An Analysis of Grade Distribution at a University in Southern Alabama
Across Fields in Human and Health Services

by

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Abstract

This study analyzed grade distributions of academic disciplines of Human Services, Social Work, and Nursing at a university in Southern Alabama during the 2019- 2020 academic year. Grade distributions were compared to examine the important aspect of instructional course delivery methods: Is there a significant difference in mean grades for each of six courses (HS 3310, SWK 2250, SWK 3303, SWK 3375, SWK 4471, SWK 4480) instructed online vs. traditional face-to-face courses at a university in Southern Alabama? Several T-tests were used to determine significant differences in the grade distributions. Significant differences were found in the mean grade in traditional classroom course sections and the mean grade of distance education course sections for SWK 3375 with traditional classroom course sections experiencing a higher variation of grade distribution than did distance education course sections. Additional findings from this study indicated that instructional delivery methods does not significantly influence mean grades, and students tend to perform consistently regardless of the instructional delivery setting in HS 3310, SWK 2250, SWK 3303, SWK 4471, and SWK 4480.

The practice of high stakes testing was also analyzed in this quantitative study. A crosstabulation and Chi-square analysis was used to examine the difference of grade distributions between Social Work (SWK 4471 and SWK 4472) and Nursing (NSG 2271 and NSG 2282) high stakes testing courses. Findings from this study indicated a significantly difference in grade distributions between Social Work (SWK 4471, SWK 4472) and Nursing (NSG 2271, NSG 2282) high stakes testing courses. Furthermore, a descriptive analysis was used to measure the central tendency of grade distribution in high stakes testing courses in 32 courses high stakes testing in Nursing, Social Work, and Human Services: NSG 2202, NSG 2255, NSG 2256, NSG 2265, NSG 2266, NSG 2271, NSG 2280, NSG 2281, NSG 2282, NSG 3301 (2 sections), NSG

3310 (2 sections), NSG3300 (2 sections); SWK 3340, SWK 4471 (3 sections), SWK 4472, SWK 4482 (3 sections), SWK 4483 (3 sections); HS 3310 (4 sections) and HS 3399 (2 sections). In this quantitative study, data were gathered through a method of secondary analysis by a university in Southern Alabama and distributed to the researcher for compilation and statistical analysis. Findings from this study indicated that SWK had significantly higher distribution of As, 66%, than expected and significantly less Bs, 24%, Cs, 5%, Ds, 3%, and Fs, 1%. The HS program had significantly higher distribution of As (44%) than expected, less Bs (23%) and Cs (25%), and more Fs (6%) and less Ds (2%); however, these findings did not indicate a statistically significant higher mean in nursing grades or an increase in the percentage of grades awarded. No other significant differences were found.

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Table of Contents

List of Tables

List of Figures

List of Abbreviations

CHHS   College of Health and Human Services

HS   Human Services Program

NSG   Nursing Program

SACSCOC   Southern Association of Colleges and Schools Commission on Colleges

SWK   Social Work Program

SPSS   Statistical Package for Social Sciences

SS   Search Strategy

TU   Troy University

CHAPTER 1

INTRODUCTION

The COVID-19 pandemic is causing a seismic shift in how colleges and universities create and diffuse knowledge. In higher education, the faculty are at the center of this facet of higher learning. Faculty appointments may be full-time or part-time and may be tenured, tenure-track, or non-tenure-track. University faculty members undertake research, teaching, and service roles to carry out the academic work of their respective institution (Hamrick, 2020). We now consider 'outreach' as a basic responsibility of faculty (American Council on Education, 2019). Hamrick (2020) noted that of the three roles of teaching, research, and service, the teaching role is the most widely shared among faculty members across colleges and universities. Within the category of teaching, faculty must maintain the responsibility for grading practices for measurement of instruction and student performance. Assigning grades is one of the most important measurement decisions that faculty can make (Chiekem, 2015). The grading practices used by many faculty members are designed to communicate a student's performance in a number of areas, including academic achievement and behavioral factors such as student effort, conduct, and attitude (Allen, 2005).

Grading practices have gone through many changes throughout history. At times, teachers used grades for purposes of instructional planning; while, at other times, they employed grades to sort students for college or graduate school. In early times, grading was performance based, indicative of a fixed standard. Later, instructors graded on a curve, which allowed students to be compared to their classmates (Olsen, 1995). Despite the ongoing changes in grading practices, the trend in the 1940s was toward a five-point system (A, B, C, D, F). Before

the end of the 1940s more than 80% of the nation's schools had some form of the five-point system (Kirschenbaum, Napier, & Simon, 1971).

Over the last half-century, new pressures of grading policies have challenged the traditional purpose and civic mission of higher education. As such, Reeves (2008) argues that because grading polices have a direct effect on the grades that students receive, it is important that educational institutions carefully consider what practices best measure students' performances, including behavior and participation, or whether grades should just represent a student's proficiency in a given subject. Some educators have even questioned the value of using grades at all, claiming that using extrinsic rewards to reinforce learning teaches students to care more about their performance on assessment than on what they learn (Edwards, 1999). The major reason for assigning grades is to create a public record of a student's academic achievement that can accurately and effectively communicate to others the level of mastery of a subject a student has demonstrated (Airasian & Russell, 2001). College and university grades can influence a student's graduation prospects, academic motivation, postgraduate job choice, professional and graduate school selection, and access to loans and scholarships (Healy & Rojstaczer, 2012).

As grade distribution remains at the forefront of discussions at higher education institutions, the instructional practices and methodologies are essential to the examination of student learning. Some instructional practices in higher education have included the application of social construction in the classroom. Social construction is defined as an idea that has been created and accepted by the people in a society where the focus tends to shift from the teacher to the student. In a socially constructed classroom, the focus tends to shift from the teacher to the student. The classroom is no longer a place where the teacher serves as the expert lecturing to

passively involved students; in the social construction model, the students are urged to be actively involved in their own process of learning (University College Dublin, 2010). It is a process for learning based on sociocultural principles in which learners deepen their understanding of a topic through social interaction, dialogue, negotiation of ideas, or other collaborative activities (Windschitl, 2002). With consideration of the andragogical principles, the instructor can tailor the instruction to meet students' interest by involving the students in planning the learning objectives, activities, and solving real-world business problems. Andragogy improves communication between student and teacher; whereby, they work together as partners to design instructional content and methods to suit the students' needs (Chan, 2010).

Some experts argue the best way to detect grade inflation would be to examine instances where there is a large variation between grades and high stakes test (Gillum, Sanchez, & Younger, 2008). By definition, testing becomes high stakes when the outcomes are used to make decisions about promotion, admission, graduation, and salaries. High-stakes testing is one of the most controversial issues in education today. Although high-stakes testing has been commonly associated with K-12 standardized tests, students in college also experience high-stakes testing in such as the classroom. An emphasis on testing places additional stress on both faculty and students (Ennes & Jones, 2018).

The discussion of grade inflation is an ongoing topic of researchers to explore. The inflation of grade demonstrates a rise in the average grades assigned to a student. Commonly, in higher education, grade inflation describes a practice among universities and colleges that deflates or lowers the actual, real value of an A. This practice creates the notion that instead of being an indicator of exceptional achievement, a grade of an A becomes an average grade among students. This in turn dilutes the standard of excellence within these institutions, making it

difficult to correlate grades with student knowledge and level of competency (Courts & Tucker, 2010). Another less known version of grade inflation is 'content deflation' where students receive the same grade as students in the past but with less work required and less learning attained (Cohen, 1984). The problem of grade inflation originated in the Vietnam era, when college students with high grades, generally a B average, could be exempted from the draft. If a professor assigned a student a C, it meant the possibility of that student being drafted into military service (Casalaspi, 2016). Partly in response to changes and attitudes about the nature of teaching, and to ensure that male students maintained their full-time status, grade point averages (GPAs) rose rapidly. When the war ended, so did the rise in grades awarded (Rojstaczer, 2010).

More recent researchers argue that grade inflation may be plateauing more than was commonly believed. Carter and Lara (2016) reviewed grade distributions at the University of California (UC) and California State University (CSU), and many of the campuses showed an upward trend between 2009 and 2013. However, when they analyzed the data for statistical significance, only five out of nine of the UC campuses (Berkeley, Riverside, Santa Barbara, San Diego, and UCLA) showed a significant increase in GPAs over that time (Carter & Lara, 2016). Grade inflation trends were even less noticeable among CSU campuses: only one third had significantly higher GPAs across the years observed (Dominguez Hills, East Bay, Fullerton, Northridge, Pomona, San Diego, San Jose, and San Luis Obispo).

This study examines grade distribution at a southern 4-year university, in its in its College of Health and Human Services (CHHS). This university is a public institution comprised of a network of campuses statewide and worldwide. The university provides a variety of educational programs for undergraduate and graduate programs. The university is accredited by the Southern Association of Colleges and Schools Commission on Colleges to award associate,

bachelor's, master's, educational specialist, and doctoral degrees. In this research study, I examined the distribution of grades within the CHHS with a focus on the academic disciplines of Nursing, Social Work, and Human Services.

Purpose of the Study

The purpose of this quantitative study was to examine the relationship between traditional classroom and distance education instructional delivery methods in relation to grade distribution patters for specified academic disciplines Human Services (HS), Nursing (NSG), and Social Work (SWK) at a university in South Alabama. The study further examined high stakes testing courses in programs of HS, NSG and SWK and grade distribution and to explore the possibility of grade inflation at a university in Southern Alabama. In this research, secondary data was obtained from faculty, and the researcher analyzed the data to answer the proposed research questions. The data represents final grades and grade points assigned within a semester of traditional face-to-face setting (16 weeks) and distance education setting (9-week online term) courses at a university in south Alabama. This research investigated three academic disciplines: Nursing (NSG), Social Work (SWK), and Human Services (HS).

Information based on this study will be instrumental in informing institutional administrators in course program curriculums, as well assisting in the efforts to develop effective strategies for assignment of grade points for grade distribution. The grade distributions of the disciplines were compared in order to identify and understand any significant differences between the three academic disciplines.

Research Questions

Three research questions guided this study:

1.   What is the average mean grade for high stakes testing courses for each of three (Nursing,

        Social Work, and Human Services) undergraduate programs?

2.   Is there a significant difference in mean grades for each of six courses (HS 3310, SWK

        2250, SWK 3303, SWK 3375, SWK 4471, SWK 4480) instructed online vs. traditional?

3.   Is there a difference in grade distributions between Social Work (SWK 4471, SWK 4472)

        and Nursing (NSG 2271, NSG 2282) high stakes testing courses?

Significance of the Study

        This study is designed primarily to benefit faculty by providing objective information

with which they can critically review the academic performance of students enrolled in

undergraduate courses with master-level course syllabi and set grade assignments. The critical

review can support decision-making about course curricula along with the social construction of

a course with multiple sections. Faculty would be able to review significant differences in

academic performance of students in NSG, SWK, and HS in order to better understand course

development and planning. This study can also provide a framework for further discussion

regarding the appropriate instructional delivery, whether traditional setting or distance education,

for best academic performance.

        As administrators work to develop ways to reform grade inflation, it is necessary to know

strategies for reducing grade inflation. Administrators often do not realize that grade inflation

undermines the value of college teaching, provides a distorted view of enrollment numbers and

actual retention rates, and even can negatively affect the university's allocation of resources

(Johnson, 2003). This study provides information for advising about coursework is performance

based on actual outcomes rather than perceptions. The findings from this study contribute to the research of high stakes testing in higher education, thus bringing about grading reform that better reflects student academic achievement. This study is important because it provides direction for all stakeholders involved to examine the instructional practices in assigning grade points and how the effects of grade points across the flow of a course determine final course grades. This research will assist universities to also promote success by acknowledging and revamping their preventative measures in order to correct ineffective instructional practices, thereby, minimizing grade inflation.

Assumptions of the Study

Assumptions are certain aspects of the study that are assumed to be true given the population, statistical test uses, and research designs. As part of the research, several assumptions were made prior to the study: I have made the following assumptions:

1. The data obtained are representative of the full sample of mean grades in NSG, SWK, and HS.

2. The data collected for this study are accurate, as it is obtained from the faculty teaching courses at the university. It is assumed that the faculty does not temper answers based on external or internal factors.

3. The instrumentation of data collection for the faculty report is appropriate for measuring the grade points and the distribution of grades.

Limitations of the Study

Limitations are potential weaknesses in the study that are out of the researcher's control. These are restrictions on the study that cannot be dismissed and could affect the design of the study. The following are limitations of this research:

1. The use of secondary data. Reidel's (2000) study stated that secondary data analysis is simply the act of analyzing data that were originally collected for another purpose. Johnson (2011) later agreed that the use of secondary data places limitations on the research and the researcher.

2. This study is limited to the population of undergraduates enrolled in courses of Nursing, Social Work, and Human Services.

3. This study is limited to the participants of the faculty teaching undergraduate and graduate courses in Nursing, Social Work, and Human Services.

4. The data obtained were from faculty teaching courses in CHHS for the academic year of 2019–2020.

5. The data used in this research were specific to the university from which they were collected.

Definitions of Terms

Academic year: For the purposes of this study, the academic year refers to the fall and spring

semester, Term 1 and Term 2 for the years under study (Fall 2019 and Spring 2020; Term

1, August 10 – October 11, 2019; Term 2 October 12 – December 2019).

Academic performance: The letter grade (A, B, C, D, F) indicated on the official record collected

from the university.

Adjunct: A person associated with lesser status, rank, authority, etc., in some duty or service;

assistant (Adjunct, n.d.). In Merriam-Webster's online dictionary. Retrieved from

https://www.dictionary.com/browse/adjunct?s=t

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

ASN Nursing: For the purposes of this study, ASN refers to the Associate of Science in Nursing.

Bachelor's degree: The bachelor's degree is the most common type of degree awarded, preparing

students for most jobs that require a college degree and for further graduate study

(American Council on Education, 2019).

BSN Nursing: For the purposes of this study, the BSN refers to the Bachelor of Science in

Nursing.

Classroom: For the purposes of this study, a classroom refers to a location where a college

course is taught.

Constructivist instructional methods: The constructivist instructional method approach is when

the teacher becomes the facilitator in a student-centered classroom. Students have the

opportunity to develop their knowledge based on discoveries or understandings obtained

through focused learning experiences. Examples of this approach in the learning

environment are open-ended discussion, student-initiated questions, problems solving, inquiry, experimentation, cooperative learning, and group reflection (Mayer, 2004).

Course: For the purposes of this study, a course refers to structured programs of study for learners taught at a college or university level.

Distance education: Educational practice in which students and instructors need not to be in the same location for course delivery as the course is completed via correspondence, computers, and audio (National Center for Education Statistics, 2013).

Doctoral degree: The doctoral degree is the highest academic award and recognizes the graduate's ability to conduct independent research. The most common degree of this type is the Doctor of Philosophy (Ph.D.), but it also includes the Doctor of Education (Ed.D.). (American Council on Education, 2019).

Faculty: The body of teachers and academic staff at a school.

Full-time faculty: This refers to individuals employed in a permanent teaching-researching capacity as defined by a given educational institutions (National Center for Education Statistics, 2013).

Grade deflation: Describes the condition that exists when grades fall without accompanying drops in achievement (Wiley Online Library, 2009).

Grade distribution: A report of grades awarded to students in an academic semester or term (Wiley Online Library, 2009).

Grade inflation: Describes the condition that exists when grades rise without accompanying gains in achievement (Wiley Online Library, 2009).

Graduate student: Someone who has earned a bachelor's degree and is pursuing additional education in a specific field (United States Department of State, 2016).

Grading system: The majority of U.S. colleges and universities use the following letter and

numeric grading system: A (excellent); B (good); C (fair); D (poor); and F (failure).

High stakes testing: Any test used to make important decisions about promotion, admissions,

graduation, and salaries (Ennes & Jones, 2018).

Instructional delivery: This refers to skills and programs that promote and facilitate learning

through either face-to-face instruction or an alternative delivery format (Center for

Education Development and Assessment, 2010).

Instructor: For the purposes of this study, this refers to the person developing, teaching, or

facilitating a course, either in the traditional classroom setting or via the internet for

college.

Master course syllabi: A master syllabus is the approved syllabus for a course which must be

used for all sections of the course, regardless of the instructor or instructional delivery

system.

Master's degree: The master's degree is the most common type of graduate degree. A master's

degree may have either a professional or theoretical focus and usually requires a

comprehensive examination, thesis, or other original piece of work (American Council on

Education, 2019).

Semester: A calendar system that consists of a period of 16 weeks of instruction. There may be

an additional summer semester.

Social construction: An idea that has been created and accepted by the people in a society. In a

socially constructed classroom, the focus tends to shift from the teacher to the student.

Student: Any person who is or has been in attendance, about whom an agency or institution

maintains education records or personally identifiable information (National Center for

Education Statistics, 2013).

Teaching: Engagement in specifically designed interactions with the student which facilitate,

promote, and result in student learning.

Term: A calendar system that consist of up to a 9-week period of class meetings.

Traditional classroom: This refers to a traditional school experience requiring face-to-face

attendance on a campus.

Undergraduate student: Someone seeking one of two higher education degrees – an associate

degree or a bachelor's degree (United States Department of State, 2016).

Withdrawal: This refers to removal of a student's entire credit load; thus, the student is no longer

enrolled in any classes for the given semester/term.

Organization of the Study

This study is organized into five chapters. Chapter 1 provided an introduction and context

of the research undertaken and presented basic information on grade inflation in higher

education, grade distribution, and the research questions that guided the study, as well as

assumptions, limitations and definitions that are pertinent to the work.

Chapter 2 is a review of the relevant literature that provides data and perspective from a

variety of vehicles that were useful, informative, and important to this study. The sources include

scholarly journals, other dissertations, publications from conference proceedings, credible

professional publications, professional organizations, and other relevant resources.

Chapter 3 describes the research design and methods. This chapter further describes the process of how the study interacted with the participants and what measures I took to handle this aspect of the research. The design and specific data collection methods are explained.

Chapter 4 presents an analysis of the data. The research findings are presented in summary data tables.

Chapter 5 is the final chapter of this study. This chapter presents the summary, conclusions, limitations of the study, and recommendations for future research.

CHAPTER 2

LITERATURE REVIEW

Introduction

The first chapter described the purpose, statement of the problem, research questions, definitions of terms, significance, limitations, assumptions, and organization of the study. The second chapter – the literature review –presents findings relevant to general characteristics and practices of grade distribution, grading standards and practices, socially constructed courses, instructional delivery methods, high stakes testing, grade distribution in present day, and grade inflation in American higher education, including for-profit colleges and universities (FPCUs). In addition, the review of literature presents findings on distance education, online instruction, technology knowledge, adult education and lifelong learning, and varied learning style inventories. The review includes studies from a variety of colleges and universities, including private and public institutions. The chapter includes data and information from peer-reviewed journal articles and proceeding publications, dissertations, books, periodicals, and other outlets were generally accessed through multiple databases, as well as through investigating references cited among relevant articles found. Together, the sources collectively present a thorough review to inform the study and attempting to address the connection between instructional delivery methods and grade distribution in Human Services (HS), Nursing (NSG), and Social Work (SWK) in a university in South Alabama (see Figure 1).

