The second section examines the population and sample from which the data will be collected. The third section discusses the SDLRS instrument and data collection methods for the research. The fourth section presents the data analysis procedures and is followed by a summary of the chapter.

Research Design

This study used the Self-Directed Learning Readiness Scale (SDLRS) (Guglielmino, 1978) to determine the readiness of officers to complete the AWCDEP (Appendix C). Detailed subject profile data was collected for analysis of factors that significantly contribute to persistence or non-persistence of students in the AWCDEP. The analysis will consider demographic characteristics such as family dependents, work hours, and course study hours.

Quantitative analysis of variables was used to determine the significance of impact on course completion. Group means for those completing and not completing the AWCDEP were analyzed using the t-test procedure. Chi-Square analysis were used to evaluate the significance of workload on completion of the AWCDEP. The intent was to answer the research questions to determine if variables predict completion of the AWCDEP.

Study Population

The study of human subjects was approved through the University of Missouri –

Saint Louis Institutional Review Board and the Army War College Deputy Provost – Human Protections Administrator (See Appendix B). All students enrolled at the Army War College are required to have an electronic mail (email) address for completing their coursework. This includes officers currently selected or already enrolled in the AWCDEP. The targeted minimum of 75 completer and 35 non-completer respondents was sought for a total of 110 participants for this research. This study assessed both groups including those completing the academic coursework and those that do not complete the course on time with their cohort during the first semester of studies. Non-completers include those students who drop from the course, defer to the next course year or do not complete coursework on the timelines required for being considered for academic progress the first semester of studies in the AWCDEP. For this study, deferrals are only included if the student has already started the course before requesting deferral.

Instrumentation

The SDLRS will be used to test all subjects on their readiness for self-directed learning. Permission was granted to use the 58-item instrument which has been used extensively in research throughout the world (Appendix D). The SDLRS is designed to assess a subject's perception of readiness for self-directed learning (Guglielmino, 1978). Guglielmino used a three-round Delphi survey process involving 14 individuals who were considered "subject matter experts" in the field, and the instrument was further revised and tested. Final revisions and testing produced a reliability coefficient of 0.87.

The SDLRS uses a five-point Likert scale for the 58-item instrument that results in total scores for self-directed learning readiness. Seventeen of the items are reverse-

scored to reflect negatively worded questions correctly on the responses.

The respondents' total score for self-directed learning was used in this study. The scores can range from 58 as a low to 290 as a high score. Guglielmino (1989) provides the following interpretation of the total scores for readiness on the SDLRS: Low readiness (58 to 176), Below average readiness (177-201), Average readiness (202-226), Above average readiness (227-251), and High readiness (252-290).

Some criticisms have been raised about the SDLRS instrument. Specifically, the use of negatively worded and scored items (Brockett, 1995) and the use of Delphi technique and suspect modification of the original instrument in development (Field, 1989) were questioned. These issues were effectively addressed by Guglielmino, Long and McCune (1989) and were discussed in the review of literature.

Profile information was collected from each participant. The profile data will include gender, age, marital status, work hours, and AWCDEP study hours. Additionally, an open response will collect comments on those factors students perceive contributed to completion or dropout from the AWCDEP.

Validity and Reliability

A unique advantage to using the SDLRS is the high degree of reliability over a large variety of previously conducted research. "With more than 70 doctoral dissertations having used the SDLRS, this instrument has proven to be both valid and reliable in predicting the readiness of adults for self-directed learning" (Guglielmino, 1989). Most recently, Mohammadi and Araghi (2013), reported that the "SDLRS is a 58-item scale, a highly valid and reliable questionnaire, which has been used in more than 250 studies in self-directed learning" (p. 78). Further, a large study by Zhoc & Chen

(2016) validated the internal consistency of the SDLRS sub scales. The large number of research studies previously using this instrument establishes the validity and reliability. Specifically, this applies to the use of the overall SDLRS score in research.

The use of any of the separate five sub-scores within the SDLRS instrument would not maintain this same reliability. According to Guglielmino (1989), there are two major reasons that support this decision:

1. While the overall score has an excellent reliability index, any sub-scores derived from factors would necessarily have greatly reduced reliability because of the relatively small number of items loading on some of the factors.

2. Factor analysis results can vary by sample (Gorsuch, 1983), the use of a sub-score structure derived from a factor analysis of one sample may not necessarily result in an adequate representation for another sample. This suggests that the only way one could safely use sub-scores derived from factor analysis results would be if the factor analysis is performed on the sample for which the sub-scores is to be derived. In addition, since the recommended number of subjects for an adequate factor analysis is normally 10 per item (Costello & Osborne 2005; Nunnally, 1978), most samples are too small to qualify for this procedure. After a major factor analytic study of the SDLRS using LISREL modeling, West and Bentley (1990) concluded that, although there is a definite underlying factor structure in the SDLRS, the factors are highly correlated, making the overall score the most interpretable measure and is, therefore, the score that should be used.

This supports the researchers' decision to use only the overall SDLRS scores for analysis of the data that is collected and presented in the results. Using the overall

SDLRS score is consistent with previous research using the SDLRS that this research will try to replicate (McCune & Guglielmino, 1991).

Data Collection Procedures

All Army Reserve officer study participants will receive the SDLRS to complete electronically prior to completion of first year studies. The electronic mail sent to each subject requested voluntary participation in the research and included an electronic link to the SDLRS instrument (Appendix C). This included the subject's password for access to the survey website.

The initial web page included the applicable protection of human subject's data and a statement of consent to voluntarily participate in the research (See Appendix C). This was followed by the 58-item Self-directed Learning Readiness Scale (See Appendix D) that was administered from the website. In addition to the SDLRS instrument, the detailed demographic profile data was collected (See Appendix D).

A week after the initial request, participants that did not respond from the initial requests to their military electronic email addresses were sent a follow-up request to participate in the research. This process was to ensure the participation of the maximum number of subjects so the reliability or efficacy of the study might be increased.

After completing the instrument and participant profile, the data were submitted to the researcher directly through the website provided. All data were handled only by the researcher and forwarded to Guglielmino and Associates for basic analysis as required (See Appendix B). Descriptive analysis will be used to compare the data collected in answering the research questions.

The data was compared to established norms for Self-Directed Learning Readiness

and each of the persistent and non-persistent groups' SDLRS scores. The analysis then considered the variables of gender, family, work hours, and course study hours as reported by the subjects. Analysis was completed to show if there is a correlation in these variables to determine if a subject will complete the AWCDEP.

Missing responses on the SDLRS were replaced with a 3 (middle value). Cases missing 5 or more values were listed but omitted from the overall statistics for the group (Guglielmino, 2012). If demographic data is omitted the subject received a request for the additional information. If not provided, the data from the subject was not used in the research analysis.