Figure 1

Intersection of CHHS traditional face-to-face and online, distance education courses
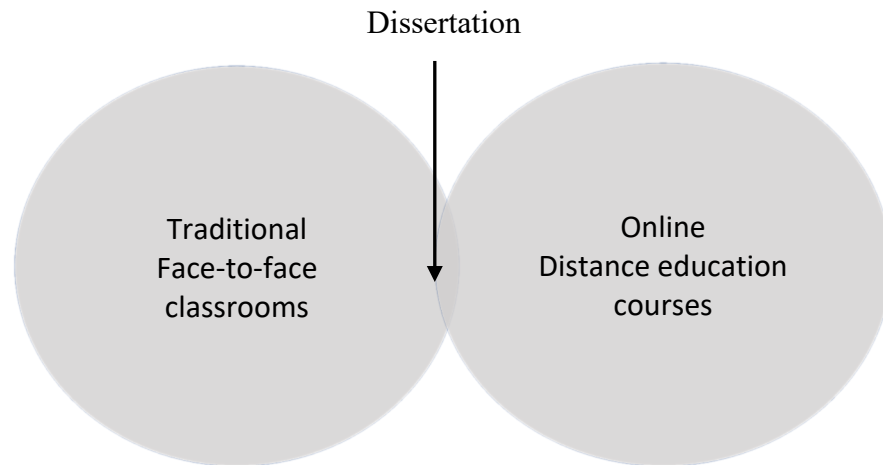
Dissertation

Traditional
Face-to-face
classrooms

Online
Distance education
courses

Purpose of the Study

The purpose of this quantitative study was to examine grade distribution for undergraduate courses with set grade assignments, instructional course delivery, and high stakes testing, and to explore the possibility of grade inflation in the CHHS Program at a university in South Alabama. The study aimed to examine the relationship between traditional classroom and distance education instructional delivery methods in relation to grade distribution patters for specified academic disciplines HS, NSG, and SWK at a university in South Alabama. The study further examined high stakes testing courses in programs of HS, NSG and SWK and grade distribution at a university in South Alabama.

Research Questions

The following research questions were examined during this study:

1. What is the average mean grade for high stakes testing courses for each of three (Nursing, Social Work, and Human Services) undergraduate programs?

2. Is there a significant difference in mean grades for each of six courses (HS 3310, SWK 2250, SWK 3303, SWK 3375, SWK 4471, SWK 4480) instructed in online verses traditional?

3. Is there a significant difference of grade distributions between Social Work (SWK 4471 and SWK 4472) and Nursing (NSG 2271 and NSG 2282) high stakes testing courses?

Search Strategy

The research strategies focused on key words, phrases, methods, strategies, and themes within the literature, emphasizing journal articles, including historical and research articles. Key word searches entailed topics such as Grade Inflation in Higher Education, Grade Distribution in Distance Education on Higher Education, High Stakes Testing and Grade Distribution, instructional strategies in distance education, e-learning, grade inflation in FPCUs, social construction, grade distribution, grading practices, and undergraduate students and grade distribution. ProQuest, ERIC, EBSCOHOST, and SAGE databases were searched. Sources of information included peer-reviewed journal articles, books, government statistics, and dissertations. Older sources were included to provide the reader a perspective of the duration and history of the topic.

Distance Education Defined

Although, distance education has made a significant change to the process of teaching and learning in the United States in recent years (Simonson, 2012), the pandemic of Covid-19 has challenged the education system across the world and forced educators to shift to online and distance education modes of teaching overnight (Dhawan, 2020). While many call it 'distance education,' some scholars refer to the term as 'online learning' or 'eLearning.' Although distance education has many definitions, Schlosser & Simonson (2009) define the term as an "institution-based, formal education where the learning group is separated, and where interactive telecommunications systems are used to connect learners, resources, and instructors" (p. 1). Ko and Rossen (2010) offer a more-broader definition of distance education as " any form of learning that does not involve the traditional classroom setting in which student and instructor are in the same location as the same time" (p. 399). For this study of distance education, distance education will be defined as an educational process that uses technologies to deliver instruction to a student where the student is separated from the instructor.

Garrison and Shale (1987) identified three criteria to describe the distance education process:

- Distance education implies that the majority of educational communication between (among) teacher and student occurs noncontiguously.

- Distance education must involve two-way communication between the teacher and student for the purpose of facilitating and supporting the educational process.

- Distance educator uses technology to mediate the necessary two-way communication (p. 11).

Different from traditional face-to-face courses, distance education and online learning courses typically provide students more flexibility and continuous access to materials than an in-person course, which meets at regularly scheduled times throughout a term (Breen, Haynes, Knapke, Kuhnell, Meinzen, & Smith, 2016). Through online education, students can learn anytime and anywhere, therefore developing new skills in the process leading to lifelong learning (Dhawan, 2020). Accessibility, affordability, flexibility, lifelong learning, and policy are some of factors related to distance education. The online mode of learning is easily accessible to reach even rural and remote areas (Dhawan, 2020). For this study of distance education, distance education will be defined as an educational process that uses technologies to deliver instruction to a student where the student is separated from the instructor.

The History of Distance Education

Distance education in the context of adult learning originated decades ago through the use of correspondences courses. Early formal distance education courses began to appear in the nineteenth century in Germany, England, and the United States (Gunter, Nicholas, & Williams, 2005). Chautauqua Movement cofounder John H. Vincent created the Chautauqua Literary and Scientific Circle (CLSC) in 1878, the first national adult education program and correspondence school (Scott, 1999). "Early university correspondence courses in the United States were based on regular academic courses and were taught by full-time faculty members for credit or without credit" (p. 400). As the Chautauqua Movement and CLSC progressed, the transition from correspondence mail to a more sophisticated, technological form of learning through adult education programs and universities are currently delivering courses through online learning and distance education. During the first generation of distance education in the 1800s,

correspondence courses were a new venture using one-way instructional delivery such as mail, radio, and television. The second generation of distance education used a single technology, which uses computer and or web- based learning. The third and current generation of distance education includes blended learning, which combines face-to-face learning and multiple technologies to deliver learning (Brush & So, 2008).

As the demand for distance education began to grow, challenges and barriers were encountered for adult learners desiring to work and maintain family life. A research study was conducted by Al Carp and ETS to survey adults who explained that they were interested in learning more about a subject but were unable to for some situational reason, nearly half of the respondents listed "they lacked the time," (Cross, 1974, p. 3-4). Patricia Cross identified three categorized barriers to education for adult learners: situational, dispositional, and institutional. The situational barrier is primarily work related or based on family conditions. Some examples of the situational barrier include family and children, financial challenges and difficulties, and transportation. The dispositional barrier involves the internal and personal factors. Age, health, and technological competency are examples of the dispositional barrier. Cross explained that the dispositional barrier relates to the learners' inner feelings and their perceptions of their ability to register, attend, and successfully complete learning activities (Baharudin, Mat, & Murad, 2013). One possible solution for the dispositional barrier of the "too old to learn" issue was to provide special programs and show publicity campaigns demonstrating retired workers in a variety of education pursuits (Cross, 1974). In the 1980s, adult education and distance education improved greatly. For example, colleges adapted entrance requirements; offered support programs geared toward returning adult learners; and offered night and weekend classes or online programs (Breen et al., 2016).

Current Trends in Distance Education

Today, adult learners who enroll in distance education courses primarily do so for convenience (Burns, 2011). The students are either time-bound due to work or travel schedules or location-bound due to geographic of family responsibilities (Galusha, 1998). Many adults return to school for distance education with the goal of changing professions, learning a new skill, or being promoted within their current profession. Guilar and Loring (2008) believed the experience of adult learners is focused around the individual wanting a new job, a promotion, or to take their current position to a new level. In addition to adult learners who are striving for a promotion or a new position, some adults see the need to development a new skill and or trade to remain competitive (European Commission, 2018). Therefore, it is important to understand adult students and their subjective experience from the learning environment. According to Kearsley and Moore (1996), the majority of distance education students are adults between the ages of 25 and 50. Consequently, "the more one understands the nature of adult learning, the better one can understand the nature of distance learning" (Kearsley and Moore, 1996, p. 153).

For example, Tucker (2001) studied pre-test and post-test scores, homework grades, research papers grades, final exam scores, course grade, learning styles, and ages of adult learners in distance education and traditional students enrolled in a business communications course to determine if distance education is better, worse, or equal to the traditional classroom. The results indicated significant differences for post-test scores, final exam scores, and age; however, there were no significant differences in pre-test scores, homework grades, research paper grades, and final course grades (Tucker, 2001). In comparison, Duran & Senturk (2020) used a correlational survey model to study life-long learning competencies, skills, and attitudes

of trainers in adult education. The findings suggested that as age level increases, the tendency of persistence tendencies increases; however, no statistically significant difference was found between mean score of lifelong learning tendencies in professional seniority variable and mode of their work (Duran and Senturk, 2020). This disconnect might be attributed to technology knowledge and instructional practices in higher education.

Lanford (2016) preformed a qualitative study of 43 adult learners in an urban community college critically examine the theory of andragogy's relevance in today's new economy. Lanford do not differentiate between adult learners who return to college for advanced degrees and adult learns who return to community colleges for workforce development. The study revealed that adult learners may be equally, with traditional learners, inspired by additional factors: 1) a desire to set a positive example for their families; 2) an interest of expanding their horizons; 3) the realization of deferred personal goals. The study furthered found that today's adult learners may require different forms of academic support than those suggested by the widely embraced theory of andragogy.

Online and Distance Instruction

As adult education continues to expand in varied educational settings, more opportunities for life-long learning have become available through distance education. There is a structure inherent to learning on campus that keeps students connected to the academic community; however, with the current changes to online learning due to the pandemic, students including adult learners can easily adapt (Carey, 2020). What makes the web such an attractive medium is the ability to communicate instantly with anyone in the world, is what drives students to the Internet rather than to a conventional classroom (Ko & Rossen, 2010). This form of online and distich education is a method of synchronous and asynchronous learning, which

are the two-distance education delivery system categories. Most online classrooms are asynchronous which students and instructor are not presenting at the same time. Instead, the online learners are looking for replies to their own postings when they log into the classroom (Byun & Cardenas, 2013) or completing various activities on their own time. Synchronous instruction requires the simultaneous participation of all students and instructors (Kearsley & Moore, 1996). Santovec (2004) found that many of the staff instructional designers hired to train faculty to teach distance education were hired at their institutions without any previous training or knowledge of online instructional design methods suggesting "they often feel as if they're trying to stay one step ahead of their classes" (p. 3). This suggests that some faculty instructing distance education and online learning courses are not adequately trained and prepared to teach online. In addition, the use a learning management systems such Canvas and Blackboard have assisted unprepared faculty in teaching courses online (Brooks and Grajek, 2020).

Thus, the demonstrates the need for professional faculty development leading to adequate online instruction for instructors. To create high quality, educationally sound distance education resources and opportunities, instructors need to know how to use technology to instruct and facilitate classes effectively (Dalziel, 2003). Adult learners (Breen et al., 2016) are characterized by age and life experiences. It is understandable that an adult of age 55 or older may become more inflexible; she/he may have had sufficient life experiences to decide how she/he will react or feel under most circumstances. Differences, then, do exist, and they need to be considered in designing programs for adults (Birren, 1964). As such, distance learning has traditionally focused on non-traditional students. Faculty members need to be trained with use

of the Knowles' (1984) andragogical techniques of instruction in distance education to teach adult students in a different way than they would for a traditional classroom. With the ongoing developments in distance education, it is critical to understand the student experience with online courses and its relationship with distance education instruction. During the current times of Covid-19, it takes practice and skill for instructors to teach effectively in distance learning (Carey, 2020).

<div align="center">Instructor Technology Knowledge of Distance Education</div>

While more prevalent than in the early years of online education, the availability of reliable and effective training for online instructors is still scarce. Educators face a number of challenges with the wide range of technologies (i.e., Zoom, WebEx, Vimeo, YouTube), including the difficulty of connecting learning theories with current instructional technologies (Lowyck, 2014). A hodgepodge of different workshops, brown-bag lunches, and self-paced online materials may be grouped together to ease an instructor's progress, but there are still a great number of instructors who must learn on the job (Ko & Rossen, 2010). Generally, in distance education, the instructor is not the only source of knowledge, but also acts as a mediator in the process of supporting the student education. In its turn, both part-time and distance education students are actively involved in the learning process, determining the way of acquiring the certain type of knowledge (Pozdnyakov & Pozdnyakova, 2017). But, as it was indicated by distance education students of Transport and Telecommunication Institute, Pozdnyakov and Pozdnyakov (2017) suggested that the main advantage of distance learning in comparison with the part- time education lies in the fact that the distance education structure gives the adult the maximum possible control over the time and pace of their education.

As the demand for instructor technology knowledge increases, the use of technologies for course development is a need through faculty and professional development. Caffarella (2001) found that in developing online courses, the most important thing is to use the technology for its strengths, remembering at all times the person who is the target of the teaching or the online professional development. Too often the instructor's outlook toward integration of technology is characterized by cynicism and derision (Eberwein, 2011). Unfortunately, instructor attitudes and faculty readiness influence the implementation of technology in the classroom and effective instructional delivery (Knapke et al., 2016). Perhaps instructor unfamiliarity using technology creates this uneasiness among faculty minimizing the use of technology integration in higher education (Javeri & Persichitte, 2004; Eberwin, 2011). The use of online instruction is being utilized through a learning management systems (LMS), such as Canvas and Blackboard, are becoming more and more common. Using the LMS can lead the way within the twenty-first century and must be considered by instructors and the adult learner (Layne & Hohenshill, 2005). Yet, faculty experience problems such as lack of staff training in course development and technology, lack of support for distance learning in general, and inadequate faculty selection for distance learning courses (Galshua, 1998). With current technological advancements in instructional design, distance education instructors can utilize the help of instructional designers to design their online course. But, one must consider that still the instructor has a significant amount of effort in designing distance learning materials for the course. Instructors need a high level of preparedness in order to quickly adapt to the changes in the environment and adjust themselves to different delivery instructional modes, for example, remote learning or online learning in situations of pandemics such as Covid-19 (Dhawan, 2020).

In recent developments of online instructional practice, mico-learning has been used in adult education to better serve adult learners. It is a type of instruction that is based on a very specific performance objective, aimed at teaching one concept, changing one behavior, or exploring one idea (Tracy, 2016). Catarci, Gabrielli, and Kimani (2006) define microlearning as a development of small chunks of learning content and flexible technologies that can enable learners to access the information more easily in specific moments and conditions of the day. Examples of micro-learning include: asking a classmate for instructions, creating a video to demonstrate how to perform a task, or creating a quick reference guide (Kelly, 2018).

In 2005, Hug developed a concept of Integrate Microlearning (IML):

- It is open, flexible and modular and allows the use of learning management functions.

- It enable learning through embedded in workflows together with the development of knowledge architectures

- Short learning sequences are initiated according to the use of media (p.5) (Hug, 2005).

Shail (2019) studied the concepts of short-term and long-term memory and explain how micro-learning can be used to increase retention in learners. The study findings suggested that by breaking complex courses into manageable smaller lesson, micro-learning preserves the learner's memory and brain function. The development of micro-learning with the andragogic framework, requires educators to critically analyze existing lecture content to identify, group, and condense the information into smaller chunks of learning to achieve the goals of micro-

learning (Breyer, 2019). Boring (2020) conducted a mixed method study to determine the effectiveness of passive micro-learning containing multiple modes on adult learning. Study findings indicated that participants feel that they learn more from small bites of learning and would like to see more micro-learning in the professional environment; however, they also liked opportunities for training using multiple delivery options.

Moreover, some designers may have more experience designing for self-paced instructional activities rather than instructor-led online classes. And designers who lack experience teaching may not understand the dynamic nature of teaching and classroom interaction (Ko & Rossen, 2010). Some argue that even those instructors who are not involved in distance education need to maintain some level of technical competency to be considered effective teachers (Cardenas, 2000). Much of the recent research regarding technology knowledge is related to the instructor; however, little research has been conducted to examine the relationship between technology knowledge and grade distribution in an online environment. Colleges and universities are involved in lasting and difficult processes of innovation through technologies that impact all components of the organizations, including curricula, finances, infrastructure, while instructors and learners are challenged to cultivate new competencies and create new perspectives on technologies for learning (Lowyck, 2014).

<div align="center">Self-Efficacy of Online Learning</div>

As online instruction continues to play a significant role in students' educational experiences, it is important to examine how such changes in educational practices are impacting the way students learn and achieve success (Bradley, Browne, & Kelley, 2017). In this context, it is considered that self-efficacy can be a significant factor in online environments, as many students experience their first exposure to higher education through

distance education and online courses (Bahcivan and Yavuzalp, 2020). There are certain difficulties related to the technical and technological support of online learning along with the problems caused by the fact that some students are not ready for distance learning (Pozdnyakov & Pozdnyakova, 2017). Students must take an active approach to learning in order to interact with the distance education instructor.

According to Flores (2017) the growth of online-based education program is substantial, with consideration to the demand for knowledge regarding advantages and disadvantages. Research suggests that adult student learners had concerns related to: technological barriers, connecting with their instructor, interacting without non-verbal feedback, and the pacing of sessions, costs and motivators, student support, and services (Galusha, 1998).

Self-efficacy is another factor to consider in an online environment. According to Bandura (1995), self-efficacy refers to belier's in one's capabilities to organize and execute the courses of action required to manage prospective situations. Self-efficacy "beliefs influence how people, think, feel, motivate themselves, and act" (Budura, 1995, p.2). It is not concerned with the skills a person possesses, but a person's judgment of what he can do with those skills (Dahl & Hall, 2013). In this context, self-efficacy identifies whether the student demonstrates confidence in their ability to achieve success in the course, there other factors of concern that can become present, including anxiety (Bandura, 1994). Moghadam and Tahmassian (2011) studied the relationships between self-efficacy and anxiety, depression, social avoidance and worry in a large sample of normal adolescents. The results of the study suggested that self-efficacy has an important relationship with depression and anxiety. In comparison, Pozdnyakov & Pozdnyakova's

(2016) research study found that anxiety may be caused by different reasons, among which it can be noted the loss of learning skills, the lack of experience in distance education, the financial cost of education, the lack of support by the family or by the employer, a sense of hopelessness and irrelevance of their education, etc. However, Bahcivan and Yavuzalp (2020) found no statistically significant difference between university students in Turkish with online learning experience and students without online learning experience regarding either gender or type of school. Bahcivan and Yavuzalp (2020) used the Turkish adaption study of Online Learning Self-Efficacy Scale developed by Zimmerman and Kulikwhich (2016) to study university students' self-efficacy perceptions in online learning environments in Turkish.

Adult Education

As discussed earlier, adult education is a process designed to promote adult learning and lifelong learning. Brookfield (1985), one of many adult education historians that are recognized for their work in defining adult education, defines adult education as an "activity concerned to assist adults in their quest for a sense of control in their own lives, within their interpersonal relationship, and with regard to the social forms and structures within which they live" (p. 46). Another recognized historian in adult education, Allen Tough (1971) believed in the concept that individual adult learning occurred in learning projects, particularly outside of the traditional educational setting. Tough defined a learning project as a "highly deliberate effort to gain and retain certain knowledge or skill and set arbitrary minimum length of seven hours" (Tight, 1996, p. 101). Tough (1971) furthered Cyril Houle's (1961) research on adult education, where both historians suggested adult learning and adult education are based on the individuals' initiative (Gordan, 1993).

Over time, the field of adult education has expanded to become widely diverse. With great changes in population, programs, and developments, some individuals consider adult education synonymous with Basic Adult Education (BAE). BAE programs serve students ages 16 and over who desire to improve their basic skills in readings, writing, math, listening, and speaking (Minnesota State University, n.d.). According to the Colorado Department of Education (2020), outcomes and completion of adult education programs not only include improving the literacy and numeracy skills of adult learners and the attainment of a high school diploma or General Educational Development (GED) but also the programs support adult learners obtaining employment, job training, and earnings outcomes. Forty percent of working low-skilled adults have earned in the bottom fifth of income distribution in the United States. Basic adult education programs that are linked to employment of postsecondary education was designed to help low-skilled adult learners advance their career path and improve their employment and earnings (National Skills Coalition, n.d.). These programs are designed to help adults transition to postsecondary education with the purpose of starting a career, which can lead to the adult learners later enrolling in higher education distance learning programs and or traditional college courses.

Wendell Thomas author of Demographic Philosophy, argues, however, that adult education is different from general schooling for adults based on individuality and social responsibilities (Knowles, 1984). Thomas explains:

On the whole, adult education is as different from ordinary schooling as adult life, with its individual and social responsibilities, is different from the protected life of the child…The adult normally differs from the child in having both more individuality and more social purpose. Adult education, accordingly, makes special allowance for

individual contributions from the students, and seeks to organize these contributions into some form of social purpose. (p. 36)

To further understand the difference in adult education and basic adult education, an individual must consider two major concepts of adult education such as self-directed learning and transformational learning. Brookfield (1985) writes that "self-directed learning as the mode of learning characteristic of an adult who is in the process of realizing his or her adulthood is concerned as much with an internal change of consciousness as with the external management of an instructional event" (p. 58). Transformative learning is described as learning that changes the way individuals think about themselves and their work, and that involves a shift of consciousness (Cahill, 2014).

Furthermore, the philosophy of adult education is based on three noteworthy beliefs (Elisa & Merriam, 1980), including that adults should be self-directed in learning, adult education should be designed to help individuals mature and grow, and that adults approach learning with more experience and responsibilities than a child does. Elisa & Merriam (1980) believe that "philosophy raises questions about what we do and why we do it" (p. 5). Elisa & Merriam (1980), continue by stating that:

A philosophy of adult education does not equip a person with the knowledge about what to teach, how to teach, or how to organize a program. It is more concerned with the why of education and with the logical analysis of the various elements of the educational process (p. 8).

In 1961, Houle developed his typology designed to describe the orientations of adult learners. According to Houle's typology, adult learners may be classified as being primarily

goal-oriented, activity-oriented, or learning-oriented learners (Gordan, 1993). While Houle's typology suggested a description of adult learners, Malcolm Knowles (1984) coined the term andragogy to describe the theory and practice of adult education. Referred to as 'the father of adult education,' Knowles (1984) explained that andragogy differed from pedagogy. Pedagogy means the art of and science of teaching children. The pedagogical model assigns to teacher full responsibility for making all decisions about what will be learned, how it will be learned, when it will be learned, and if it has been learned (Knowles, 1984).

In the third edition of The Adult Learner: A Neglected Species, Knowles (1984) explained the andragogical model is based on several assumptions that are different from those of the pedagogical model: (a) the need to know, (b) the learner's self-concept, (c) the role of the learners' experience, (d) readiness to learn, (e) orientation to learning, and (f) motivation. This model is a function of andragogy. Andragogy started being used in the Netherlands by Professor T. T. ten Have in his lectures in 1954, and in 1959 he published the outlines for a science of andragogy (Knowles, 1978). In the current Dutch literature, a distinction is made among andragogy, which is any intentional and professionally guided activity that aims at a change in adult persons.

History and Environments for Adult Education

Just as the field of adult education continues to grow, the environment for adult education activities are important in understanding adult education. In colonial times, Benjamin Franklin formed Junto, and then came the nineteenth-century literary societies, mechanics' institutions, lyceums, and religious camp meetings (Scott, 1999). In Junto, the course of story consisted of topics include politics, philosophy, and current issues. The Chautauqua Movement, originating in western New York, was also an early provider of adult education. The movement

began with the founding of a Methodist institute for Sunday school teachers during the summer of 1874. Scott (1999) found that before adult education became commonly discussed, John H. Vincent's The Chautauqua Movement (1886) "contains the basic elements of modern adult education theory, most notably the concept of lifelong learning" (p. 391). As time progressed, the movement included varied topics such as music, drama, current events, study groups, and correspondence courses ("Chautauqua Movement," 2019). The movement encouraged freedom of speech and self- improvement ("Chautauqua Movement," 2019). Lyceum, another early provider of adult education, offered a more formal gathering for discussion groups on contemporary issues ("Lyceum," 2017). Founded in 1826, the Lyceum Movement was led by voluntary local associations that gave people an opportunity to hear debates and lectures on topics off current interest ("Lyceum movement," 2018).

Today, adult education activities occur in a wide range of agencies, including community colleges and correctional facilities. In 2001, over 2.6 million students aged 25 and over enrolled in community colleges, comprising 44 percent of total community college enrollment (US Department of Labor, 2007). Schroeder (1970) identified four types of agencies for adult education: (a) Type Independent Adult Education Agencies (e.g. proprietary, technical schools), (b) Type II Educational Institutions (e.g., community colleges, cooperative extensions), (c) Type III Quasi- Educational Organizations (e.g., libraries, religious organizations), and (d) Type IV Non-Educational Organizations (e.g., armed forces, unions) (as cited in Alex, Platt, Gammill, Miller, & Rachel, 2007). With the vast growing minority population of Hispanics in America, the number of English as a Second Language (ESL) programs and classes has increased in community and religious agencies such nationwide. This is evidenced by Krogstad and Lopez (2015) who suggest "the Hispanic population reached a new high of 55.4 million in

2014 (or 17.4% of the total U.S. population), an increase or 1.2 million (21%) from the year before" (para. 2). With a limited ability to speak English, this proves somewhat difficult for such individuals to find work in the United States. The need for ESL programs, particularly, for adult learners will increase as the population need grows. By 2024, Hispanics are projected to be nearly one-fifth of the labor force as a result of the fastest population growth of the race and ethnicity groups (U.S. Bureau of Labor Statistics, 2015).

Among the areas of learning agencies for adult education, another important sector is correctional education for incarcerated adults and juvenile offenders. Recidivism has been a longstanding debate for incarcerated in correctional facilities around the world. And although many factors account for why some formerly incarcerated adult and juveniles succeed some do not, lack of education and skill is one primary reason (Bozick, Davis, Miles, Saunders, Steele, Steinberg, Turner, and Williams, 2014). Bozick et al. (2014) believes this is why recidivism or correctional education—both academic and vocational-are provided in correctional facilities in the United States. To further research this debate, Bozick et al. (2014) performed a comprehensive study to evaluate the effectiveness of correctional education and suggest recommendations for improvement. The study concluded that the debate should no longer be about whether correctional education is effective or cost-efficient, but rather on where the gaps in correctional education knowledge are and opportunities to move the field forward with recidivism, Bozick et al. (2014).

Moreover, a number of adult education programs have been implemented into prisons, including GED, literacy, parenting, auto mechanics, and welding. Some federal grant programs to encourage recidivism include the Improved Reentry Education program. This program helps

incarcerated adults develop the skills needed to reenter society. According to the U.S.

Department of Education (n.d.), the U.S. Department of Education and the Department of Justice

awarded $924,036 to adult education providers in Pennsylvania, Wisconsin, and Kansas for

innovative correctional educational programs designed to help America's inmate population

make a smooth re-entry to society through education and workforce training. Workforce

development is another effort to bridge the gap between school agencies and community

agencies for adult education to provide training for workers. Historically, adult education has

been the key provider for workforce education to adults, with particular emphasis on the support

of undereducated, the disenfranchised, and often the dislocated worker (Kasworm, 2011).

Basic Adult Education and Adult Education

Over time, the field of adult education has expanded to become widely diverse to

include many populations and instructional methods to foster lifelong learning. With great

changes in population, programs, and developments, some researchers consider adult education

synonymous with basic adult education. Barnes, Connor, Steadman, and Tighe (2015) describes

ABE programs for adults with instruction and coursework to complete high school and earn a

GED certificate. It is understood that ABE programs are also non-degree program that offer

specialized training for adults. The ABE programs can support many different skills: English as

a second language, GED preparation, Family literacy, and citizenship exam preparation. On the

contrary, adult education is centered on self-directed learning and transformational learning.

Adult education expands to offer lifelong learning programs for adult learners at agencies of

community centers, correctional facilities, community colleges, and religious facilities. Recent

research suggests a growing trend in the demand for ABE literacy program and ESL adult

learners in community-based organizations, libraries, adult schools, and community colleges (Csepelyi, 2010). As such, Batalova and Feldblum (2020) believes Covid-19 pandemic has posed many large and urgent challenges in higher education, equipping students with education and skills remains a priority because they will play an important role in both the economic recovery and the future of the U.S. workforce.

According to Batalova and Feldblum (2020):

While it is hard to foresee how the coronavirus pandemic and the associated economic and social disruptions will affect the higher education system in the long term, pre-pandemic trends such—such as population aging…structural shifts in the labor market in response to automation and other technological developments—will persist. And given that immigrants and the U.S.-born children of immigrants are projected to be the main source of future U.S. labor force growth, investing in their education and skill development will benefit the U.S. economy and society, as well as these individuals and their families. (p. 9)

Adult students will benefit from training and skills development programs that ensure program completion, provide marketable credentials, and assist in developing lifelong learning skills. Moreover, research continues to expand to improve the methods and teaching styles in adult education. In recent years, some researchers have made several additional discoveries about difficulties and challenges adult learners experience in higher education. Cagiltay, Erdogdu, Kara, and Kokoc (2019) studied the challenges faced by adult learners in online distance education. The findings suggested three the categories of internal, external, and program-related challenges as primary difficulties for adult learners. The internal challenges include low self-confidence, insufficient computer skills, and time management difficulty. The external challenges include schedule conflicts, technical problems, and financial problems. The

program-related challenges include feeling of isolation, insufficient learning materials, and lack

of institutional support (Cagiltay et. al., 2019). Similarly, Baharudin et. al. (2013) studied the

challenges faced by adult learners and how adult learners cope with these challenges. The study

findings suggested that the biggest challenge faced by adult learners is within themselves

followed by time, financial, and families.

<p style="text-align: center;">Modes of Learning</p>

With the growing students enrolling in online learning academic programs amid the

pandemic, it is important to understand modes of learning styles and grade distributions.

Through technology-enabled education, LMS can assess students' different learning styles using

variations of instructional practices (i.e., YouTube, Google Docs) and give students a better

educational experience (Carey, 2020).

As this research focuses on instructional delivery methods of traditional face-to-face

classrooms and distance education courses, it is also necessary to better understand the students'

approach to learning in educational settings, as well as popular learning style inventories used by

adult learners. Brozik and Zapalzka (2006) define learning styles as an individual learner's

preference to process information in a particular way or combination of ways (p. 327). It refers to

a person's characteristic style of receiving and comprehending information and solving

problems. Despite the variation in categories, the fundamental idea behind learning styles is the

same: that each learner has a specific learning style, and student learn best when information is

presented to the student in their preferred learning style (Chick, 2020). Many have used "learning

styles" and "multiple intelligence synonymous," but Gardner (2013) argued that style and

intelligence are fundamentally different psychological constructs. Howard Gardner developed

the "Multiple Intelligence" (MI) theory in the 1970s and early 1980s; he presented the MI theory

in his 1983 book Frames of Mind: The Theory of Multiple Intelligence (Strauss, 2013).

Gardner's theory identified seven distinct intelligences: linguistic, logical-mathematical, musical,

bodily-kinesthetic, spatial, interpersonal and intrapersonal; he later added naturalist intelligence

(Strauss, 2013).

Current Learning Style Inventories

One of the most widely used and influential learning style inventory is the Kolb's

Learning Style Inventory, see Figure 2 (Matthews, 1991; Kayes, 1999). Experimental Learning

Theory (ELT) (Kolb, 1984) proposed that learning consists of four independent constructs: (a)

concrete experience (CE) which involves using direct experience, feelings and emotions to

engage with the world, (b) reflective observation (RO) which involves looking back on extent

experience, (c) abstract conceptualization (AC) which involves creating meaning out of the

experience and creating plans to guide future actions, and (d) Active experimentation (AE)

which involves testing than plan by putting it into action. Kolk (1984) defines each of the

learning environments as having different qualities that can benefit different type of learners. In

adult learning, there are a number of publications on ELT and adult development, moral

development, and career development (Sternberg & Zhang, 2000). Kolb (1984) suggests that

students develop a learning preference in a particular way. Students may adopt different learning

styles in different situations, but student tend to favor some learning styles over others (Healey &

Jenkins, 2000).

Figure 2

Kolb's Learning Styles and Experiential Learning Cycle
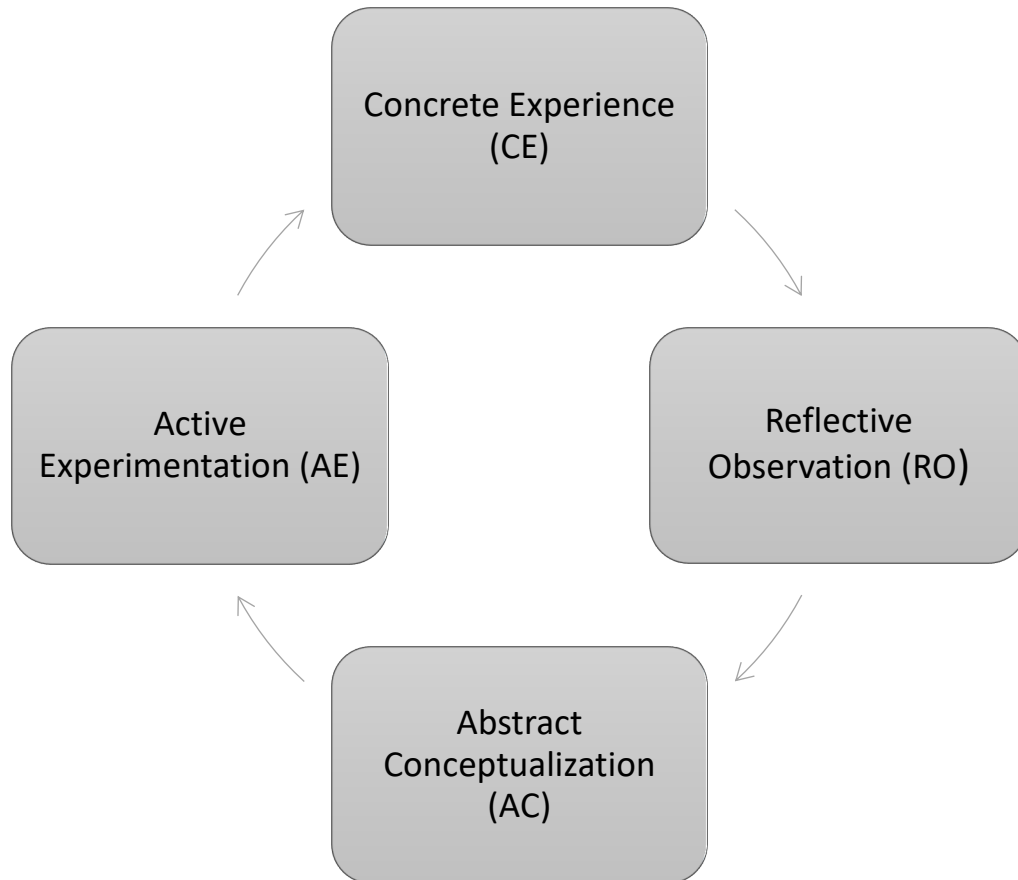
Clark, Konak, & Nasereddin (2014) focused on how the stages of the Kolb's Experiential

Learning Cycle can be incorporated into hands-on activities and enhance student learning

outcomes. The study findings suggested that hands-on activities designed based on the

framework are more likely to increase student interest and competency to hands-on activities

(Clark et al., 2014). For the second study, the findings suggested that relationships among the

factors affecting student learning outcome as a result of hands-on activities (Clark et al., 2014).

The findings further suggested that student-to-student interaction is an important factor

determining student learning experiences (Clark et al., 2014). Matthews (1991) studied 796 first-year students in five colleges and universities to compare the grade point averages with learning typologies by Canfield's Learning Styles Inventory. Grades of students with social, conceptual, and social/applied styles differed significantly from those of student having the neutral preference (Matthews, 1991). Results of the analysis of variance reflected an effect of learning styles, sex, and race. Matthews (1991) revealed no significant differences in proportions of student grades in various learning styles; however, the study revealed that females learned best with social and independent/applied styles; however, males learned best with social/applied and social/conceptual styles. Some researchers found contrasting results from similar studies on learning styles and gender differences using different learning style inventories.

As such, the Grasha-Riechman Teaching and Learning Style Inventories is another commonly used learning style inventory in research. Using Grasha-Riechman's (1994) Teaching and Learning Style Inventories, Amir and Jelas (2010) examined the teaching and learning style of lecturers and students at Universiti Kebangsaa Malaysia. The findings of the study suggested that the instructor teaching styles were dominant among lecturers while student are more dominant in collaborative and competitive learning styles (Amir and Jelas, 2010).

Furthermore, the Grasha-Reichman Learning Style Scales (GRLSS) builds on six key areas of previous research including avoidant, participant, competitive, collaborative, dependent, and independent type, see Figure 3 (Amir & Jelas, 2010). Avoidant students tend to be at the lower end of grade distribution. Participant students are willing to accept responsibility for self-learning. Competitive students are described as competitive among their peers for rewards. Collaborative students tend to enjoy working together with their peers. Dependent students are

may easily frustrated when facing challenges not addressed in the classroom. Finally,

independent students tend to prefer to work alone with little instruction from the teacher.