Analysis of Data

The primary statistical data from the SDLRS instrument was the SDLRS score, sample mean, standard deviation, variance, range, standard error, minimum and maximum score, skewness, number of valid observations, and missing observations. This information allowed the analysis to compare each individual score to the sample mean and to the adult norms established by the instrument.

The SDLRS scores, after applying the norms, established the readiness of the subject for self-directed learning. This readiness was then be compared to completers or non-completers in the AWCDEP to determine if there is statistical significance. Specifically, does a low, average or high SDLRS score predict AWCDEP completion? The analysis also considers the variables of gender, work hours, and course study hours. Comparative analysis using the T test will determine if these variables correlate to completion of the AWCDEP. The research compared the mean scores of selected variables (SDLRS, Study hours, family numbers, and work hours) to determine if a

correlation exists for completers and non-completers of the AWCDEP.

Summary

Use of the SDLRS along with profile data established a valid and reliable investigation into the research questions presented. The inquiry to determine if a correlation exists between self-directed learning readiness and persistence of officers at the Army War College Distance Education Program will assist in establishing a baseline of research for future studies.

Chapter IV contains the results of the data collected and the findings of the current study. The responses from the officers were collected and analyzed to determine if a correlation exists between self-directed readiness or other factors and persistence and the Army War College Distance Education Program.

CHAPTER IV

Results

In this chapter, the findings from the research study are presented. The purpose of the research was to determine the relationship of specific barriers to the success or failure of officers to complete this rigorous Army War College Distance Education Program (AWCDEP) course of study. Two questions were investigated: a) Is self-directed learning readiness as measured by the SDLRS a factor in predicting Army Reserve officer completion of the AWCDEP? b) Are there other variables which are barriers to persistence of the AWCDEP? The outcome of the research is to determine the relationship of specific barriers to the success or failure of officers to complete this rigorous AWCDEP course of study.

To investigate the research questions, the Self-Directed Learning Readiness Scale (SDLRS) was administered to determine student readiness for distance education. Student profiles were used to determine other variables which were self-reported by the research subjects. The variables were then analyzed to determine factors that may correlate to persistence in the AWCDEP.

Demographics

There were 293 students that received invitations to participate in the research. The total possible Army Reserve students in the class receiving invitations to participate resulted in 173 responding to the invitation. Of the 173 responses returned, six were incomplete and two were outliers that were eliminated from consideration. A total of 165 responses furnished the data of a possible 293 in the data set for a 56% usable response rate for the research participation invitation.

Gender Demographics and Grade Distributions

Figure 4.1 illustrates the gender breakdown for officers completing the AWCDEP. The numbers are consistent with other AWCDEP proportions for male and female participants in the program. In the grade distribution of subjects shown in figure 4.2, Lieutenant Colonels make up a slight majority of the subjects which is comparable to other AWCDEP classes.

Figure 4.1

AWCDEP Subject Demographics

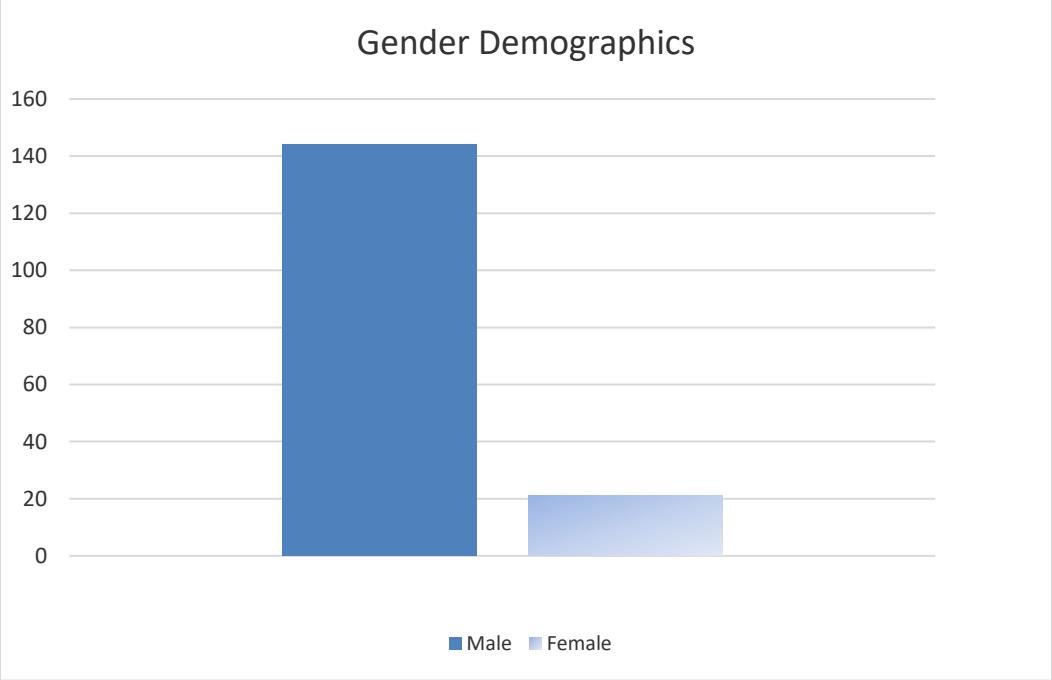
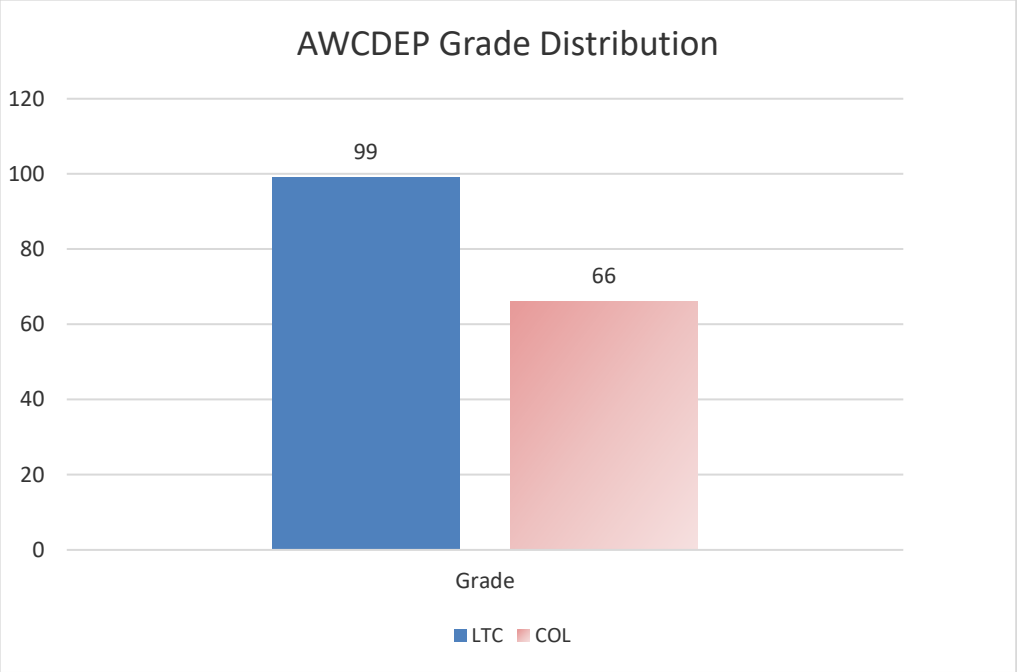