Figure 3

Grasha and Sheryl Reichmann student learning styles.

```
                    ┌──────────────┐
                    │ Participative │
                    └──────┬───────┘
                           │
┌──────────┐               │               ┌──────────────┐
│ Avoidant │╲              │              ╱│  Competitive │
└──────────┘ ╲      ┌──────┴───────┐     ╱ └──────────────┘
              ╲     │   Learning   │    ╱
               ╲    │    styles    │   ╱
                ╲   └──────┬───────┘  ╱
┌──────────────┐╱         │         ╲ ┌──────────────┐
│ Independent  │          │          │ Collaborative │
└──────────────┘          │          └──────────────┘
                   ┌──────┴───────┐
                   │  Dependent   │
                   └──────────────┘
```
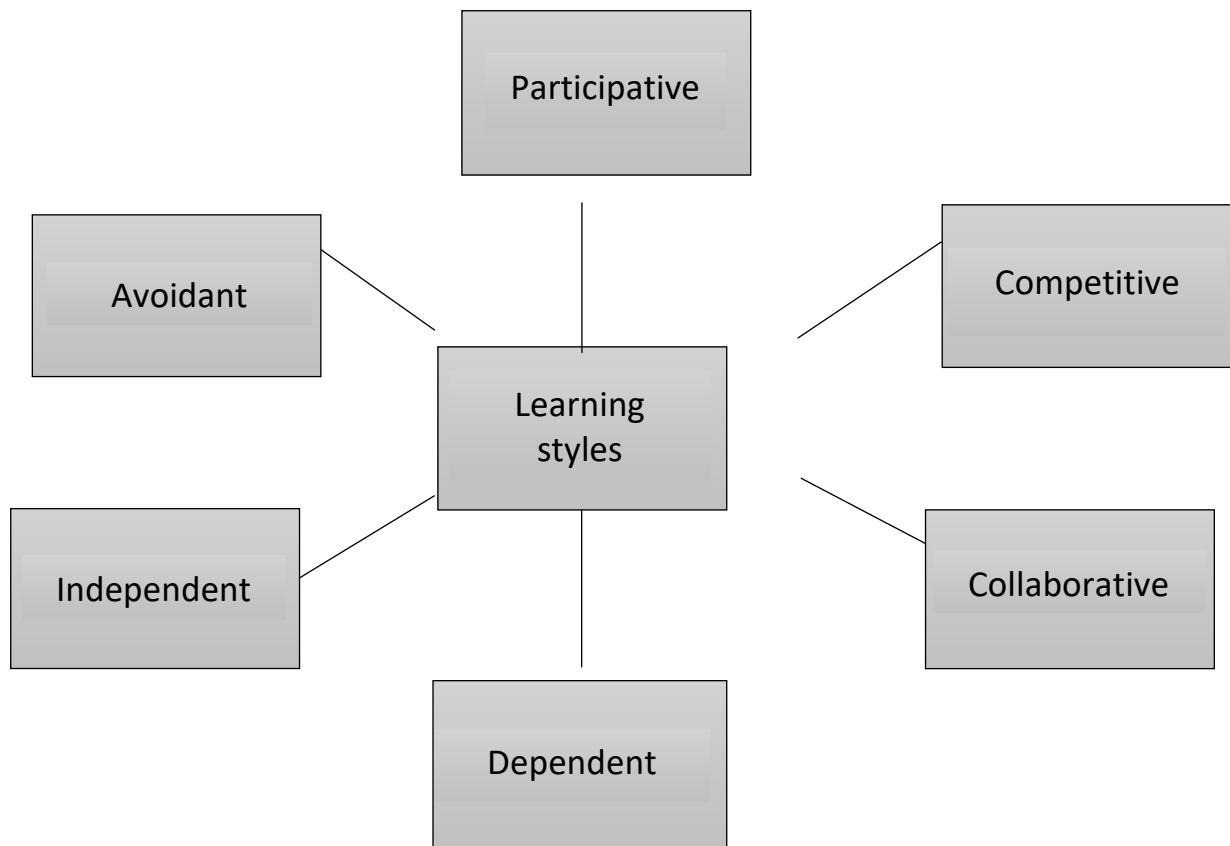
Note. The Grasha-Reichman was developed in 1974 by Anthony Grasha and Sheryl Reichmann to determine college students' styles of classroom participation.

VARK (visual, aural, verbal (reading and writing), kinesthetic; Fleming and Mills, 1992)

is another learning inventory used in adult education describing the four modalities of student

learning. The VARK inventory can be a useful tool for faculty because it encourages them to

teach more effectively in both the traditional classroom and online learning settings (Marcy, 2001; Husmann and O'Loughlin, 2018).

Hasan (2016) studied instructor learning style, instructor teaching style, and student learning in online education recertification courses using the VARK. The research was based on andragogical instructional practices. The study findings suggested that the majority of participants preferred unimodal learning styles and had preferences for teacher centered teaching styles (Hasan, 2016). In a similar study, Fernado, Rodrigo, & Samarakoon (2013), administered VARK and ASSIST questionaries to study the differences in learning styles and approaches to learning among medical undergraduate students of the University of Colombo and postgraduate trainees of the Postgraduate Institute of Medicine, Colombo. The study findings suggested a positive shift towards deep and strategic learning in postgraduate students (Fernado et al., 2013). The use of learning styles are important in the online instructional practice. Using the VARK questionnaire, DiCarlo, Lujan, and Wehrwein (2007) studied gender differences and the four modalities of the VARK at Michigan State University. DiCarlo et al. (2007) found that male and female students have significantly different learning styles. DiCarlo et al. (2007) believes that it is the instructor's responsibility to address the diversity of learning styles and develop the situatable learning approaches. "Those designing distance education should, moreover, pay attention to differences among adults—in individual learning styles, preferences for acquiring new knowledge and skills, and levels of maturity or ways of responding to new learning situations" (Clark and Verduin, 1991, 32).

<div align="center">Grade Inflation</div>

Grade inflation can be interpreted as a rise in the average grades assigned to a student. It occurs when instructors grant a higher grade for student work similar in quality to work of the

past. Young (2003) argues that grade inflation deflates the real value of an A, so that it becomes the average grade among students. This, in turn, dilutes the standard of excellence, making it difficult to correlate grades with student knowledge and level of competency (Courts and Tucker, 2010). Another less known version of grade inflation is 'content deflation' where students receive the same grade as students in the past, but with less work required and less learning (Cohen, 1984). Olenik (2009) noted that the consensus definition of graduate inflation in education research has come to be "student attainment of higher grades independent of increased levels of academic attainment" (p. 157).

A Historical Review

Another way of understanding grade inflation is with the use of longitudinal measurement, noting that the average mark given at one point in time is significantly higher than the average mark earned by students at an earlier point in time. For example, university grades have inflated fast: As and A minuses are now the most frequently awarded grades at US colleges and universities, comprising 43% of all grades, up from 31% in 1988 and 15% in 1960 (Rampell, 2011). This suggests the ongoing concern grade inflation in American colleges and universities.

According to Garten and Olday (1980), "if traditional grading criteria have largely broken down without accompanying (compensatory) structural and ideological change, the question of whether students are learning as much in their courses as in the past can be raised" (p. 8-9). This suggests that the inflation of grades has lessen what students are learning in recent years compared with historical data. Although research suggests different causes for the start of grade inflation in America, Rojstaczer (2010) indicated two alleged primary causes as: (a) the Vietnam War (during which it is argued that professors gave higher grades to keep their students from being vulnerable to the military draft), and (b) the effect of affirmative action on university

admissions. Rojstaczer (2010) denies any force to the latter. This discussion indicated the early findings of grade inflation in American began in the 1960s and a result of affirmative action.

Regarding the resurgence of grade inflation in the 1980s, Rojstaczer (2010) proposes it was "caused by the emergence of a consumer-based culture in higher education. Students are paying more for a product every year, and increasingly they want and get the reward for a good grade for their purchase. In this culture, professors are not only compelled to grade easier, but also water down course content. Both intellectual rigor and grading standards have weakened."

Results of Earlier Studies

Grade inflation is a global phenomenon, and previous studies (Finefter-Rosenbluh and Levinson, 2015; Chowdhury, 2018; Arrafii, 2020) indicate a steady rise in high grades being assigned to students in colleges and universities; thereby, noting the widespread growing trend of grade inflation worldwide. Chowdhury (2018) describes grade inflation as a practice that damages the academic ethos. Thereby, grade inflation and student proficiencies and competencies should be factors of consideration. In academic institutions, student proficiencies and competencies are the most important outcomes in the teaching-learning process (Boretz, 2004). However, the practice of grade inflation converts grades to currencies that are exchanged for enrollment in a particular institution. Krautmann and Sander (1999) agree that grade inflation dilutes the role of education credentials when screening workers in the labor market. They showed that, although grade inflation is found in academics, the complication of grade distribution also impacts the labor and workforce market.

Additional studies have been done to look at grade inflation as a trend by examining grade distributions. Carter and Lara (2016) conducted a study that examined grading trends across a recent five-year span in the University of California (UC) and California State

University (CSU) systems. The researchers performed a series of statistical (regression) analyses on UC/CSU grade distribution data, using the results to determine if GPAs have changed significantly in recent years and concluded that while most universities use the traditional A through F assessment scale, not all employ a plus/minus system for each letter grade (Carter and Lara, 2016). The UC and CSU, UC Santa Cruz uses plusses and minuses for some grades (A+, A-, B+, B-, C+), but not all grades (anything below a C is not modified by a plus or minus).

Additional research by Carter and Lara (2016) revealed that grade inflation may be plateauing more than it is commonly believed. Their review of grade distributions at many UC and CSU campuses showed an upward trend between 2009 and 2013 (Carter and Lara, 2016). However, when the researchers analyzed the data for statistical significance, only half of the UC campuses (five out of nine: Berkeley, Riverside, Santa Barbara, San Diego, and UCLA) showed a significant increase in GPA over that time (Carter and Lara, 2016). Grade inflation trends were even less noticeable among CSU campuses; only one-third had significantly higher GPAs across the years observed (Dominguez Hills, East Bay, Fullerton, Northridge, Pomona, San Diego, San Jose, and San Luis Obispo; Carter and Lara, 2016).

Inexperienced instructors often have more difficulty in giving negative feedback (Cacamese, Elnicki, & Speer, 2007; Walsh and Seldomridge, 2005), and it is recommended that the lower faculty find it easier to avoid conflict by giving the student a good grade and relying on another instructor with more experience to adequately issue the student an appropriate grade. Sonner (2000) noted that adjunct instructors, hired on a term-by-term basis, are easily replaced and, as a result, face pressure to earn good evaluations. Additionally, Clouder and Toms (2005) suggest that the instructors have their own image of how they expect students to be and if the

student falls short of those expectations then grades are likely to be lower than those students who mirror the instructor's expectations.

Kezim, Pariseau, and Quinn (2005) conducted a statistical analysis to investigate whether grade inflation persisted in business school at a small private college in the northeast region of the United States. The results revealed that grade inflation was related to faculty status with significant differences seen between mean grade points average of students being taught by tenured and adjunct faculty between those students taught by non-tenured and adjunct faculty (Kezim et al., 2005). The researchers (Kezim, Pariseau & Quinn, 2005) also found that average grades given by adjunct faculty were higher than those of either tenured or non-tenured faculty. Thus, the results suggest that the increase use of adjunct faculty may exacerbate grade inflation (Kezim et al., 2005).

The majority of empirical studies have focused on the association between tenure status and grade inflation. Brown (1976) used data from the University of Connecticut to examine the relationship between student rating and course grades. The study results indicated that course grades significantly influence instructor ratings, accounting for 9% of the variance in instructor ratings. Several studies have shown that grade distributions vary across academic departments (Achen & Courant, 2009). The highest grades typically are awarded in courses in academic programs of humanities, business, many social sciences, and education; whereas, grades in hard sciences, economics, and engineering tend to be lower, as documented by Gordon & O'Halloran (2014). When students become aware of the non-uniform grading policies of different academic departments, they select courses accordingly (Bar, Kadiyali, & Zussman, 2009). For example, students eligible for financial aid that is dependent upon academic performance choose easier courses and majors (Hernandez-Julian, 2006).

Institutional strategy

Institutional policies also may directly influence grading by committing the organization to the high road of academic competence. According to Arum & Roksa (2011), colleges and universities with curricula that require student engagement and effort and that are guided by high academic standards are more likely to provide rigorous courses. Given the likelihood that rigorous courses will produce greater variance in student performance, individual differences among students should be more apparent and, thus, increase the obligation to assign grades commensurate with achievement (Gordon & Halloran, 2014). On the contrary, Bachan (2017) examined the continual increase in the proportion of 'good' honour degrees awarded by UK universities since the mid-2000s. The study found grade inflation in UK universities from 2009 onward after controlling for changes in university efficiency in improving degree outcome and factors associated with degree performance. Simon (2011) conducted a study in the College of Business at Dublin Institute of Technology to determine the real and perceived existence or otherwise of grade inflation in the College. The findings of the study suggested that there exists a perception of the increase of grades is caused mainly by institutional pressures to increase grade points rather than educational imperatives (Simon, 2011).

Grade Distribution between Instructional Delivery Methods

Bourdeau, Griffith, Griffith, and Griffith (2018) conducted a study at Embry-Riddle Aeronautical University Worldwide to determine whether significant differences existed between grade distribution in face-to-face traditional, synchronous courses, and online, asynchronous courses on English Composition. The findings of the study suggested that there were significant differences based on learning modes of different instructional delivery methods (Bourdeau et al., 2018). Bourdeau et al. (2018) found that traditional course students earned Bs and fewer Cs, Ds,

and Fs than online and synchronous video classroom students; however, the researchers recommended that further studies should find the cause and alleviating the differences in student achievement across the different instructional delivery methods. Since the growth of online and distance learning in higher education, researchers have not only focused on grades but also how distance learners and traditional learners perceive course effectiveness and critical thinking disposition in the classroom. Jones, Irani, & Ricketts (2003) studied the effect of students' disposition to think critically in a graduate research course, offered by the same instructor in traditional face-to-face courses and online learning courses and found that online learners were not significantly different than traditional learners. In addition, Jones et al. (2003) reported that traditional students were significantly different than online learners in truth-seeking and inquisitiveness; thereby, that traditional students demonstrate a greater eager for knowledge than online learners.

While some researchers saw significant difference in student achievement using different instructional delivery methods, more recent data suggests that online learning course to be just as effective as traditional classroom courses (Jefferson & Paul, 2019). In studies using grades as the means of measurement for student achievement, such as the one conducted by Jefferson and Paul in 2019, the results indicated that online learners and traditional learners perform at the same level.

Similar studies by McKissack (1997) and Jones (2005) also revealed no significant differences in grade point averages between traditional classroom courses and distance education courses; however, it was found that students tended to withdraw from Internet-based courses more than from traditional classroom courses. In other studies, researchers found that the grade distributions reported in courses taught both in the traditional classroom and via Internet were

equivalent (Martin & Bramble, 1996; Dutra et al., 1999). The number of courses taught in the

traditional classroom settings and distance education-based course delivery method have been

disproportional.

<center>Research on High Stakes Testing Courses</center>

Some historians believe that high stakes testing originated in Chinese civil service

positions in 2200 B.C., as candidates were required to demonstrate proficiency in music, archery,

horsemanship, writing, arithmetic, and ceremonies of public and social life (Huddleston &

Rockwell, 2015). In the United States, however, high stakes testing can be traced back to the

1983 release of "A Nation at Risk: The Imperative for Educational Reform" (National

Commission of Excellence in Education [NCEE], 1983). This report was presented to President

Ronald Regan. It declared U.S. schools inadequate compared to schools in Japan and Germany

(Au, 2013). The "A Nation at Risk" sparked the start of reform at the federal, state, and local

education levels. The National Commission on Excellence (1983) in Education explain the

quality of education in America:

> Our Nation is at risk. Our once unchallenged preeminence in commerce, industry,
>
> science, and technological innovation is being overtaken by competitors throughout the
>
> world. If an unfriendly foreign power had attempted to impose on America the mediocre
>
> education performance that exists today, we might as well view it as an act of war (para.
>
> 2).

Over the last decade education in the United States has forgone a significant transformation.

State and federal governments have introduced high stakes testing and accountability in an effort

to hold teachers and students responsible (Hursh, 2013). The passing of the No Child Left

Behind Act (NCLB) (2002) and the later succession of legislative acts have had "a profound

<center>48</center>

impact on educational policy. An increased emphasis on teacher accountability and effectiveness led to the use of standardized test to determine tangible rewards or punishments" (p. 1). In 2015, the Every Student Succeeds Act (ESSA) was passed. ESSA was authorized in 1965, requiring a State educational agency (SEA) to hold schools accountable based on results on statewide assessments and other academic indicators (Department of Education, 2017).

In recent years, some researchers have shifted the focus to high stakes testing and higher education. For example, Hartley and Rosovky (2002) conducted a study identifying students' diversified natural, students' response to the instructor's assessment and the idea of student consumerism, pressure from administration, and the role of stakeholders as main factors of grade inflation. The findings of the study suggested that deflating policies can negatively harm student in a case of being awarded scholarships. Koretz (2005) suggested that educational policymakers, with their effort to create a more effective educational system with less test-based instruction, consider redesigning external tests in other ways to minimize grade inflation. These steps have included the educational responsiveness to (a) setting attainable performance targets, (b) relying on multiple measures, and (c) reestablishing a role for professional judgment (Koretz, 2005).

Although significant research on high stakes testing has been done in secondary education, there is not much research on high stakes testing and grade distribution in higher education.

<p align="center">For-Profit Colleges and Universities</p>

While grade inflation has become a concern in all sectors of higher education, the structure of For-Profit Colleges and Universities (FPCU) as profit-driven, business-like entities, combined with the marginalized student populations they serve, places FPCUs in a precarious position where grade inflation is distinctly incentivized (Kisner, 2006). Deming, Goldin, and

Katz (2013) assert for-profit, or proprietary, colleges are noted as the fastest-growing

postsecondary schools in the nation, enrolling a disproportionally high share of disadvantages

and minority students and individuals ill-prepared for college. For-profit colleges and

universities have been a fixture in American higher education for years, but investment by public

companies with access to the capital needed to fun extensive marketing campaigns has raised the

public's awareness of FPCUs in the past decade (U.S. Department of Labor, 2007). As many of

these schools are big national chains, they derive most of their revenue from taxpayer funded

student financial aid. They are of interest to policy makers not only for the role they play in the

higher education spectrum but also for the value they provide to their students. During the 19th

century, FPCUs were noted for providing access to education for marginalized peoples,

including Black Americans, Native Americans, people who are Blind and Deaf, women, and for

students who did not seek a traditional education (Geiger, 2000; Kinser, 2006; Ruch, 2001). The

FPCUs today largely educate nontraditional students (e.g., populations of color, students who

work full-time, adult learners, or individuals 25 years of age or older) and encompass a vast array

of institution types in terms of geographic scope (e.g., enterprise or multi-campus institutions),

ownership and level of degree granted (e.g., certifications, associates, doctoral degree; Floyd,

2007; Kinser, 2006).Yet, with business-like educational practices, many questions remain

concerning the grade distributions and achievement for FPCUs. These postsecondary institutions

have been particularly responsive to the adult students because of their attraction to serve adult

learners (U.S. Department of Labor, 2007).

Currently, the research literature on college grades strongly suggest that modern

collegiate education is no exception at FPCUs. With these pathways in mind, Baird, Carter, &

Roos (2019) indicated claims that FPCUs commit academic fraud through grade inflation to a

greater extent than traditional nonprofit colleges and universities. The researchers found that when FPCUs are compared to more traditional institutes of higher education, FPCUs engage in systemic grade-inflation to retain students who may not be academically applicable. Results showed that merely enrollment in an FPCU resulted in both a higher college GPA and increased odds of graduating for students seeking an Associate's degree, while considering indicators of academic preparedness and demographic difference between the students that enrolled at both FPCUs and traditional institutions (Baird et al., 2019). As a result, "findings support the notion that the structure of FPCUs lends them to an increased inflation of grades" (Baird et al., 2019). Thus, these figures help to demonstrate the remaining concern of grade distribution and inflation in higher education. The study suggests that grade inflation and the concern of grade distribution remains a concern in American traditional colleges and university and FPCUs.