Figure 4.2

AWCDEP Grade Distribution

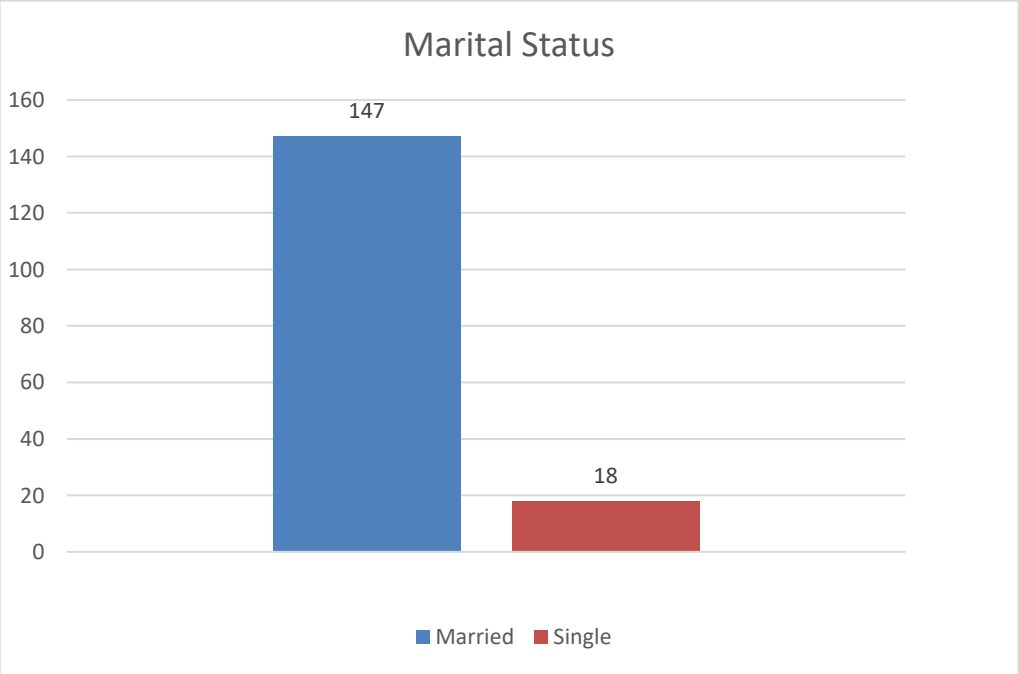


Marital Status Distribution

Figure 4.3 depicts the marital status of students. The married statistic combines officers with a spouse or with spouse and children in one group. The officers are at the top of their career having served 18 or more years in the military. The low number of single officers, 11%, is typical of officers later in their career. The analysis was included to determine if family impacted completion based on the additional obligations and support required of officers with family members.

Figure 4.3

Marital Status



Data Management

After plotting and visually inspecting the data, statistical analysis was performed to identify outliers for the following continuous variables: SDLRS and Work Hours. One extreme outlier (<Q1-(3*IQR)) was identified for SDLRS (=101) and one extreme outlier (>Q3+(3*IQR)) was identified for Work Hours (=115); both observations were excluded from further analysis.

New variables were defined in the data set in order to allow for analysis across the following categories:

'Full time' (Reference employment):

Full time (>= 40 hrs/week='Yes') Vs. Part-time (<40 hrs/week='No')

'Complete' (Reference AWCDEP Completion):

Completed AWCDEP (= 'Yes') Vs. Did Not Complete AWCDEP ('No')

Data analysis of means is done using Satterwaite's t-test. Variances were compared using folded-F tests.

Course Completion (Completed Vs. Non-Completion)

Tests of significance between group means for those who **did** and **did not complete** the Distance Education Course are reported for the following variables:

1. SDLRS Score
2. Number of dependents reported by participant (Family)
3. Participant work hours during course commitment (Work Hrs)
4. Participant hours dedicated to learning course material (AWC Hrs)

Table 4.1 depicts the number of observations (N), mean and standard deviation for the data collected. The number of observations varies based on those who did or did not respond to a question in the survey. If a subject completed portions of the survey the data set is included for that variable analysis.

Table 4.1

Data set for SDLRS, Family, AWC Hours and Work Hours

Variable	Complete	N	Mean	Std Dev
SDLRS	No	24	240.21	25.15
SDLRS	Yes	141	237.96	24.20
Family	No	22	2.59	1.43
Family	Yes	140	2.36	1.39
Work Hrs	No	13	55.69*	7.77*
Work Hrs	Yes	138	47.84	20.85
AWC Hrs	No	10	15.20	6.47
AWC Hrs	Yes	137	13.63	6.15

The comparison for SDLRS for completers and non-completers is depicted in table 4.1. SDLRS means for the two groups only have a difference of 10. Both group averages are considered to have above average readiness for self-directed learning according to Guglielmino (1978). It is significant to note that completers and non-completers are considered above average with parity in the variable when comparing the two groups. Note that this is an examination of SDLRS score for completers and non-completers only.

The data shows no significant difference in variables for family and AWC work hours with differences measured .22 and 1.56 respectively. There is a significant difference in the variable of work hours of 7.85 shown in the data. Further testing for significance of unequal variables was then completed and shown in Figure 4.2 below. The results clearly show Work hours as statistically significant. No other variable resulted in a significant statistical level. There is a significant difference between work hours for completers and non-completers. This indicates available time as a potential issue and further analysis needed for work hours on AWCDEP subjects.

Table 4.2

T-Test Satterthwaite

Variable	Method	Df	t value	Pr>|t|
SDLRS	Satterthwaite	30.7	0.41	0.6865
Family	Satterthwaite	27.6	0.69	0.4955
Work Hrs*	Satterthwaite	32.5	2.81	0.0083*
AWC Hrs	Satterthwaite	10.2	0.74	0.4759

* Significant at a level of α=0.05

The variables of SDLRS, family and AWC hours showed no significant difference for those who did or did not complete the AWCDEP. For the variable work hours, there was sufficient evidence at a significance level of $\alpha=0.05$ to conclude that the variance differed between participants who did and did not complete the course. The *t*-test for differences between means was performed using the Satterthwaite statistic for unequal variances. Mean work hours were significantly higher for those who did not successfully complete the course (See Table 4.2).