Current Grade Policies

A number of colleges and universities have adopted anti-grade inflation polices including schools in Texas, New York, and North Carolina. For example, to further arrest grade inflation, some colleges have implemented transcript transparency (e.g., Texas' "Honest Transcript Bill"), where notes of how course grades are distributed, and students' compared grades are provided in student transcripts.

The Texas Legislature is attempting to address the concern of grade inflation, whereby:

[T]he Texas Legislature is following the lead of a number of schools that have decided to police themselves: Columbia University, Dartmouth, Indiana University, and Eastern Kentucky 'contextualize' grades on transcripts. For example, the school will indicate the number of students enrolled in each class and the average grade of the class on the students' transcripts. Indiana University places on transcripts the grade distribution for

each course, the class grade point average, and the average student GPA for each course.

(Lindsay, 2019, p. 2)

In another attempt to tackle grade inflation, the University of North Carolina at Chapel Hill (UNC at Chapel Hill) adopted 'contextual grading.' Under this new policy, recommended by the Educational Policy Committee, "student transcripts now will contain 'not just what the individual student earned in a course, but also what the class average was; thereby, providing the 'context' for the grade" (Lindsay, 2014, p. 23). This suggests some ways educational institutions are developing ways to rectify the ongoing problem of grade inflation. In 2008, Columbia professor Susan Elmes, director of undergraduate studies for economics (Augustine-Obi, 2016), noted that her "department had created a standardized curve specifically to combat grade inflation" (para. 2). In sum, this evidence suggests that some institutions of higher learning are having conversations on the distribution of grades in modern day.

A few researchers support additional ways to control grade inflation through use of social construction classrooms, where the learner gains knowledge through meaningful social interaction with others and applies that information to a context in which they are familiar and can relate (Secore, 2017). Instructors must understand that education is not about how to teach but about how students learn (Cole, 2012). Theorists agreed that social construction is relevant as a learning theory in the 21st century (Cole et al., 1978; Holland, Gallant, & Colosetti, 1994; Chandler & Teckchandani, 2015). The constructivist methodology has a completely different approach to leaning, in which it eliminates the drill and practice methods of instruction (Dewey, 1902). John Dewey, one of the modern constructivist theorists, believed that students' learning should evolve from students' experiences rather than fixed or determined learning style (McLeod, 2019). According to constructivist theorists, student learning is the process of creating

meaning, and students must become productive learners with the capacity to take accountability for their own learning (Marzano, 1992). Using the andragogical principles, the instructor can tailor the instruction to meet student interest by involving the students in planning the learning objectives and activities and solving real-world business problems (Chan, 2010). These educational practices are based on andragogy, which is defined as "the art and science of helping adults learn" (Knowles, 1980, p. 43-44) and can support the practice of social construction in traditional face-to-face and distance education course instruction. Andragogy improves communication between student and teacher; they work together as partners to design instructional content and methods to suit the students' needs (Chan, 2010). This is important because researchers have considered the use of instructional learning methods to abate grade inflation in higher education. In such, some researchers have begun to consider other factors to assuage grade inflation through analyzing student evaluations (Chan, 2010).

Thus, revising student evaluations of faculty instruction continue to be an ongoing discussion as a way to abate grade inflation. In a study by Blum (2017), findings suggest that students are not adequate to evaluate instructors teaching abilities; "universities need to balance students' comments with instructor performance," (p. 2304); thereby, minimizing the significance of faculty performance evaluations. Adrian, Phelps, & Totten (2017) recommend the need to "close the deal" (p. 48) by forming a relationship with the student and faculty to build trust in order for the student to better understand how completing the evaluation may impact their course grade. This may help as a method to decrease the inflation of grades. In conjunction with the study of student evaluations for faculty, Caruth & Caruth (2013) found that instructors who practice grade inflation tend to be more forgiving of students in hopes that the student will in return the student provide positive feedback resulting in positive student evaluations. To

replace student evaluations, Blum (2017) indicated faculty evaluations could occur annually in a peer review process with the university by a panel of peers. There are many positives to this approach including faculty building better student-teacher relationships to support student success for greater evaluation scores. However, there is concern that may also be present that are worth considering including whether the student-teacher relationships will demonstrate an improvement in student evaluation score for faculty members to help with the distribution of grades.

Summary

The review of literature provided an overview of: (a) history of grade inflation in the United States, (b) results of earlier studies on grade inflation, (c) grade distribution between instructional delivery methods, (d) the research related to high stakes testing, and (e) the research related to for-profit colleges and universities. Grade distribution was emphasized to integrate significant findings with the defined research questions. In addition, the review of literature presented findings on distance education, history of distance education, online instruction, technology knowledge, adult education and lifelong learning, and varied learning style inventories, including the Kolb Learning Theory, The Grasha-Reichman, VARK and micro-learning and Integrated Micro-learning.

The review of literature on the prevailing trends of grade inflation and its effect on higher education in the United States show that, although a number of colleges and universities have in recent years started to adopt policies and efforts to combat grade inflation, there remains the dialogue on grade inflation by acknowledging that it is a serious problem in the United States (Strauss, 2013). Further, a consideration of grade distributions within universities is relevant to ongoing concerns in courses of high stakes testing and distance education learning in college.

Although there have been multiple studies over the past two decades that researched the demographics, teaching pedagogies and learning outcomes between some combination of traditional learning, online learning and blended learning, few studies have focused explicitly on the differentials in final grades for all the learning modes, and no study has analyzed data using only one specific class. Additionally, many of the citations explored are out of date and would benefit from updated research and results. Many researchers study online learning and learning styles, but the combined study of grade distribution and high stakes testing and instructional delivery methods in higher education. This study aims to fill these gaps by taking a critical look at student outcomes and grade distributions across all modes of learning.

CHAPTER 3

METHODS

Introduction

This quantitative research analysis was done in order to provide observational evidence regarding the influence of instructional delivery methods and the impact of high stakes courses on grade distribution at a university in southern Alabama. The purpose of this study was to explore the relationship between traditional classrooms and distance-education instructional delivery methods, and the relationship of high stakes testing courses in relation to grade distribution for specified academic disciplines (Nursing, Social Work, and Human Services). This chapter describes the research design, population and sample, instrumentation, data collection procedures, data analysis, and research questions and hypotheses.

Purpose of the Study

The purpose of this quantitative study was to examine grade distribution for undergraduate courses with set grade assignments, instructional course delivery, and high stakes testing, and to explore the possibility of grade inflation in the CHHS Program at a university in south Alabama. In this research, secondary data was obtained from faculty, and the researcher analyzed the data to answer the proposed research questions. The data represents final grades and grade points assigned within a semester of traditional face-to-face setting (16 weeks) and distance education setting (9-week online term) courses at a university in south Alabama. This research investigated three academic disciplines: Nursing (NSG), Social Work (SWK), and Human Services (HS).

Information based on this study will be instrumental in informing institutional administrators in course program curriculums, as well assisting in the efforts to develop effective

strategies for assignment of grade points for grade distribution. The grade distributions of the disciplines were compared in order to identify and understand any significant differences between the three academic disciplines.

<p style="text-align:center">Research Questions and Hypotheses</p>

Research Question #1: What is the average mean grade for high stakes testing courses for each of three (Nursing, Social Work, and Human Services) undergraduate programs?

Research Question #2: Is there a significant difference in mean grades for each of six courses (HS 3310, SWK 2250, SWK 3303, SWK 3375, SWK 4471, SWK 4480) instructed in online verses traditional?

Null Hypothesis: H_0: u(online) = u(traditional)

$H_0:1_1$ There is no difference in mean grades for HS 3310 with regard to online vs. traditional.

$H_0:1_2$ There is no difference in mean grades for SWK 2250 with regard to online vs. traditional.

$H_0:1_3$ There is no difference in mean grades for SWK 3303 with regard to online vs. traditional.

$H_0:1_4$ There is no difference in mean grades for SWK 3375 with regard to online vs. traditional.

$H_0:1_5$ There is no difference in mean grades for SWK 4471 with regard to online vs. traditional.

$H_0:1_6$ There is no difference in mean grades for SWK 4480 with regard to online vs. traditional.

Research Question #3: Is there a significant difference of grade distributions between Social Work (SWK 4471 and SWK 4472) and Nursing (NSG 2271 and NSG 2282) high stakes testing courses?

Null Hypothesis: H_0: u(Social Work) = u(Nursing)

$H_0:3_1$ There is no significant difference between high stakes testing courses of NSG 2282 and NSG 2271 grade distributions.

$H_0:3_2$ There is no significant difference between high stakes testing courses of NSG 2282 and SWK 4471 grade distributions.

$H_0:3_3$ There is no significant difference between high stakes testing courses of NSG 2282 and SWK 4472 grade distributions.

$H_0:3_4$ There is no significant difference between high stakes testing courses of NSG 2271 and SWK 4471 grade distributions.

$H_0:3_5$ There is no significant difference between high stakes testing courses of NSG 2271 and SWK 4472 grade distributions.

$H_0:3_6$ There is no significant difference between high stakes testing courses of SWK 4471 and SWK 4472 grade distributions.

Research Design

As this study is in the domain of evaluation research involving the collection and analysis of secondary data, the researchers chose a nonexperimental design. After excluding 73 courses that did not match the study criteria, 36 courses were deemed to be suitable for the purpose of analyzing grade distribution. Each course involved in the study was comprised of course sections instructed by part-time and full-time faculty in the 2019-2020 academic year. The study sample included undergraduate courses from each of the three identified curriculum areas of study at the

university level. The 36 courses included: 17 courses in Nursing: NSG 2202, NSG 2255, NSG 2256, NSG 2265, NSG 2266, NSG 2271 (2 sections), NSG 2280, NSG 2281, NSG 2282 (2 sections), NSG 3300 (2 sections), NSG 3301 (2 sections), NSG 3310 (2 sections); 17 courses in Social Work: SWK 2250, SWK 3303, SWK 3375, SWK 3340, SWK 4471 (3 sections), SWK 4472 (2 sections), SWK 4480 (3 sections), SWK 4483 (2 sections), SWK 4482 (3 sections); and two courses in Human Services: HS 3310 and HS 3399. HS 3310 (4 sections) and HS 3399 (2 sections) (see Table 3.1).

Table 3.1

Nursing | Social Work | Human Services Undergraduate Courses

Academic programs	Total courses
Nursing	17
Social Work	17
Human Services	2
Total	36

Descriptive analysis was used to analyze data for Question #1. The descriptive study was used to examine the association between high stakes testing courses and grade distribution. Description of data is needed to determine the normality of the distribution (Dutta, 2012). The mean, standard deviation, mode, median, and range were calculated and described. The measure of central tendency for mean grades are indicated. However, the central value alone is not sufficient to accurately describe the distribution (Kaul, 2007). Therefore, a measure of the spread of the actual grade scores to describe how the grades are distributed is required (Dutta, 2012). A

t-test for independent samples was used for Question #2. Levene's test was used to assess the homogeneity of variance between the online term vs. traditional semester. According to Green and Salkind (2005), Levene's test is used in a *t*-test to assess whether the variances for the groups are equal. If the Levene's test is significant at the .05 level, the equality of variances assumptions is violated and the *t* value that does not assume equal variances is reported. However, if the Levene's test is not significant, the sample variances are considered equivalent and the results of the analyses are considered valid. An argument could be made to support consistently reporting the *t* value for unequal variances, thus eliminating the need to assess whether the groups are equal, according to Green and Salkind (2005). The grade distributions were analyzed for Question # 3 by using a crosstabulation and Chi-square analysis to determine if the SWK courses and NSG high stakes testing courses are significantly different. Chi-square was used to test each grade within the two groups (Social Work and Nursing). Chi-square, a test of independence, was used to calculate the differences observed and expected frequencies between the groups and compute percentage of grades in each group distribution. A standard of residual value was computed. The mean value was set at 0 with a standard deviation of 1. The results are reported in Chapter 4.

The instructional delivery methods of interest in this study focus on traditional face-to-face classrooms and distance education course sections taught by both part-time and full-time faculty at the university. The instructional method with use of high stakes testing was employed in courses that demonstrated minimal grade points spread across the course of instruction. This study was quantitative in that it gathered a substantial amount of quantifiable secondary data and analyzed that data using statistical techniques as part of a systematic investigation of my hypotheses and research questions. As explained earlier, the content of interest is data on grade

distribution and high stakes testing for courses with traditional classroom and distance-education in the 2019 – 2020 academic year. sought and obtained permission from the Troy University Institutional Review Board. The data on each student remained confidential. Construct underrepresentation was not an issue as data have been collected on each student in every course section in the study.

<div align="center">Instrument and Data Collection Procedures</div>

Instrumentation was not a focus of the study given it was a nonexperimental study involving nonprobability sampling. All data for the purposes of the analysis came from secondary data sources. Specifically, the data were obtained from faculty teaching the respective courses at the university. Data included all grades recorded from the three specified academic disciplines (Nursing, Social Work, and Human Services) in each undergraduate course from the Fall 2019 (traditional semester), Term 1 (online term), and Term 2 (online term) of the 2019-2020 academic year. The Fall 2019 semester (16-week classes) was August 14 – December 11, 2019. Term 1, 2019 (9-week classes) was August 12 – October 13, 2019. Term 2, 2019 (9-week classes) was October 14 – December 15, 2019. Data were in the form of Microsoft Excel spreadsheets listing all courses taken by the target population and the corresponding grade. The dean of the CHHS and the researcher retrieved the Excel data sheets from faculty. The courses were aggregated according to academic disciplines. Related disciplines were Nursing (NSG), Social Work (SWK), and Human Services (HS). All mean course grades were analyzed for purposes of grade distribution analysis for each course under the study.

The researcher first entered the data onto a research-designed data form, and the data were later transferred to SPSS for data analysis. This information included course listing, course number, grade point spread, and final course grade. Grades used in the study were the standard

4-point letter-grade system, as follows: A, B, C, D, and F, with A = 4 grade points, B = 3 grade points, C = 2 points, D = 1 grade point, and F = 0 grade points.

Data Analysis

The researcher employed the Statistical Program for Social Sciences (SPSS; Green & Salkind, 2005) to analyze the data. SPSS both analyzes and displays the data (Green and Salkind, 2005). The statistical procedure included the *t*-test for independent samples and descriptive analysis central tendency. All findings reported were based on a .05 level of significance.

For research question #1, the data was analyzed using the descriptive analysis of central tendency. The data was analyzed for all undergraduate high stakes testing courses in the three academic disciplines of NSG, SWK, and HS. Thirty-two courses were identified as high stakes testing: NSG 2202, NSG 2255, NSG 2256, NSG 2265, NSG 2266, NSG 2271, NSG 2280, NSG 2281, NSG 2282, NSG 3301 (2 sections), NSG 3310 (2 sections), NSG3300 (2 sections); SWK 3340, SWK 4471 (3 sections), SWK 4472, SWK 4482 (3 sections), SWK 4483 (3 sections); HS 3310 (4 sections) and HS 3399 (2 sections). The measure of central tendency described the distribution of grades in high stakes testing courses. The researcher analyzed the frequency of mean grades by interpreting the data using the mean, median, and mode. The different group levels of NSG, SWK, and HS were the independent variables. The average mean grade was the dependent variable. The results are reported in Chapter 4.

For research question #2, the data were analyzed using a *t*-test for independent samples to evaluate the mean grade assigned in each instructional delivery format (term and semester) for each of the six courses under study (HS 3310, SWK 2250, SWK 3303, SWK 3375, SWK 4471, and SWK 4480). The independent samples *t*-test was used to help determine if the grades are significantly different by comparing the score difference between the two groups: online term vs.

traditional semester. The group means between online and traditional delivery course type were the independent variables. The dependent variable was the mean of grades of each of the six courses.

For research question #3, data were analyzed using a crosstabulation and Chi-square analysis to determine if the SWK courses and NSG high stakes testing courses are significantly different. The crosstabulation and Chi-square analysis compared the actual frequencies of grades (A, B, C, D, & F) with the expected frequencies, and the percentage of each grade reported between NSG and SWK high stakes testing courses. The courses were SWK 4471, SWK 4472, NSG 2271, and NSG 2282. Some SWK and NSG courses are defined as core curriculum for the Bachelor's degree requirements according to college policies. The study sought to examine the difference grade distributions of SWK high stakes testing courses and NSG high stakes testing courses. The null hypothesis, therefore, stated that there are no significant differences between the academic performance of SWK high stakes testing courses and NSG high stakes testing courses. The Chi-square analysis examined the differences in the grades and computed a standardized residual value. The Chi-square analysis computed the degree of differences to determine the degree of independence between NSG and SWK. The criterion for threshold of significance was set at .05. If the difference was significant, then a Sommers'd measure of effect size was computed to show the magnitude of the difference.

The research questions guiding this study helped to align with the goal in relationship to the academic disciplines of Human Services, Nursing, and Social Work. The following questions and corresponding null hypotheses were formulated to investigate grade distribution and the percentage of student performance based on high stakes testing and instructional delivery method, both in traditional classrooms and via distance education.

Population and Sample

This study collected data on 109 courses with multiple sections completed in Fall 2019 (traditional semester), Term 1 (online term), and Term 2 (online term) of the 2019 – 2020 academic year at a university in southern Alabama. The Fall 2019 semester (16-week classes) was August 14 – December 11, 2019. Term 1, 2019 (9-week classes) was August 12 – October 13, 2019. Term 2, 2019 (9-week classes) was October 14 – December 15, 2019. All the data came from a college course database provided by the Office of Institutional Research Board located at the university. The data requested were secondary information without student-identifying information (e.g., no information that revealed the student's name, social security, student identification number, email, etc.), and the grades were aggregated by discipline in the form of Excel spreadsheets.

The student sample was identified and obtained from student final grades as provided by the faculty at the university. The sample resulted in undergraduate grades from Fall 2019 (traditional semester), Term 1 (online term). Exempt category approval was obtained through the Institutional Review Board at the university. CHHS faculty teaching the courses in my sample were asked to report on the points spread, for the respective courses they teach.

Ethical Issues

The understudy granted permission to conduct the study where the researcher is employed. The university's Dean of the CHHS supported the study. Confidentiality was maintained by accessing the students' records through secure systems. Student data entered and obtained for research purposes contained no specific identifying information. The results of the data analysis were aggregated data, ensuring that no individual student information can be determined from the published results.

Institutional Permission

The researcher sought permission to undertake the study from Troy University

Institutional Review Board (IRB). This research study was approved by the TU IRB on

December 9, 2019. The researcher submitted the IRB Application to Auburn University along

with the following: (a) Troy University IRB approval, (b) Troy University administrator letter for

permission to conduct study, and (c) the CITI Program. The data collection process began after

the researcher IRB approval from Auburn University on February 3, 2020. The Auburn IRB

approval for this study was #20-41 EX 2002.