SDLRS Impact on Course Completion

SDLRS scores can range from 58 as a low to 290 as a high score. The following is an interpretation of the total scores for readiness on the SDLRS:

1. Below average readiness (58-201)
2. Average readiness (202-226)
3. Above Average (227-290) (Guglielmino, 1989)

Table 4.3 indicates high readiness scores for both full-time and part-time participants. The SDLRS scores indicate above average readiness for both part-time and full-time work hours for subjects. This minimizes the significance for using SDLRS scores as an indicator for course completion. For the research question "Is there a relationship between self-directed learning readiness and completion of the Army War College Distance Education Program (AWCDEP)?" the data do not support using SDLRS as a reliable indicator for course completion.

Table 4.3

T Test Satterthwaite SDLRS Full Time vs Part Time

Variable	*Work Hours*	*N*	*Mean*	*Std Dev*
SDLRS	*Part time*	*24*	*229.67*	*24.558*
SDLRS	*Full Time*	*127*	*239.75*	*27.945*

Work Hours Impact on Course Completion

Because work hours analysis showed significant differences for those completing or not completing the AWCDEP further analysis of the data was completed. Tests of significance between group means for those who **did** and **did not work full time** during participation in the Distance Education Course are reported for the following variables:

1. SDLRS Score
2. Number of dependents reported by participant
3. Participant hours dedicated to learning course material (AWC Hrs)

No significant differences were found at a significance level of α=0.05 (See Table 4.4). The analysis for full-time and part-time work for the variables of SDLRS, Family and AWC Hrs had no significant correlation for course completion, although SDLRS score approaches significance, $p < .063$.

Table 4.4

Equality of Variances T-Tests to Compare Means Between Completers and Non-completers

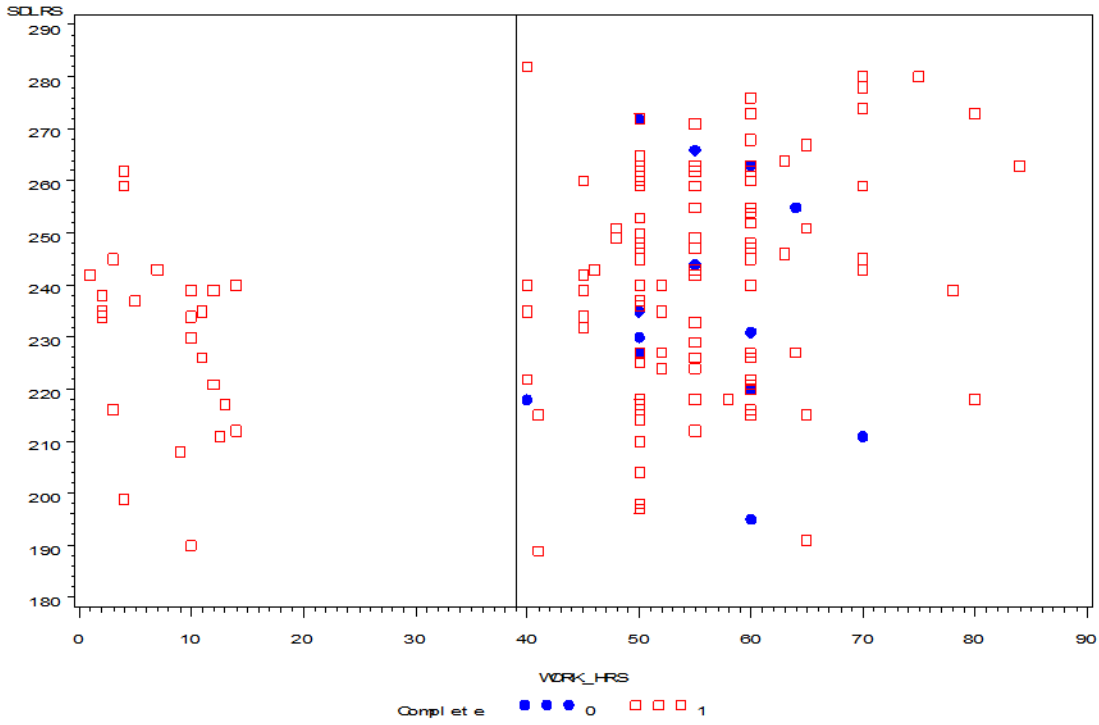
Variable	Method	Num DF	Den DF	F Value	Pr > F
SDLRS	Folded F	126	23	1.96	0.0637
Family	Folded F	126	23	1.06	0.9267
AWC_HRS	Folded F	22	122	1.05	0.8290

Workload vs. Completion

It is notable that participants who reported working part-time during participation in the AWCDEP have all successfully completed the course. Chi-Square analysis was performed to test for statistical significance of this relationship between part-time employment and course completion. Results from this test were deemed unreliable and are not reported due to 25% of the cells having an 'Expected Count' of less than 5, which is generally considered unacceptable. Figure 4.4 below graphs SDLRS scores in relation to work hours depicting both completers and non-completers of the AWCDEP.

Figure 4.4

SDLRS Scores vs work hours (Completers and non-completers)



Successful Course Completers

Among those who successfully completed the course, there was statistically significant positive association between work hours and SDLRS. Table 4.5 shows there was no significant relationship between work hours and SDLRS for those working full time who did not complete the course. This may suggest that those with higher work demands were helped by a higher degree of readiness as measured by the SDLRS. There were no participants who reported working part-time during participation in the Distance Education Course and did not successfully complete the course.

It is important to note that, though statistically significant, the coefficient of determination for the relationship between work hours and SDLRS for those who successfully completed the Distance Education Course is small (R^2=.0630,

Adj.R^2=.0545).

Table 4.5

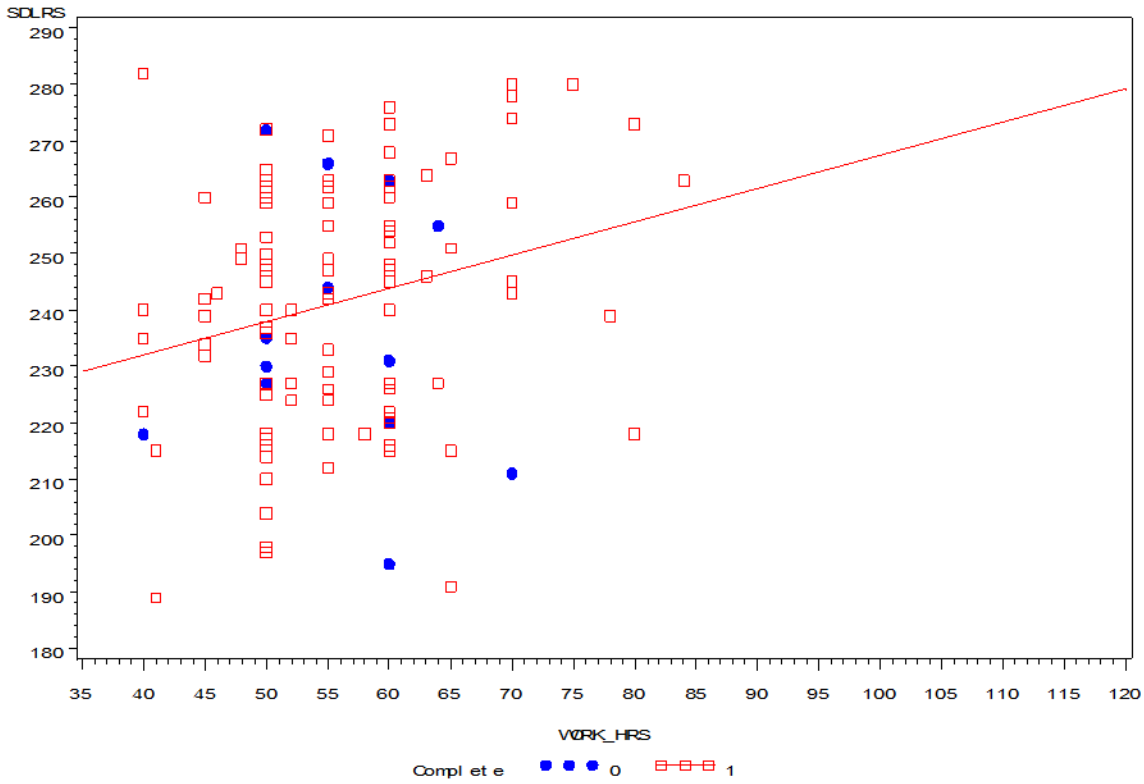
SDLRS Mean Course Completers Not Full Time Vs Full Time

N	Mean	Std Dev	Minimum	Maximum
Analysis Variable : SDLRS Completers Not Full Time				
24	229.66	17.50	190	262
Analysis Variable: SDLRS Completers Full Time				
122	241.29	21.07	189	282

Figure 4.5 graphically depicts the SDLRS and work hours for AWCDEP completers and non-completers working full time. The average and range of SDLRS shows no significant difference for either group. The data depicts a majority of AWCDEP students scoring above the adult SDLRS average score of 214. This indicates the majority of subjects studied have an above average readiness for self-directed studies.

Figure 4.5

SDLRS Mean Course Completers vs Non-Completers working Full Time



Conclusion

In conclusion, the findings of this study of self-directed learning readiness of AWCDEP students in the Army Reserve indicate the single most significant factor affecting completion is work hours. The data from 165 participants did not support the readiness scores reflected by an SDLRS as a reliable indicator of AWCDEP course completion for this study. There was little variance in the mean SDLRS scores of both completers and non-completers in the AWCDEP.

Summary

This study and analysis of 165 students in the AWCDEP indicated the use of the SDLRS as a tool for predicting attrition for Army Reserve officers is not reliable. The study showed also showed no significant difference for course completion for the variables of family and AWCDEP study hours. Work hours was the only significant variable to directly impact course completion for the subjects studied. While work hours for participants was a variable indicating completion success, part time work hours were the only reliable indicator of program completion. All students with part-time work hours successfully completed the course.

Chapter V will conclude the research study with a summary and offer future recommendations. Recommendations for research include implications of findings and final conclusions.

CHAPTER V

Discussion, Implications and Future Recommendations

Discussion, conclusions and a summary of the findings are presented in this section. This is followed by implications and recommendations for future research for attrition research at the Army War College Distance Education Program (AWCDEP).

The purpose of the research was to investigate the readiness of officers for self-directed learning as a factor for completion of the Army War College Distance Education Program (AWCDEP). The following research questions were investigated:

1. Is there a relationship between self-directed learning readiness and completion of the Army War College Distance Education Program (AWCDEP)?
2. Is there a relationship between work hours or AWCDEP study hours-and completion of the AWCDEP?
3. What barriers contribute to officers' non-completion of the AWCDEP?

Summary of Findings

The research examined the readiness for self-directed learning and other variables as predictors of AWCDEP completion. Overall the research results indicate a high readiness for SDLR by a majority of all the subjects examined. The most significant indicator of course completion was participant work hours. With a high self-directed readiness, work hours became the most significant variable as an indicator of course completion. Additionally, the research found a reasonable correlation to SDLRS for full-time versus part-time work for students. The analysis showed a .06 correlation for SDLRS score, measuring just outside the .05 statistic for significance.

Research question one explored the relationship between Self-directed Learning

Readiness Scale (SDLRS) scores and the completion of the AWCDEP. While the SDLRS score can be an indicator of readiness (Guglielmino, 1978), the difference in average SDLRS scores for completers (233) and non-completers (229) was not significant. Guglielmino (1978) defines SDLRS scores from 227 to 290 as above average readiness for self-directed learning readiness with adult score averages of 214. It is noted that the average AWCDEP SDLRS of scores of 229 for non-completers and 239 for completers is well above the average adult score of 214. This is consistent with research from other higher education research indicating average SDLRS scores in mid to upper 230 range. (Beard, 2106; Jiusto & DiBiasio 2006; Litzinger, 2005).

While researchers (Guglielmino, 1978; Merriam, Caffarella & Baumgartner, 2007, Plews, 2016) have indicated SDLRS can be useful for analysis of persistence in distance learning programs, the outcome of the sample population makes this a statistically weak indicator. The results of the quantitative analysis indicate SDLRS are not useful for the AWCDEP population. The overall readiness of the SDLRS combined population for both completers and non-completers is a positive finding. This finding indicates an overall readiness for self-directed learning for all officers beginning the course with less than 5% scoring in the "below average" category. This hypothesis was not supported with the findings. The findings indicate officers selected for the AWCDEP have a high readiness for self-directed learning. The process which selects high performing officers for the program probably contributes to this outcome.

Work Hours or AWCDEP Study Hours and Completion

Research question two explored work hours and study hour's effect on completion of the AWCDEP. A significant correlation existed between work hours and course

completion for AWCDEP students. Further, this is consistent with other studies supporting available time as the significant factor determining attrition in online courses (Brown, 2017; Markle, et al., 2016). This supports the research of Zirkle (2004), who identified the situational barrier of time as a significant impact on attrition. No other variable had close to the significance for determining attrition as time (Brown, 2017). It was found all officers with less than full-time work commitments completed the coursework. AWCDEP study hours were similar for both groups so was not a predictor of attrition in the course. Course completers averaged two hours a week additional study hour to non-completers. The hypothesis of work hours impacting course completion is supported. Course study hours had a minimal correlation to course completion.