Summary

This chapter presented information on the selection and justification of the research

methodology needed to address the research questions (Roberts, 2010). In this research analysis,

a nonexperimental quantitative research method was the methodology selected to address the

proposed research questions. Apuke's (2017) study asserted that quantitative research should

inform the purpose of the study, the research questions, the design of the study, the population

and sample, the instrumentation, data collection, and data analysis. In this chapter, the proposed

hypotheses are integrated into the discussion of the research design. By using secondary data

analysis as the research methodology, this research project extracted final grade data collected by

the CHHS faculty on behalf of the administration at a university. The research attempted to

identify the extent to which course section grade distribution is or is not affected by course

instructional delivery setting and high stakes testing. The results are reported in Chapter 4.

CHAPTER 4

FINDINGS

Introduction

This research project was conducted to provide empirical evidence regarding the influence of grade distribution of instructional delivery methods and high stakes testing in a university in Southern Alabama. The purpose of the study was to examine the relationship between traditional classroom and distance education instructional delivery methods in relation to grade distribution patters for specified academic disciplines Human Services (HS), Nursing (NSG), and Social Work (SWK) at a university in South Alabama. The study further explored high stakes testing courses in programs of HS, NSG and SWK and grade distribution at a university in Southern Alabama. This study was guided by three research questions presented in Chapter 1 and the corresponding null hypotheses introduced in Chapter 3. The research questions and the null hypotheses are addressed in this chapter.

Purpose of the Study

The purpose of this quantitative study was to examine grade distribution for undergraduate courses with set grade assignments, instructional course delivery, and high stakes testing, and to explore the possibility of grade inflation in the CHHS Program at a university in south Alabama. In this research, secondary data was obtained from faculty, and the researcher analyzed the data to answer the proposed research questions. The data represents final grades and grade points assigned within a semester of traditional face-to-face setting (16 weeks) and distance education setting (9-week online term) courses at a university in south Alabama. This research investigated three academic disciplines: Nursing (NSG), Social Work (SWK), and Human Services (HS).

Information based on this study will be instrumental in informing institutional administrators in course program curriculums, as well assisting in the efforts to develop effective strategies for assignment of grade points for grade distribution. The grade distributions of the disciplines were compared in order to identify and understand any significant differences between the three academic disciplines.

Research Questions

The following research questions were examined during this study:

1. What is the average mean grade for high stakes testing courses for each of three (Nursing, Social Work, and Human Services) undergraduate programs?

2. Is there a significant difference in mean grades for each of six courses (HS 3310, SWK 2250, SWK 3303, SWK 3375, SWK 4471, SWK 4480) instructed in online verses traditional?

3. Is there a significant difference of grade distributions between Social Work (SWK 4471 and SWK 4472) and Nursing (NSG 2271 and NSG 2282) high stakes testing courses?

Data Collection

This study was a nonexperimental study involving nonprobability sampling; therefore, no instrumentation was utilized. All data for the purposes of the analyses came from secondary data sources. A quantitative approach and a convenience sampling method were used to obtain data from faculty teaching the respective courses. Data included all grades recorded from the three specified academic disciplines (NSG, SWK, and HS) in each undergraduate course from the Fall 2019 semester, Term 1, and Term 2 of the 2019-2020 academic year. Data were in the form of Microsoft Excel spreadsheets listing all courses taken by the target population and the corresponding grade. Excel data sheets were retrieved from faculty and the courses were

aggregated according to academic disciplines. All grades were analyzed for purposes of grade distribution analysis for each course under the study. For the purposes of this report, grades of W (withdrawal), I (incomplete), and S (suspended) were excluded.

Data were entered onto a research-designed data form and later transferred to SPSS for data analysis (Garth, 2008). This information included course listing, course number, grade point spread, and final course grade. Grades used in the study were the standard 4-point letter-grade system, as follows: A, B, C, D, and F, with A = 4 grade points, B = 3 grade points, C = 2 points, D = 1 grade point, and F = 0 grade points.

The targeted courses were identified from each of the related disciplines of the core group. Both introductory and advanced courses with the related instructional delivery and highest high stakes testing in the disciplines were identified and the grade distributions were analyzed. Data from faculty teaching the respective courses was only available for this study. The core group and related disciplines are depicted in Table 4.1, which shows the number of sections taught in each course, the number of traditional classroom course sections, and the number of distance education course sections for each course under study.

<div align="center">Analysis of Research Questions</div>

Both inferential and descriptive statistics were used to analyze the data gathered from the study. The statistical procedure included an independent samples t-test and descriptive analysis of central tendency. All findings reported were based on a .05 level of significance. Following is the analysis of each research question.

Research Question 1

What is the average mean grade for high stakes testing courses for each of three (Nursing, Social Work, and Human Services) undergraduate programs? Thirty-two courses were identified

as high stakes testing: NSG 2202, NSG 2255, NSG 2256, NSG 2265, NSG 2266, NSG 2271, NSG 2280, NSG 2281, NSG 2282, NSG 3301 (2 sections), NSG 3310 (2 sections), NSG3300 (2 sections); SWK 3340, SWK 4471 (3 sections), SWK 4472, SWK 4482 (3 sections), SWK 4483 (3 sections); HS 3310 (4 sections) and HS 3399 (2 sections).

For question 1, descriptive statistics was used to analyze the data. To analyze the quantitative data, SPSS was used (Garth, 2008) to first organize the data. Then, basic descriptive statistics were used to analyze the data for each of the three academic programs and to describe the basic features of the data obtained in the study. Factors were grouped into the following categories: nursing, social work, and human services. Central tendency data for each program was analyzed to better understand the spread of the data. As shown in Table 4.1, the summaries are indicated for the descriptive statistics for high stakes testing course in NSG, SWK, and HS. For all three academic programs, the scores on grades ranged from 0 to 4, which 0=F, 1=D, 2=C, 3=B, and 4=A. The observed mean for HS was 2.9, which was the median for the academic programs.

The reliability was run, and the mean and the standard deviation of the data was reported. Measures of central tendency were computed to summarize the data for the three variables: nursing, social work, and human services. Measures of dispersion were computed to understand the variability of scores for the three variables. Overall, SWK ($M = 3.5$) scored higher in mean grades than NSG ($M = 2.86$) while both had similar standard deviations (.80 and .87 respectively). Additionally, the mean for high stakes testing courses in HS ($N = 102$, $M = 3.5$, $SD = .80$) indicated a minimally higher-grade normal grade distribution than SWK.

Table 4.1

Summary of Descriptive Statistics for Grades in High Stakes Testing Courses on Each Program

Measure	Scores on nursing	Scores on social work	Scores on human services
Mean	2.86	3.52	2.9
Median	3.0	4.0	3.0
Mode	3.0	4.0	4.0
Standard deviation	.876	.804	1.16
Maximum	4.0	4.0	4.0
Minimum	.00	.00	.00
Skewness	-.271	-2.07	-1.00
Std error of skewness	.105	.239	.343
Kurtosis	-.518	4.69	.450
Std error of kurtosis	.209	.474	.674
Variance	.768	.648	1.36

Table 4.2 outlines the three academic program and their frequencies and percent from the quantitative data analysis process. For each of discipline, the range of grade frequency indicated the percent. The statistical analysis indicated a high frequency of grades around 3.0 and 4.0.

Table 4.2

Distribution of Frequencies and Percent of Grades

Program	Grade	Frequency	Percent
	A	147	26.9
	B	204	37.4
Nursing (*N*=546)	C	171	31.3
	D	21	3.8
	F	3	.5
	A	68	66
Social work (*N*=102)	B	25	24
	C	5	5
	D	3	3
	F	1	1
	A	21	43.8
Human services (*N*=48)	B	11	22.9
	C	12	25.0
	D	1	2.1
	F	3	6.3

The histograms presented in Figures 1-3 illustrate the distribution of grades for NSG, SWK, and HS. Frequency of grades was displayed on the y-axis, and the range of letter grades was shown on the x-axis, ranging from 0 to 4, which 0=F, 1=D, 2=C, 3=B, and 4=A. The curves for NSG grades were positively skewed indicating normal distribution for mean grades. The curves for SWK and HS grades were negatively skewed.
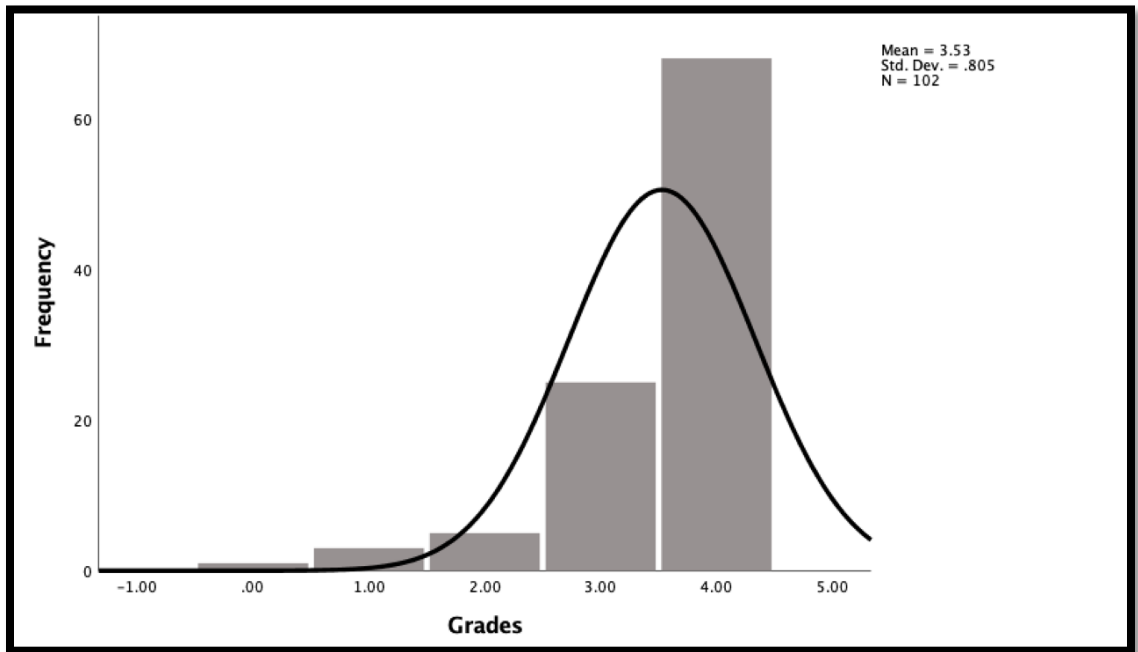
Figure 4

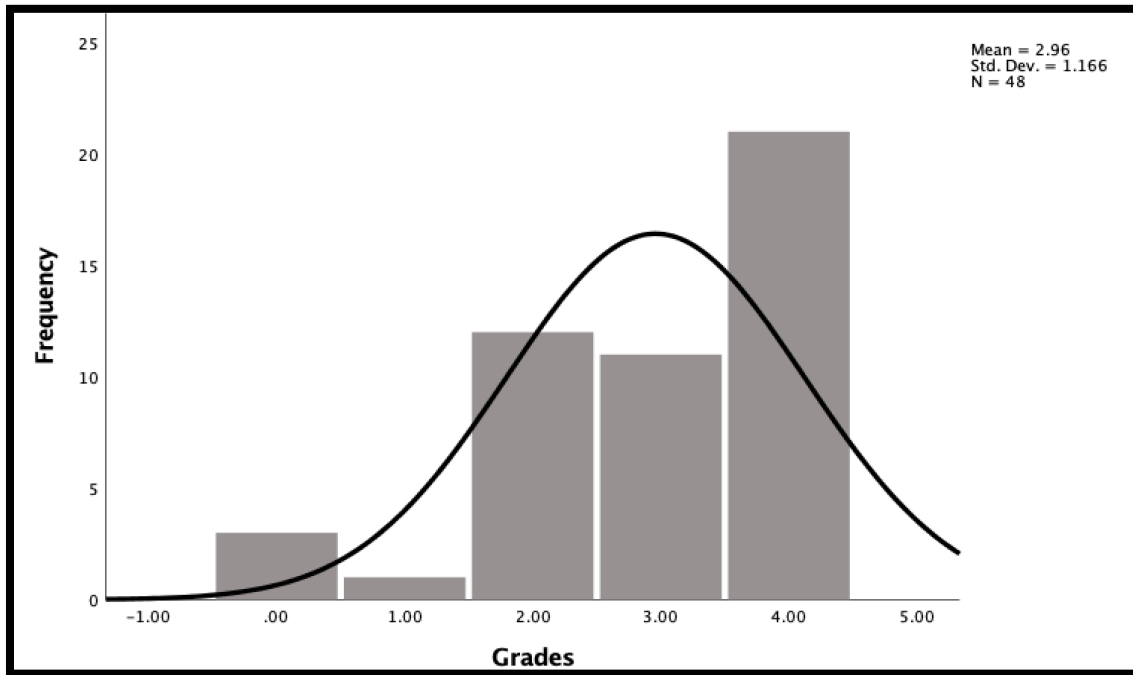*Distribution of Grades High Stakes Testing on Nursing*
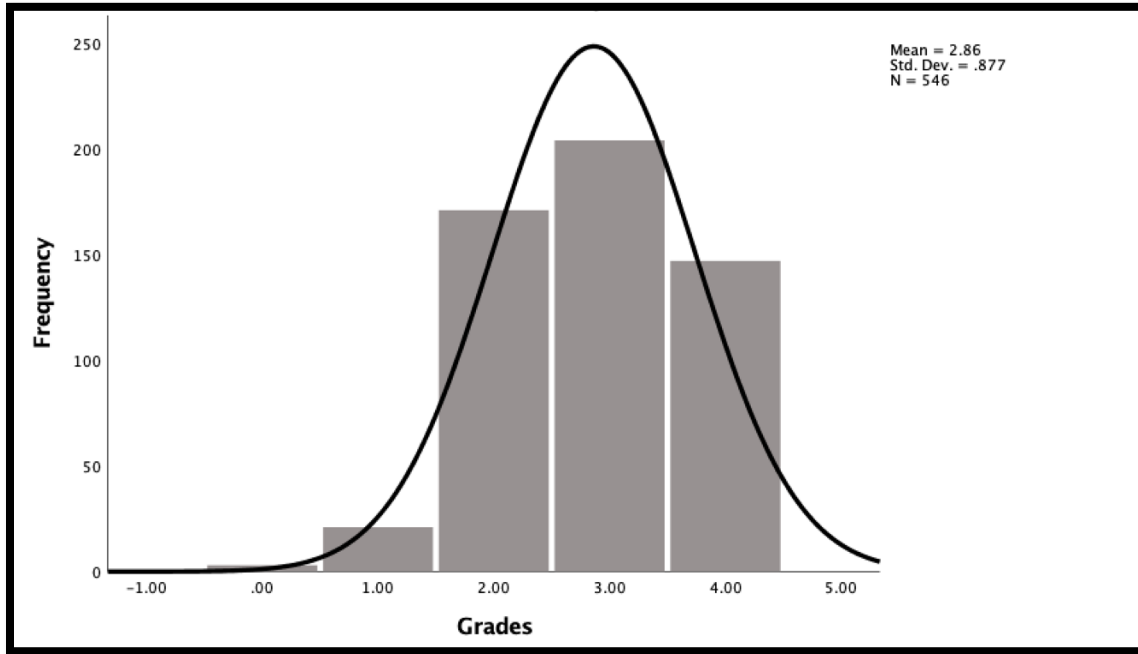
Figure 5

Distribution of Grades High Stakes Testing on Social Work

Figure 6

Distribution of Grades High Stakes Testing on Human Services

Research Question 2

Research question two explored whether there is a significant difference in mean grades for each of six courses (HS 3310, SWK 2250, SWK 3303, SWK 3375, SWK 4471, SWK 4480) instructed in online vs. traditional? Six independent samples *t*-tests were used to evaluate whether the mean grade in HS 3310, SWK 2250, SWK 3303, SWK 3375, SWK 4471, and SWK 4480 differ between traditional classroom courses sections and distance education course sections taught in the same academic period. The dependent variable was mean grades of each course. The independent variable was traditional vs. online delivery course type. Table 4.3 displays the descriptive statistics of class type for Research Question 1. The dependent variable was grades.

Table 4.3

Descriptive Statistics of Class Type for Research Question # 1

Courses	Traditional	Online
HS 3310	$N = 26$ $M = 3.23$ $SD = .95$	$N = 65$ $M = 2.92$ $SD = 1.22$
SWK 2250	$N = 25$ $M = 3.20$ $SD = 1.08$	$N = 44$ $M = 3.31$ $SD = 1.13$
SWK 3303	$N = 10$ $M = 3.00$ $SD = .666$	$N = 18$ $M = 2.94$ $SD = .998$
SWK 3375	$N = 13$ $M = 3.76$ $SD = .438$	$N = 51$ $M = 2.74$ $SD = 1.32$
SWK 4471	$N = 25$ $M = 3.68$ $SD = .556$	$N = 13$ $M = 3.69$ $SD = .480$
SWK 4480	$N = 24$ $M = 3.66$ $SD = .564$	$N = 36$ $M = 3.86$ $SD = .350$

Hypothesis 2_1 is related to HS 3310.

$H_0:2_1$ There is no difference in mean grades for HS 3310 with regard to online vs. traditional.

Table 4.3 shows that, on average, HS 3310 traditional classroom course sections ($M = 3.23$, SD = .95) had minimally higher mean grades but less variation in grade distribution in comparison to the online course sections ($M = 2.92$, SD = 1.22). This difference was not

statistically significant $t(89) = -1.146$, $p = .255$, suggesting the minimally higher mean grade average in the traditional classroom course was not more than would have been expected because of chance. The η^2 index was .015, indicating a large effect size. Larger effect sizes are easier to detect but may not be as reliable while smaller effect sizes require a larger sample size to detect. Given the unequal sample sizes, a Levene's test was used to assess the homogeneity of variances between the two samples. The results of the Levene's test, .12, was not significant at the .05 level, therefore indicating that the sample variance would be considered equivalent. Fail to reject H_0.

Hypothesis 2_2 is related to SWK 2250.

H_0:2_2 There is no difference in mean grades for SWK 2250 with regard to online vs. traditional.

Table 4.3 shows that on the average, SWK 2250 traditional classroom course sections ($M = 3.20$, $SD = 1.08$) had minimally lower mean grades than did distance education course sections ($M = 3.31$, $SD = 1.13$). This difference was not statistically significant $t(67) = 0.42$, $p = .674$, suggesting the minimally higher mean grade average in the online course was not more than would have been expected because of chance. The η^2 index was .003, indicating a small effect size. Given the unequal sample sizes, a Levene's test was used to assess the homogeneity of variances between the two samples. The results of the Levene's test, .97, was not significant at the .05 level, therefore indicating that the sample variance would be considered equivalent. Fail to reject H_0.

Hypothesis 2_3 is related to SWK 3303.

H_0:2_3 There is no difference in mean grades for SWK 3303 with regard to online vs. traditional.