Barriers to Completion

Research question three examined which barriers contribute to officers' non-completion of the AWCDEP. A number of factors impact barriers to participation. They are often categorized as situational (i.e., personal problems), dispositional (i.e., lack of self-efficacy), and institutional (i.e., course scheduling) (Merriam, Cafferalla, & Baumgartner, 2007; Patterson, 2018). Of particular interest to the current study are institutional barriers. An exploration of these barriers, which are out of the control of learners and lie totally on the institution should be examined. For example, institutional registration policies can deter adults from participating or completing a course (Porras-Hernández & Salinas-Amescua, 2012). The AWCDEP policy of completing as a cohort allows minimal opportunities to defer into a different class cohort except under exceptional circumstances. Often civilian higher education programs have flexible entry and varied course offerings for continuing in their program. Many institutions offer 6- or

8-week courses that begin at various times throughout a semester. A lack of flexibility for course completion deadlines may work to motivate the AWCDEP student. With this research study group institutional barriers were not seen as a significant factor contributing to attrition for AWCDEP as self-reported by the subjects. Thus, this would contradict the literature on institutional barriers for this population of learners.

Discussion

Further attention to attrition management will assist the United States Army War College Distance Education Program in improving course retention in the future. Many unique factors can lead to attrition in the AWCDEP. The research found available time to complete the rigorous course of instruction is the most significant factor impacting student success.

The challenge of improving attrition at the USAWCDEP begins with specifically identifying causes for disenrollment and constantly evaluating what the trend shows. Steady attrition improvement in recent years shows the commitment of the AWC to improve student retention. Time is the primary variable identified impacting attrition. Emphasis on time management is the single most important factor identified in this research.

Implications

There is minimal scholarly research on the attrition of officers in military education programs. They are seeking advanced degrees in record numbers and are high achieving students. Each of the research questions were established to determine attrition factors for a focused group of military learners, Army Reserve Officers in the Army War College Distance Education Program (AWCDEP). Attrition for a larger military population can

be impacted by the findings. As stated earlier in limitations of the study, the findings are limited in scope for this research. Generalizing the findings to other military distance education programs or civilian institutions may not be beneficial.

Researchers agree there are many factors that contribute to persistence in online programs, there is no consensus on which factors have the greatest impact (Aversa & MacCall, 2013; Kember, 1989; Tinto, 1982). Military students have significant situational and life challenges which present barriers to their educational pursuit (Inshitani, 2006; Wisher et al., 1999). Reserve Army officers participating in the AWCDEP are typically managing a family, civilian job responsibilities, reserve unit duty assignments along with the AWCDEP. The findings of this study support the fact that these barriers are significant yet are overcome a majority of the time. The significance of these barriers and the ability of senior officers in the Army Reserve to overcome them is particularly noteworthy.

Recommendations for Future Research

The study found that there is a significant relationship between work hours and completion of the AWCDEP. The findings are consistent with other research on attrition and retention in online programs. The study is specific to Army reserve officers. Future research may include examining military officers seeking online master's programs at civilian institutions. Many colleges and universities serve large numbers of military students and attrition research would have a significant impact on improving student attrition.

Attrition has improved at the AWCDEP in recent years with average rates

dropping from 24% in the past 10 years to 15% in the past five years. Continued study on specific barriers affecting attrition is valuable for both military and other civilian programs serving military members. With the significant barriers and life challenges of military students, further research is needed to identify specific barriers to program completion.

The following recommendations may result in improving attrition analysis and retention at the USAWCDEP:

1. Establish a disenrollment survey that is administered to officers dropping the course. Administer it similarly to end of course surveys, capturing specific student input on factors resulting in leaving the USAWCDEP. Identify issues that the officer believes the institution and the officer could improve for successful course completion. Include follow up phone calls to ensure all possible suggestions for improvement are accurately gathered from students discontinuing the USAWCDEP.

2. Conduct detailed exit interviews with both completers and non-completers in the AWCDEP. Attrition barriers for subjects can be varied with work background and work environment contributing or hindering completion (Kember, 1989; Brown 2017). Use the information and analysis from the disenrollment surveys to consider suggested improvements from discontinuing students.

3. Time is the significant factor identified from the research as determining success in the AWCDEP. Is time the variable the learning institution desires to be the indicator of success for future officers in the AWCDEP? Exploring other options for learning and completing the AWCDEP may need to be explored for these high achieving officers. This may include standalone programs that are module based and not part of a

cohort class.

Conclusion

This study showed a significant relationship between AWCDEP course completion and work hours. Work hours have an impact on course completion at the AWCDEP. Further research is needed to determine the impact of reserve assignment demands of available time for course completion. As reserve officers, were there unit deployments involved taking away available AWCDEP study time.

Researchers may choose to replicate the study with a focus on work hours, available time for course work and reserve unit assignment requirements. With the variable of time indicated as the most significant predictor, detailed analysis of student time may be helpful.

This study did not address the factor of reserve unit responsibilities. These reserve officers are typically in demanding reserve officer positions with difficult and significant unit responsibilities requiring large time commitments. It is anticipated that the AWCDEP may want to use this study as a basis to look at attrition in more detail in the future.

Summary

Much can be gained by specifically identifying the issues associated with officer attrition at the USAWCDEP. The above recommendations will result in an objective analysis of underlying causes of attrition. Detailed and quantifiable data allows for objective analysis of attrition and establishing a baseline for future research. This is next step necessary for improvement of attrition at the United States Army War College Distance Education Program.

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Appendix A

Army War College Distance Learning Course Descriptions
(Carlisle Barracks Public Website, 2018)

Appendix A

Army War College Distance Learning Course Descriptions
(Carlisle Barracks Public Website, 2018)

First Year Studies

DE2300 - Orientation to Strategic Leader Education (No Credit Hours)

This course is designed to prepare the student for education at the strategic leadership level. It serves to introduce the student to methods of learning used at the U.S. Army War College Department of Distance Education. It introduces the student to adult learning concepts, critical thinking skills, and graduate level writing skills. Mastery of these skills is essential for the student to successfully complete the two-year U.S. Army War College curriculum. Students may also participate in a two-day voluntary Orientation Program at Carlisle Barracks.

DE2301 - Strategic Leadership (3 Credit Hours)

The Strategic Leadership course provides the doctrinal foundation of the Army War College curriculum. In this course, students examine the foundations of leadership at the strategic level with an emphasis on evaluating competencies and challenges and civil-military relations. Students also evaluate strategic decision making to include critical and creative thinking, and ethical decision making. Finally, students apply Strategic Leader competencies and decision making factors to a volatile, uncertain, complex, and ambiguous environment.