Table 4.3 shows that on the average, SWK 3303 traditional classroom course sections (M = 3.00, SD = .66) had minimally higher mean grades and less variation of grade distribution than did online course sections (M = 2.94, SD = .998). This difference was not statistically significant $t(26)$ = -0.16, p = .877, suggesting the minimally higher mean grade in the traditional classroom course sections was not more than would have been expected because of chance. The η^2 index was .001, indicating a small effect size. Given the unequal sample sizes, a Levene's test was used to assess the homogeneity of variances between the two samples. The results of the Levene's test, .37, was not significant at the .05 level, therefore indicating that the sample variance would be considered equivalent. Fail to reject H_0.

Hypothesis 2_4 is related to SWK 3375.

H_0:2_4 There is no difference in mean grades for SWK 3375 with regard to online vs. traditional.

Table 4.3 shows that on the average, SWK 3375 traditional classroom course sections (M = 3.76, SD = .43) had significantly higher of the variation of grade distribution than did distance education course sections (M = 2.74, SD = 1.32). The difference in grades between the two courses is statistically significant $t(57)$ = -4.62, p < .001. The η^2 index was .108, indicating a large effect size. A Levene's test was used to assess the assumption of homogeneity of variance. Since the assumption of homogeneity is not met, equal variance not assumed. The results of the Levene's test, .002, was significant at the .05 level. Reject H_0. We reject the null hypothesis and conclude that SWK 3375 traditional classroom course sections and distance education course sections differed significantly in grade distribution.

Hypothesis 2_5 is related to SWK 4471.

$H_0:2_5$ There is no difference in mean grades for SWK 4471 with regard to online vs.

traditional.

Table 4.3 shows that on the average, SWK 4471 traditional classroom course sections (M = 3.68, SD = .55) had minimally lower mean grades than did distance education course sections (M = 3.69, SD = .48). This difference was not statistically significant $t(36) = .68$, $p = .946$, suggesting the minimally higher mean grade average in the distance education course was not more than would have been expected because of chance. The η^2 index was .00, indicating a small effect size. Given the unequal sample sizes, a Levene's test was used to assess the homogeneity of variances between the two samples. The results of the Levene's test, .70, was not significant at the .05 level, therefore indicating that the sample variance would be considered equivalent. Fail to reject H_0.

Hypothesis 2_6 is related to SWK 4480.

$H_0:2_6$ There is no difference in mean grades for SWK 4480 with regard to online vs.

traditional.

Table 4.3 shows that on the average, SWK 4480 traditional classroom course sections (M = 3.66, SD = .56) had lower mean grades than did online course sections (M = 3.86, SD = .35). This difference was not statistically significant $t(58) = 1.64$, $p = .105$, suggesting the higher mean grade average in the distance education course was not more than would have been expected because of chance. The η^2 index was .045, indicating a medium effect size. Given the unequal sample sizes, a Levene's test was used to assess the homogeneity of variances between the two samples. The results of the Levene's test, .002, was not significant at the .05 level, therefore indicating that the sample variance would be considered equivalent. Fail to reject H_0.

Research Question 3

Is there a significant difference of grade distributions between Social Work (SWK 4471 and SWK 4472) and Nursing (NSG 2271 and NSG 2282) high stakes testing courses?

The crosstabulation and Chi-square analysis compared the actual frequencies of grades (A, B, C, D, & F) with the expected frequencies, and the percentage of each grade reported between NSG and SWK high stakes testing courses. The courses were SWK 4471, SWK 4472, NSG 2282, and NSG 2271. The Chi-square analysis examined the differences in the grades and computed a standardized residual value. A standard residual was also calculated to compare differences in actual frequencies from expected frequencies. The Chi-square analysis computed the degree of differences to determine the degree of independence between NSG and SWK. The criterion for threshold of significance was set at .05. The dependent variable was mean grades of each course. The independent variable was the two program groups.

Hypothesis 3_1 is related to NSG 2282 and NSG 2271.

$H_0:3_1$ There is no significant difference between high stakes testing courses of NSG 2282 and NSG 2271 grade distributions.

As displayed in Table 4.4, A chi-square test of independence was performed to examine the relationship between NSG 2282 and NSG 2271 high stakes testing courses. The relation between these variables was significant, $(x^2(8) = 91.52, p < .001)$. Therefore, the grades between NSG 2282 and NSG 2271 were significantly different, and the null hypothesis was rejected.

Table 4.4

Chi-square analysis of NSG 2282 and NSG 2271

Statistical Analysis (p = .05)		NSG 2282	NSG 2271
N = 50			
Grade: A (n = 2)	Actual count	1	1
	Expected count	1.0	1.0
Grade: B (n = 22)	Actual count	15	17
	Expected count	15.0	17.0
Grade: C (n = 57)	Actual count	34	23
	Expected count	34.0	23.0
Grade: D (n = 8)	Actual count	0	8
	Expected count	0	8.0
Grade: F (n = 1)	Actual count	0	1
	Expected count	0	1.0
Pearson Chi-square: 91.52 (df = 8); Significance < .001			
Sommers'd effect size: .774			

Hypothesis 3_2 is related to NSG 2282 and SWK 4471.

$H_0:3_2$ There is no significant difference between high stakes testing courses of NSG 2282 and SWK 4471 grade distributions.

As displayed in Table 4.5, A chi-square test of independence was performed to examine the relationship between NSG 2282 and SWK 4471 high stakes testing courses. The relation between these variables was significant, $x^2 (4) = 11.25$, $p = .024$. Therefore, the analysis determined significant differences in the grades and rejected the null hypothesis.

Table 4.5

Chi-square analysis of NSG 2282 and SWK 4471.

Statistical Analysis (p = .05)		NSG 2282	SWK 4471
N = 38			
	Actual count	1	27
Grade: A (n = 28)	Expected count	1.0	1.0
	Actual count	15	10
Grade: B (n = 25)	Expected count	15.0	17.0
	Actual count	22	0
Grade: C (n = 22)	Expected count	22.0	0
	Actual count	0	1
Grade: D (n = 1)	Expected count	0	1.0
Pearson Chi-square: 11.25 (df = 4); Significance p= .024			
Sommers'd effect size: .522			

Hypothesis 3_3 is related to NSG 2282 and SWK 4472.

$H_0:3_3$ There is no significant difference between high stakes testing courses of NSG

2282 and SWK 4472 grade distributions.

As displayed in Table 4.6, A chi-square test of independence was performed to examine

the relationship between NSG 2282 and SWK 4472 high stakes testing courses. The relation

between these variables was significant, x^2 (8) = 23.88, p = .022. Therefore, the analysis

determined significant differences in the grades and rejected the null hypothesis.

Table 4.6

Chi-square analysis of NSG 2282 and SWK 4472.

Statistical Analysis (p = .05)		NSG 2282	SWK 4472
N = 22			
Grade: A (n = 8)	Actual count	1	7
	Expected count	1.0	7.0
Grade: B (n = 24)	Actual count	15	9
	Expected count	15.0	9.0
Grade: C (n = 8)	Actual count	6	2
	Expected count	6.0	2.0
Grade: D (n = 3)	Actual count	0	3
	Expected count	0	3.0
Grade: F (n = 1)	Actual count	0	1
	Expected count	0	1.0

Pearson Chi-square: 23.88 (df = 8);
Significance p = .002

Sommers'd effect size: .747

Hypothesis 3_4 is related to NSG 2271 and SWK 4471.

H_0:3_4 There is no significant difference between high stakes testing courses of NSG

2271 and SWK 4471 grade distributions.

As displayed in Table 4.7, a chi-square test of independence was performed to examine

the relationship between NSG 2271 and SWK 4471 high stakes testing courses. The relation

between these variables was significant, x^2 (4) = 13.93, p = .008. Therefore, the analysis

determined significant differences in the grades and rejected the null hypothesis.

Table 4.7

Chi-square analysis of NSG 2271 and SWK 4471.

Statistical Analysis (p = .05)		NSG 2271	SWK 4471
N = 38			
	Actual count	1	27
Grade: A (n = 28)	Expected count	1.0	27.0
	Actual count	17	10
Grade: B (n = 27)	Expected count	17.0	10.0
	Actual count	20	0
Grade: C (n = 20)	Expected count	20.0	0
	Actual count	0	1
Grade: D (n = 1)	Expected count	0	1.0
	Actual count	0	0
Grade: F (n = 0)	Expected count	0	0
Pearson Chi-square: 13.93 (df = 4); Significance p = .008			
Sommers'd effect size: .579			

Hypothesis 3_5 is related to NSG 2271 and SWK 4472.

$H_0{:}3_5$ There is no significant difference between high stakes testing courses of NSG 2271 and SWK 4472 grade distributions.

As displayed in Table 4.8, a chi-square test of independence was performed to examine the relationship between NSG 2271 and SWK 4472 high stakes testing courses. The relation between these variables was significant, x^2 (8) = 24.03, p = .002. Therefore, the analysis determined significant differences in the grades and rejected the null hypothesis.

Table 4.8

Chi-square analysis of NSG 2271 and SWK 4472.

Statistical Analysis (p = .05)		NSG 2271	SWK 4472
N = 22			
	Actual count	1	7
Grade: A (n = 8)	Expected count	1.0	7.0
	Actual count	17	9
Grade: B (n = 26)	Expected count	17.0	9.0
	Actual count	4	2
Grade: C (n = 6)	Expected count	4.0	2.0
	Actual count	0	3
Grade: D (n = 3)	Expected count	0	3.0
	Actual count	0	1
Grade: F (n = 1)	Expected count	0	1.0
Pearson Chi-square: 24.03 (df = 8); Significance < .002			
Sommers'd effect size: .641			

Hypothesis 3_6 is related to SWK 4471 and SWK 4472.

$H_0:3_6$ There is no significant difference between high stakes testing courses of SWK

4471 and SWK 4472 grade distributions.

The chi-square analysis between SWK 4471 and SWK 4472 did not meet the assumption

of at least 5 expected observations in each cell of the crosstabulation. Therefore, there is not

enough data to compute this analysis.

Summary

The purpose of this nonexperimental research study was to explore the relationship between traditional classrooms and distance-education instructional delivery methods, and the relationship of high stakes testing courses in relation to grade distribution for specified academic disciplines (Nursing, Social Work, and Human Services). Chapter 4 presented a description of the sample, methodology and analysis, summary of findings, presentation of data and results, and a summary. Results were analyzed according to the study's primary research questions. In Chapter 5, the conclusion, implications of these findings, limitations of the research, and recommendations for educational administrators based on this work were presented.

CHAPTER 5

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Introduction

The first chapter provided an introduction to the study. The purpose, significance, research questions, assumptions, limitations, and definitions of the terms were also identified. The second chapter outlined the literature review of grade distribution, grade inflation, and distance education in higher education. The third chapter described the research design, the instrument and data collection procedures, data analysis, research questions and hypothesis, population and sample, ethical issues, and institutional permission. The fourth chapter presented the findings of the study including how the data were organized, a description of the sample, and descriptive and/or inferential statistics on each research question. This chapter provides a summary of the study, identifies the overall conclusions, and explains recommendations. The summary will describe the background, purpose, and design of the study. The conclusions will synthesize the statistical analysis and results of the three research questions. The recommendations will present ways to utilize the results and make proposals for further research.

Purpose of the Study

The purpose of this quantitative study was to examine grade distribution for undergraduate courses with set grade assignments, instructional course delivery, and high stakes testing, and to explore the possibility of grade inflation in the CHHS Program at a university in south Alabama. In this research, secondary data was obtained from faculty, and the researcher analyzed the data to answer the proposed research questions. The data represents final grades and grade points assigned within a semester of traditional face-to-face setting (16 weeks) and distance education setting (9-week online term) courses at a university in south Alabama. This

research investigated three academic disciplines: Nursing (NSG), Social Work (SWK), and Human Services (HS).

Information based on this study will be instrumental in informing institutional administrators in course program curriculums, as well assisting in the efforts to develop effective strategies for assignment of grade points for grade distribution. The grade distributions of the disciplines were compared in order to identify and understand any significant differences between the three academic disciplines.

Research Questions

The following research questions were examined during this study:

1. What is the average mean grade for high stakes testing courses for each of three (Nursing, Social Work, and Human Services) undergraduate programs?

2. Is there a significant difference in mean grades for each of six courses (HS 3310, SWK 2250, SWK 3303, SWK 3375, SWK 4471, SWK 4480) instructed in online verses traditional?

3. Is there a significant difference of grade distributions between Social Work (SWK 4471 and SWK 4472) and Nursing (NSG 2271 and NSG 2282) high stakes testing courses?

Summary of Findings

The purpose of this study was to explore the relationship between traditional classrooms and distance-education instructional delivery methods as well as the relationship of high stakes testing courses in relation to grade distribution, as well as to explore the possibility of grade inflation in the CHHS Program at a university in south Alabama. All data for the purposes of the analysis came from secondary data sources. Specifically, the data were obtained from faculty

teaching the respective courses at the university. Data included all grades recorded from the three specified academic disciplines (NSG, SWK, and HS) in each undergraduate course from the Fall 2019 (traditional semester), Term 1 (online term), and Term 2 (online term) of the 2019-2020 academic year.

This study focused on the analysis of grade distribution between traditional classroom course sections and distance education course section and high stakes testing for the 2019-2020 academic year. There is not a lot of research in the areas of grade distribution between traditional or distance education course section and high stakes testing; therefore, this study aimed to fill the gap in the literature by examining the relationship between grade distribution between course section, platform of instructional delivery, and high stakes testing. As discussed in the Literature Review, some researchers found that learning experiences in a classroom-based instructional method compared with distance education instruction show no significant difference in final course grades (Ryan, 2001). The present study continued this line of research by determining whether the use of instructional delivery and high stakes testing courses may be associated with grade inflation in three CHHS programs.

The study was based on three research questions and data were analyzed using the Statistical Package for the Social Sciences (SPSS) software program (Green & Salkind, 2005). For question one, descriptive statistics were used to analyze data on grade distribution in high stakes testing undergraduate courses for each of the three academic programs (e.g., NSG, SWK, and HS). Thirty-two courses were identified as high stakes testing. Measures of central tendency were used to describe the distribution of grades in high stakes testing courses; the frequency of mean grades were analyzed by interpreting the data using the mean, median, and mode. For research question two, six independent samples t-tests were used to evaluate whether the mean

grade in HS 3310, SWK 2250, SWK 3303, SWK 3375, SWK 4471, and SWK 4480 differ

between traditional classroom course sections and distance education course sections taught

during the same academic period. A Levene's test for equality of variance was conducted on

each analysis to determine if the variances could be considered equal and support reporting a t

value assuming equal variances. Equal variances could be assumed if the Levene's test was

found to not be significant. If Levene's test was found to be significant, the t value that related to

equal variance not assumed was reported. The t-test allows for this reporting in instances

involving variances for the groups and instances in which the sample sizes are unequal (Green &

Salkind, 2005). Lastly, for question three, a crosstabulation and Chi-square analysis was used to

determine if the SWK courses and NSG high stakes testing courses are significantly different.

Chi-square, a test of independence, was used to calculate the differences observed and expected

frequencies between the groups and compute percentage of grades in each group distribution.

Research Question 1

What is the average mean grade for high stakes testing courses for each of three (Nursing,

Social Work, and Human Services) undergraduate programs?

Descriptive statistics were used to evaluate 32 courses were identified as high stakes

testing: NSG 2202, NSG 2255, NSG 2256, NSG 2265, NSG 2266, NSG 2271, NSG 2280, NSG

2281, NSG 2282, NSG 3301 (2 sections), NSG 3310 (2 sections), NSG3300 (2 sections); SWK

3340, SWK 4471 (3 sections), SWK 4472, SWK 4482 (3 sections), SWK 4483 (3 sections); HS

3310 (4 sections) and HS 3399 (2 sections).

The results indicated that during the 2019-2020 academic year of study, overall, SWK (M

$= 3.5$) scored higher in mean grades than NSG ($M = 2.86$) while both had similar standard

deviations (.80 and .87 respectively). Additionally, the mean for high stakes testing courses in

HS ($n = 102$, $M = 3.5$, $SD = .80$) indicated a minimally higher-grade normal grade distribution than SWK.

Research Question 2

Is there a significant difference in mean grades for each of six courses (HS 3310, SWK 2250, SWK 3303, SWK 3375, SWK 4471, SWK 4480) instructed in online verses. traditional?

Six independent samples *t*-tests were used to evaluate whether the mean grade in HS 3310, SWK 2250, SWK 3303, SWK 3375, SWK 4471, and SWK 4480 differ between traditional classroom courses sections and distance education course sections taught during the same academic period.

Results indicated that there were no statistically significant differences between the mean grade in traditional classroom course sections and the mean grade of distance education course sections for HS 3310, SWK 2250, SWK 3303, SWK 4471, and SWK 4480. During the 2019-2020 academic year of study, there was, however, a statistically significant difference in mean grade in traditional classroom course sections and the mean grade of distance education course sections for SWK 3375 with traditional classroom course sections experiencing a higher variation of grade distribution than did distance education course sections.

Research Question 3

Is there a significant difference of grade distributions between Social Work (SWK 4471 and SWK 4472) and Nursing (NSG 2271 and NSG 2282) high stakes testing courses?

A crosstabulation and Chi-square analysis was used to compare the actual frequencies of grades (A, B, C, D, & F) with the expected frequencies, and the percentage of each grade reported between NSG and SWK high stakes testing courses. The courses were SWK 4471, SWK 4472, NSG 2271, and NSG 2282. The Chi-square analysis examined the differences in the

grades and computed a standardized residual value. The criterion for threshold of significance was set at .05. The dependent variable was mean grades of each course. The independent variable was the two program groups.

Results indicated a significant relationship between NSG 2282 and NSG 2271, NSG 2282 and SWK 4471, NSG 2282 and SWK 4472, NSG 2271 and SWK 4471, and NSG 2271 and SWK 4472 high stakes testing courses. The Chi-square analysis indicated a difference in specific grades between NSG 2282 and NSG 2271 was significant ($p<$ .001); NSG 2282 and SWK 4471 was significant (p = .024); NSG 2282 and SWK 4472 was significant (p = .022).; NSG 2271 and SWK 4471 was significant (p = .008); NSG 2271 and SWK 4472 was significant (p = .002). Therefore, the Chi-square analysis of specific grades found significant differences between NSG 2282 and NSG 2271, NSG 2282 and SWK 4471, NSG 2282 and SWK 4472, NSG 2271 and SWK 4471, and NSG 2271 and SWK 4472 high stakes testing courses and the null hypothesis was rejected. The chi-square analysis between SWK 4471 and SWK 4472 did not meet the assumption of at least 5 expected observations in each cell of the crosstabulation. Therefore, there is not enough data to compute this analysis.