DE2302 - National Security Policy and Strategy (4 Credit Hours)

The National Security Policy and Strategy course is focused on American national security and foreign policy formulation. This course provides a theoretical framework for analyzing the international context for security issues. Students examine the interagency process for developing and implementing U.S. foreign and security policies, making the connections between the various external and domestic influences at play. Finally,

students are introduced to a methodology for formulating and assessing national security strategies that employ all instruments of national power.

DE2303 - War and Military Strategy (4 Credit Hours)

This course examines the history and theory of war and military strategy, providing students with a strategic level understanding of the military element of power. The fundamental nature and evolving characteristics of varying levels of conflict provide students with insights about how war and conflict shape strategic thought and military practice. Studying classic and contemporary masters of strategic thought provides a foundation for examining war and formulating current and future military strategy.

DE2304 - Global and Regional Issues and Interests (3 Credit Hours)

This course examines important global transnational challenges such as crime and the international drug trade, poverty and development, disease, migration, energy security, the environment, and fragile/failing states. These issues challenge the prosperity, political capacity and security of many regions and countries of the world. The course also examines the world's several regions and contributes to the regional strategic appraisal process, with each student focusing on one of the following in their regional elective: Africa, the Americas, Asia, Europe, the Greater Middle East, and Russia/Eurasia.

DE2306 - First Resident Course: Strategic Leadership in a Global Environment (3 Credit Hours)

The First Resident Course provides the first year student with an opportunity to explore strategic leadership in the global environment through guest lectures and seminar interaction. It provides an opportunity to better understand the interrelationships between the five courses that make up the first year of studies. Of equal importance, this course transitions the DEP student into the second year of studies. Resident instruction offers a

number of activities for the Distance Education student. These include seminar discussions, case studies and exercises, lectures and an exposure to all of the unique resources that are offered at Carlisle Barracks. For example, activities such as a staff ride to Antietam, a class session in Washington, D.C. and voluntary physical assessments are a part of the program as are special noontime lectures. Students have an opportunity to visit and work in the USAWC Library and the Military History Institute. Equally important, the resident course allows DEP students to function in a War College seminar group and through the development of a seminar bond, create a second year seminar for online students as well as form associations that last for a lifetime.

Second Year Studies

DE2307 - Contemporary Security Issues (3 Credit Hours)

DE2307 is a survey course that challenges students to examine contemporary and future concepts that will influence U.S. National Security and war fighting over the next twenty years. The course provides materials that will provoke student critical thinking on aspects of warfare in the 21st Century, to include globalization, irregular warfare, space, cyber warfare and leveraging information in the operational environment (network-centric operations) that incorporate land, sea, air, and space technologies. Students will investigate such emerging issues associated with Defense, Joint, and Army Transformation. This course acts as a catalyst and resource for students to draw upon as they broaden their knowledge of future joint force capabilities in their role as strategic leaders.

DE2308 - DOD Organization and Processes (3 Credit Hours)

DE2308 provides the student, as a future leader in the strategic environment, with information and tools to increase his/her strategic leader technical competency and understanding of DOD structure and function and how DOD integrates into the overall national security structure. Its content furnishes the student with knowledge of the

systems and processes that help senior national and military leaders translate theory into military strategy, plans, actions, and resources. The course examines the interactions of systems and processes including the Joint Strategic Planning System (JSPS) and DOD Decision Support Systems including the Joint Capabilities Integration & Development System (JCIDS); the DOD Planning, Programming, Budgeting and Execution (PPBE) process; and the Defense Acquisition System (DAS). [The course also explores doctrine for unified direction and organization, joint command and control, joint and multinational operations, and interagency, intergovernmental and nongovernmental organization coordination.] The material in DE2308 is a logical follow-on to that of the First Year courses and sets the stage for the remainder of the Second Year core courses.

DE2309 - Theater Strategy and Campaigning I (3 Credit Hours)

DE2309 focuses on the operational strategic aspects of planning at the theater level. Students will look at the development of theater strategy, and how it links to the overarching guidance received from the civilian leadership. They will also examine how the combatant commanders implement decisions made by that civilian leadership. Finally, the course sets the stage for theater operations by examining the capabilities of the Services, interagency capabilities and joint logistics. This course consists of three blocks designed to explain how combatant commanders translate national strategic guidance into theater strategies. The first block will address Services and interagency capabilities. Block two covers theater strategy and goes into detail regarding one important aspect of that strategy: theater security cooperation. The final block will examine Security, Stability, Transition and Reconstruction Operations and Counterinsurgency Operations.

DE2310 - Theater Strategy and Campaigning II (4 Credit Hours)

Theater Strategy and Campaigning II utilizes the concepts covered in DE2309 (Theater Strategy and Campaigning I) to address how combatant commanders translate national and theater strategies into the precursor products required to plan a campaign in an operational environment. The course introduces the emerging concept of design and addresses the fundamentals of operational art and joint doctrine for campaign planning.

Students will examine the employment of military forces to attain theater-level strategic and operational objectives through the design, organization and integration of theater campaigns. Students will gain an understanding of the fundamentals of campaign planning and learn how to prepare the key planning products a joint force commander would use to create a campaign plan. This course uses joint and Service doctrinal material, historical case studies and two on line labs to reinforce key concepts and learning objectives. DE2310 continues the process of building upon war fighting concepts introduced in the previous courses.

DE2312 - Second Resident Course: Strategic Leadership in Current and Future Warfare (3 Credit Hours)

Strategic Leadership in Current and Future Warfare examines strategic leadership and its application to the use of military forces in current and future warfare. In the process students assess and discuss the current issues facing the defense establishment, develop a better understanding of the interaction of the elements of power, and expand on their knowledge of the relationships between the Department of Defense and those organizations that influence the implementation of national security strategy (e.g., interagency, media, NGO, IO). This course is designed to be the capstone course for the Distance Education Program and builds upon and compliments the previous two years of study. Just as in the First Resident Course, students attend expert lectures by current military and civilian leadership, participate in seminar discussions, staff rides, case studies and exercises and exploit the full resources of the United States Army War College. The students also participate with invited guests from the Commandant's National Security Program. The class will also attend a staff ride at Gettysburg.

Appendix B

Research Approvals

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September 10, 2018

To Whom It May Concern:

This is to certify that Kevin Mangan has purchased 150 copies of the SDLRS-A for use in dissertation research. This document constitutes my permission to reprint the sample items in the appendix of the dissertation, providing that the following conditions are met:

1. The sample items must be duplicated exactly as they appear on the attached document (including the copyright notice), except for a size reduction to fit on the page, if needed.
2. The following statement must appear on the title page of the appropriate appendix and at the end of the instrument: "Copyrighted instrument. All rights reserved. Reprinted with permission of the author."
3. No detailed scoring information may be provided in the dissertation. The following information may be used:
   SDLRS Scoring
   The scoring system is proprietary. To avoid response set, the SDLRS/LPA includes statements that are positive (a numerically higher response indicates higher self-direction) and negative (a numerically higher response indicates lower self-direction). The numerical values are reversed for the items that do not reflect self-direction. Missing values were replaced with 3 (the middle value). Cases missing 5 or more values were omitted from the overall analysis.
4. The SDLRS/LPA should be referenced as follows:
   Guglielmino, L. M. (2010). Self-Directed Learning Readiness Scale/Learning Preference Assessment. Guglielmino & Associates, http://www.lpasdlrs.com
5. The dissertation should be referenced as:
   Guglielmino, L. M. (1977). *Development of the Self-Directed Learning Readiness Scale*. (Doctoral dissertation). Available from ProQuest Dissertations and Theses Global database. (UMI No. 7806004)

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DEPARTMENT OF THE ARMY
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REPLY TO
ATTENTION OF

CSWC-D 28 September 2018

MEMORANDUM FOR Record

SUBJECT: Approval for use of Data, Colonel Kevin Mangan

1. Reference: USAWC memo, "Use of USAWC students as subjects in "The Relationship of Self-Directed Learning Readiness and Persistence of Officers in the Army War College Distance Education Program (AWCDEP)."

2. The USAWC approves use, analysis, and subsequent publishing of all data collected in the referenced study.

3. This approval is contingent on the premise that all data is untraceable back to any specific human subject participant.

4. Point of contact is Dr. David D. Dworak, Deputy Provost/Human Protection Administrator, (717) 245-3365 or david.d.dwroak.civ@mail.mil.

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DATE:	October 31, 2018
TO:	Kevin Mangan
FROM:	University of Missouri-St. Louis IRB
PROJECT TITLE:	[1323389-1] The Relationship of Self-Directed Learning Readiness and Completion of Officers in the Army War College Distance Education Program
REFERENCE #:	
SUBMISSION TYPE:	New Project
ACTION:	DETERMINATION OF EXEMPT STATUS
DECISION DATE:	October 31, 2018
REVIEW CATEGORY:	Exemption category # 2

The chairperson of the University of Missouri-St. Louis IRB has APPROVED the above mentioned protocol for research involving human subjects and determined that the project qualifies for exemption from full committee review under Title 45 Code of Federal Regulations Part 46.101b. The time period for this approval expires one year from the date listed above. You must notify the University of Missouri-St. Louis IRB in advance of any proposed major changes in your approved protocol, e.g., addition of research sites or research instruments.

You must file an annual report with the committee. This report must indicate the starting date of the project and the number of subjects to date from start of project, or since last annual report, whichever is more recent.

Any consent or assent forms must be signed in duplicate and a copy provided to the subject. The principal investigator must retain the other copy of the signed consent form for at least three years following the completion of the research activity and they must be available for inspection if there is an official review of the UM-St. Louis human subjects research proceedings by the U.S. Department of Health and Human Services Office for Protection from Research Risks.

This action is officially recorded in the minutes of the committee.

If you have any questions, please contact Carl Bassi at 314-516-6029 or bassi@umsl.edu. Please include your project title and reference number in all correspondence with this committee.

Appendix C

SDLRS Instrument

SAMPLE

Learning Preference Assessment (SDLRS-A)

Items 1-19 Only

Instructions:

This is a questionnaire designed to gather data on learning preferences and attitudes towards learning. After reading each item, please indicate the degree to which you feel that statement is true of you. Please read each choice carefully and choose the response which best expresses your feeling.

There is no time limit for the questionnaire. Try not to spend too much time on any one item; however, your first reaction to the question will usually be the most accurate.

Responses

1 = Almost never true of me; I hardly ever feel this way.

2 = Not often true of me; I feel this way less than half the time.

3 = Sometimes true of me; I feel this way about half the time.

4 = Usually true of me; I feel this way more than half the time.

5 = Almost always true of me; there are very few times when I don't feel this way.

Items

1. I'm looking forward to learning as long as I'm living.

2. I know what I want to learn.

3. When I see something that I don't understand, I stay away from it.

4. If there is something I want to learn, I can figure out a way to learn it.

5. I love to learn.

6. It takes me a while to get started on new projects.

7. In a classroom situation, I expect the instructor to tell all class members exactly what to do at all times.

8. I believe that thinking about who you are, where you are, and where you are going should be a major part of every person's education.

9. I don't work very well on my own.

10. If I discover a need for information that I don't have, I know where to go to get it.

11. I can learn things on my own better than most people.

12. Even if I have a great idea, I can't seem to develop a plan for making it work.

13. In a learning experience, I prefer to take part in deciding what will be learned and how.

14. Difficult study doesn't bother me if I'm interested in something.

15. No one but me is truly responsible for what I learn.

16. I can tell whether I'm learning something well or not.

17. There are so many things I want to learn that I wish there were more hours in a day.

18. If there is something I have decided to learn, I can find time for it, no matter how busy I am.

19. Understanding what I read is a problem for me.

Appendix D

Subject Profile Information

The following questions are to provide additional information for analysis of research results:

1. Military Component: Active Army Army Reserve Army National Guard

2. Gender: M F

3. Average hours per week spent working on AWCDEP program?

4. Number of dependents in your household?

5. My family support for AWCDEP studies: Low 1 2 3 4 5 High N/A

6. Average hours per week at work (including commute time)?

7. My work support for AWCDEP studies: Low 1 2 3 4 5 High

8. List the most significant challenges you encountered to completing the AWCDEP program?

Appendix E

SDLRS Representative Research

PUBLICATIONS OF RESEARCH USING THE *SELF-DIRECTED LEARNING READINESS SCALE (SDLRS)* AND THE *LEARNING PREFERENCE ASSESSMENT (LPA)* : A PARTIAL LIST

In 1977, Dr. Lucy M. Guglielmino developed, field-tested, and revised the *Self-Directed Learning Readiness Scale*. It has since been translated into French, Spanish (Castilian, Cuban, and Colombian), Japanese, Chinese, Korean, German, Finnish, Greek, Portuguese, Italian, Farsi, Malay, Dutch, Polish, Russian, Afrikaans, Latvian, Lithuanian, and Turkish, and used in hundreds of research efforts in 40 countries, including a large number of master's theses and doctoral dissertations. The *SDLRS* is cited in numerous articles and books relating to adult education, and is generally recognized as the most valid and widely-used instrument of its kind. (Merriam & Caffarella, 1999; Merriam, Caffarella, & Baumgartner 2007). The self-scoring form, called the *Learning Preference Assessment (LPA)* was developed in 1991. This list of publications of research using the scale and reviews of research related to it is, of necessity, a work in progress.The latest complete review is by Delahaye and Choy (2000).

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