Conclusions

Considering the three research questions and the findings obtained, the following conclusions were drawn:

Research Question 1

The first research question examined the differences in the grade (A, B, C, D, & F) distributions in high stakes testing courses in NSG, SWK, and HS. The specific grades for 32 courses were compared to identify significant differences. The descriptive analysis indicates that SWK had significantly higher distribution of As, 66%, than expected and significantly less Bs,

24%, Cs, 5%, Ds, 3%, and Fs, 1%. The HS program had significantly higher distribution of As (44%) than expected, less Bs (23%) and Cs (25%), and more Fs (6%) and less Ds (2%). Therefore, the results indicated that grade inflation had occurred in SWK and HS high stakes testing courses during the 2019-2020. The graphs shown in Figures 4-6 illustrate the distribution of grades for NSG, SWK, and HS. Frequency of grades was displayed on the y-axis, and the range of letter grades was shown on the x-axis. Figure 4 shows that while less than 10% of the grades distributed in SWK were Cs, Ds, and Fs, more than half of grades distributed in SWK were As. there was a higher percent of As and Bs. Figure 5 shows that the HS program had a significantly higher distribution of As than expected, less Bs and Cs and less Fs and Ds. Overall, NSG grades under this course study were more symmetrically distributed, as expected, for grade A (27%), B (37%), and C (31%), with less Ds (4%) and Fs (<1%). These findings did not indicate a statistically significant higher mean in nursing grades or an increase in the percentage of grades awarded. The findings did not indicate grade inflation had occurred from 2019-2020 academic year in nursing courses of high stakes testing. Figure 6 shows that the grades distributed in the NSG program demonstrate a standard normal model.
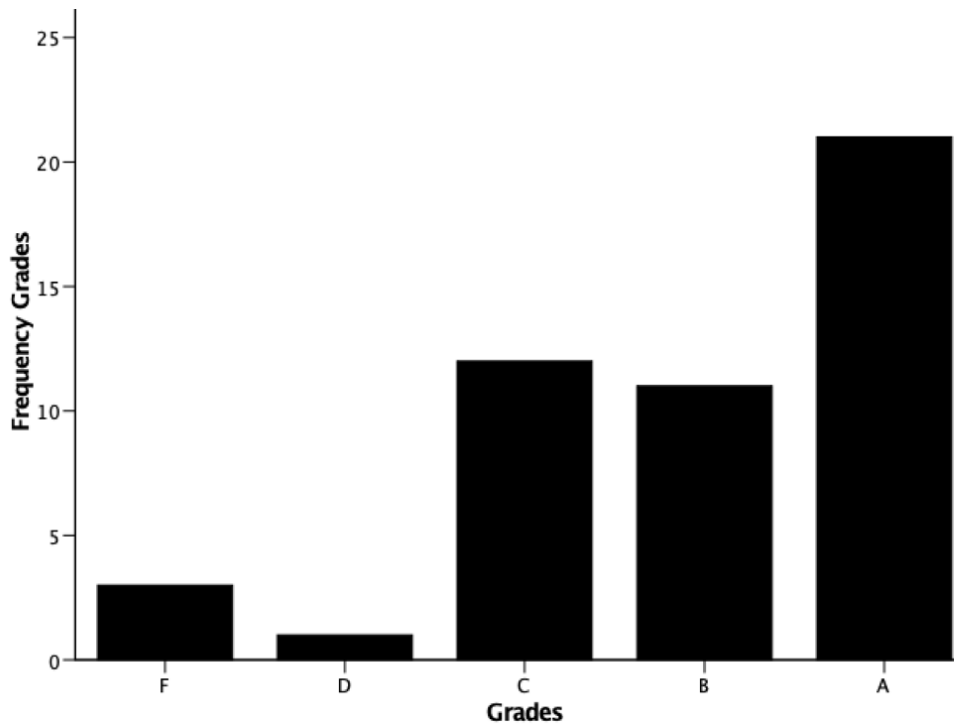
Figure 7

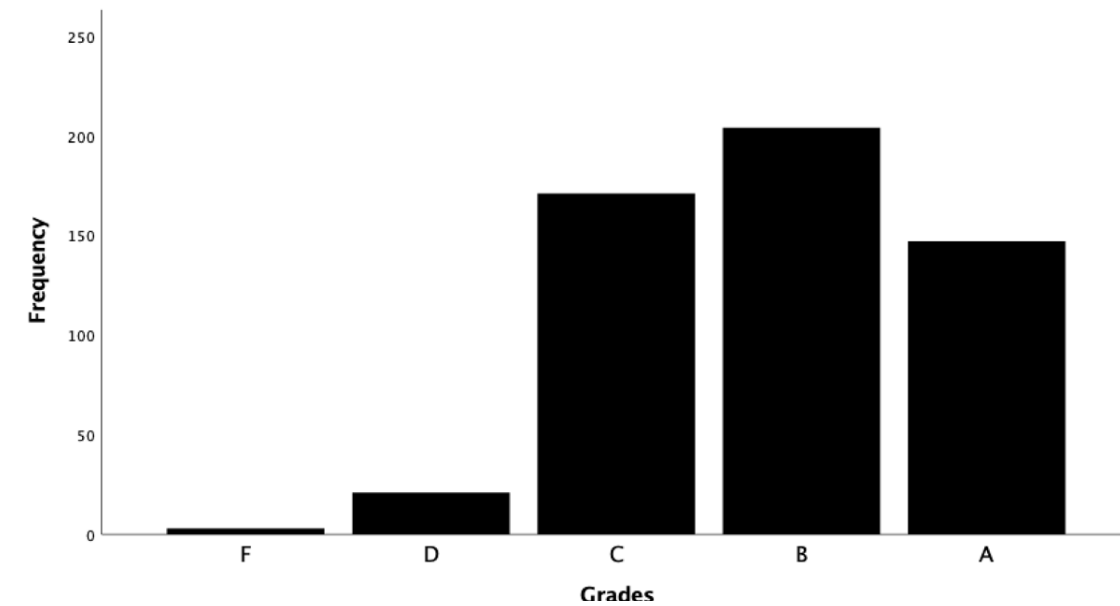*Distribution of Grades High Stakes Testing on Social Work*
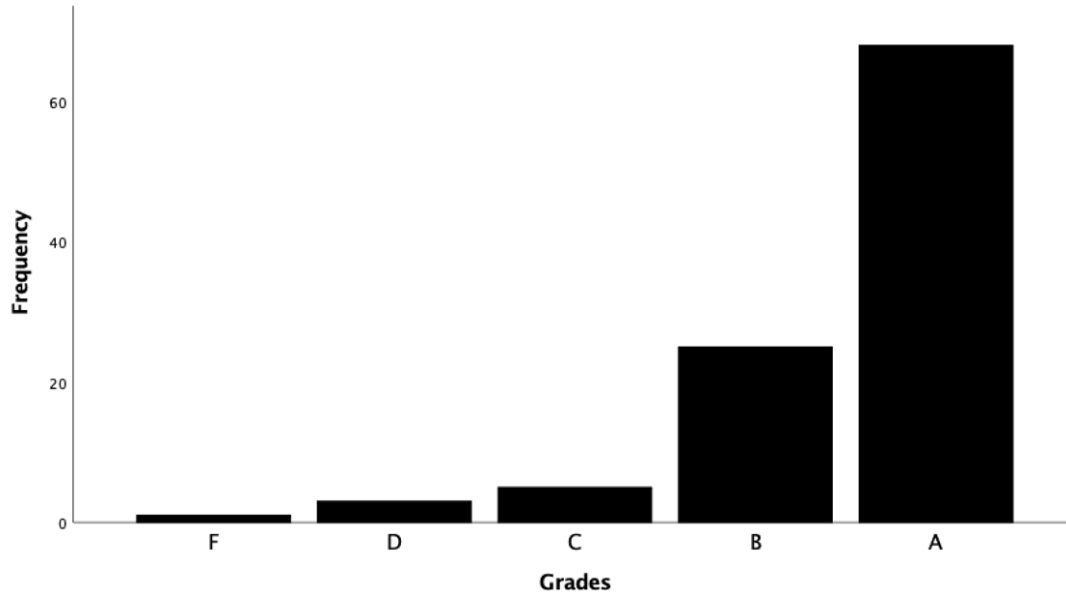
Figure 8

Distribution of Grades High Stakes Testing on Human Services

Figure 9

Distribution of Grades High Stakes Testing on Nursing

Research Question 2

The second research questions examined the difference in mean grades (A, B, C, D, & F) for each of six courses (HS 3310, SWK 2250, SWK 3303, SWK 3375, SWK 4471, SWK 4480) instructed online versus traditional. The analysis of grades distributed in SWK 3375 show statistically significant grade distribution, with the traditional classroom course sections experiencing a higher variation of grades than did distance education course sections. As evidenced in previous research (Driscoll et al., 2012), the differences in grades between learning environments statistically differ in student performance. The analyses of HS 3310, SWK 2250, SWK 3303, SWK 4471, and SWK 4480 reported no significant differences in the distribution of grades with regard to instructional delivery method. Overall, the HS 3310 and SWK 3303 courses under the study for the 2019-2020 academic year were found to have higher mean grades for traditional classroom courses and less variation of grade distribution than did online course

sections. For SWK 2250, SWK 4471, and SWK 4480 courses, traditional classroom course sections had minimally lower mean grades than did distance education course sections.

Research Question 3

The third research question analyzed the grade distributions (A, B, C, D, & F) between Social Work (SWK 4471 and SWK 4472) and Nursing (NSG 2271 and NSG 2282) high stakes testing courses. The grades were analyzed using crosstabulation and the Chi-square test of independence to identify significant differences in the grade distribution. Based on the statistical analysis, the study determined significant differences between NSG 2282 and NSG 2271, NSG 2282 and SWK 4471, NSG 2282 and SWK 4472, NSG 2271 and SWK 4471, and NSG 2271 and SWK 4472 and rejected null hypothesis.

To summarize, it appears that students earned significantly less A's, and more B's and C's in NSG 2282. Conversely, in SWK 4471, the students earned significantly more A's and less B's and D's. The disciplines represented were Social Work and Nursing. Therefore, the grade analysis found significant difference in all five grade distributions. The chi-square analysis between SWK 4471 and SWK 4472 did not meet the assumption of at least 5 expected observations in each cell of the crosstabulation. Therefore, there was not enough data to compute this analysis.

<div align="center">Recommendations for Future Research</div>

Little research exists in the combined areas of grade distribution and varied instructional delivery methods in higher education and grade distribution and high stakes testing. As a result, there are numerous opportunities for future research. Although this study finds grades, independent of academic corollaries, to be practically similar regardless of instructional method, the sample used was from one institution and only included courses that could be

<div align="center">94</div>

instructed in both formats. A future study should use a larger sample from more than one institution. This sample would be most impactful if additional academic and demographic variables were included to expand the scope of the study. Further research would be important to understand the relationship of additional human and health services academic programs, including kinesiology and hospitality management and grade distributions. The research can focus on specific education teaching methods in traditional classroom settings and distance education instruction.

Within the scope of methodology, a future study utilizing a mixed methods approach would provide another research dimension for greater interpretation for high stakes testing and grade distribution. The current study only considered a quantitative method to examine grade distribution in courses with high stakes testing. A mixed methods study as interviews to explore cause of grade inflation could provide additional insights on the instructional practice used in high stakes testing courses and a deeper understanding of the results. The quantitative approach in a mixed method study could include data grade point systems used in such courses. In addition to methodological improvements, future quantitative studies could utilize longitudinal data to examine grade distribution change over time. A study should be conducted using a true experimental design that would allow the researcher to examine the problem of unequal mean grades for high stakes testing courses because equal numbers would be assigned to each group to help avoid the unequal sample size limitations found in the current study. Finally, at the university level, future studies should explore better quantification of course level grade variation to examine interactions between student mean grades.

In conclusion the results of the current study indicate that instructional delivery methods of traditional face-to-face and distance education do not significantly influence the mean grades

in the academic disciplines of Social Work, Human Services, and Nursing at a college in Southern Alabama; however, the results indicated only a significant difference for SWK 3375 with traditional classroom course sections experiencing a higher variation of grade distribution than did distance education course sections. The results of the current study indicate that there is a significant difference in high stakes testing course mean grades in Social Work and Nursing academic programs at a university in Southern Alabama.

REFERENCES

Achen, A. C., & Courant, P. N. (2009). "What are grades made of?" *The Journal of Economic Perspectives: A Journal of the American Economic Association, 23*(3), 77-92. https://doi.org/10.1257/jep.23.3.77

Adrian, C. M., Phelps, L. D., & Totten, J. W. (2017). Using personal selling techniques to influence student evaluation of faculty instruction. *Journal of Learning in Higher Education*, *13*(2), 45-50. Retrieved from https://files.eric.ed.gov/fulltext/EJ1161828.pdf

Alex, J. L., Platt, R. E., Gammill, D. M., Miller, E. A., & Rachel, J. R. (2007). Making the invisible visible: A model for delivery systems in adult education. *Mountain Plains Adult Education Association Journal of Adult Education.* Retrieved from http://files.eric.ed.gov/fulltext/EJ891066.pdf

Allen, J. (2005). Grades as valid measures of academic achievement of classroom learning. *The Clearing House, 78*(5), 218-223.

Allen, I. E., & Seamen, J. (2013). Changing course: Ten years of tracking online education in the United States. Babson Park, MA: Babson Survey Research Group and Quahog Research Group.

Airasian, P. W., & Russell, M. K. (2001). Classroom assessment: Concepts and applications. (4th ed). New York, NY: McGraw-Hill.

Aisharif, N. Z., Bramble, J. D., Chapman, R., Ogunbadeniyi, A. M., & Roche, V. F. (2005). Evaluation of performance and learning parity between campus-based and web-based medicinal chemistry courses. American Journal of Pharmaceutical Education, *69*(2), 230-239. https://doi-org.libproxy.troy.edu/10.5688/aj690233

American Council on Education. (2019). U.S. higher education: A brief guide. Washington,

     D.C.: American Council on Education.

Amrein, A. L., & Berliner, D. C. (2003, February). The effects of high-stakes testing on

     student motivation and learning. *Educational Leadership*. Retrieved from

     https://people.wou.edu/~girodm/611/testing_and_motivation.pdf

Anderson, T. (2004). Toward a theory of online learning. *Theory and Practice of Online*

     Learning, 33-60. Athabasca, AB: Athabasca University.

Andrews, T. E., Bryant, B. L., & Houston, T. E. (1981). *Adult learners: A research study.*

     Washington, DC: Association of Teacher Educators.

Apuke, O. D. (2017). Quantitative research methods: A synopsis approach. Kuwait Chapter of

     Arabian Journal of Business and Management Review., *6*(11), 40-47. doi:

     10.12816/0040336

Arum, R. & Roksa, J. (2011). Academically adrift: Limited learning on college campuses.

     University of Chicago Press.

Ashby, J., McNary, S. W., & Sadera, W. A. (2011). Comparing Student Success between

     Developmental Math Courses Offered Online, Blended, and Face-to-Face. Journal of

     Interactive Online Learning, *10*(3), 128-140.

Au, W. (2013). Hiding behind high-stakes testing: Meritocracy, objectivity, and inequality in

     U.S. education. *The International Education Journal: Comparative Perspectives, 12*(2),

     7-19. Retrieved from https://files.eric.ed.gov/fulltext/EJ1017702.pdf

Augustine-Obi, S. (2016, November 18). Grade inflation isn't the problem. Columbia Spectator.

     November 18, 2016. Retrieved from

     https://www.columbiaspectator.com/opinion/2016/02/11/grade-inflation-isnt-problem/

Baird, A. F., Carter, J. S. & Roos, J. M. (2019). Seeking evidence of grade inflation at for-profit colleges and universities. *Sociological Focus, 52*, 343-358. doi: 10.1080/00380237.2019.1668321

Bar, T., Kadiyali, V., & Zussman, A. (2009). Grade information and grade inflation: The Cornell experiment. *The Journal of Economic Perspectives*, *23*, 93-108. doi: 10.1257/jep.23.3.93

Barrett, K. C., Gloeckner, G. W., Leech, N. L., & Morgan, G. A. (2004). SPSS for introductory statistics: Use and interpretation (2nd ed.). Mahwah, NJ: Lawrence Erlbaum Associates.

Bell, S., Grenier, R., Kehrhahn, M., Shekley, B. (2008). Trio: An emerging model of adult professional learning. Proceedings of the Adult Education Research. Retrieved from https://newprairiepress.org/aerc/2008/roundtables/12/

Birren, J. E. (1964). *The psychology of aging: Foundations of modern psychology series*. Ann Arbor, MI: Prentice-Hall.

Blum, D. (2017). Nine potential solutions to abate grade inflation at regionally accredited online U.S. universities: An intrinsic case study. *The Qualitative Report*, *22*, 2288-2311.

Boshier, P. (2006). *Perspectives of quality in adult learning.* New York, NY: Continuum International Publishing Group.

Boretz, E. (2004). Grade inflation and the myth of student consumerism. *Journal of College Teaching*, *52*(2), 42-46. doi:10.3200/CTCH.52.2.42-46

Boring, C. (2020). Microlearning: An andragogical case study on knowledge retention, learning satisfaction, and behavior change (Doctoral dissertation). Retrieved from https://search.proquest.com/openview/185349bdde7e28b052d5082ad6581217/1?pq-origsite=gscholar&cbl=18750&diss=y

Bourdeau, D. T., Griffith, K. V., Griffith, J. C., & Griffith, J. R. (2018). An investigation of the relationship between grades and learning mode in an English composition course.

Journal of University Teaching & Learning Practice, 15(2).

http://ro.uow.edu.au/jutlp/vol15/iss2/3

Bradley, R. L., Browne, B. L., & Kelley, H. M. (2017). Examining the influence of self-efficacy and self-regulation in online learning. *College Student Journal, 51*(4), 518-530. Retrieved from

http://libproxy.troy.edu/login?url=http://search.ebscohost.com.libproxy.troy.edu/login.a sp x?direct=true&db=a9h&AN=126676696&site=ehost-live

Breyer, K. L. (2019). *A Qualitative Action Research Study of a Self-Directed E-Learning Financial Education Course for Midwestern Adult Learners* (Doctoral dissertation). ProQuest Dissertations database. (Order No. 27672016)

Brighton, C. M., Hall, C. J., Jarvis, J. M., & Moon, T. R. (2007). State standardized testing programs: Their efforts on teachers and students. *The National Research Center on the Gifted and Talented.* Retrieved from

https://files.eric.ed.gov/fulltext/ED505375.pdf

Brookfield, S. (1985). A critical definition of adult education. *Adult Education Quarterly, 36*, 44-49. doi:10.1177/0001848185036001005

Brooks, C., & Grajek, S. (2020, March 20). *Faculty readiness to begin fully remote teaching*. EDUCASE Review. Retrieved from

https://er.educause.edu/blogs/2020/3/faculty-readiness-to-begin-fully-remote-teaching

Brown, D. L. (1976). Faculty ratings and student grades: A university-wide multiple regression analysis. *Journal of Educational Psychology*, *68*, 573-578.

Brozik, D., & Zapalzka, A. (2006). Learning styles and online education. *Campus-Wide Information Systems, 23*(5), 325-335. doi: 10.1108/10650740610714080

Brush, T. A. & So, H.-J. (2008). Student perceptions of collaborative learning, social
    presence and satisfaction in a blended learning environment: Relationships and
    critical factors. *Computers & Education, 51*, 318-336.

Burke, J. R., Jarrett-Thelwell, F. D., Petrocco-Napuli, K., & Poirier, J. N. (2019). A comparison
    of student performance and satisfaction between a traditional and integrative approach to
    teaching an introductory radiology course on the extremities. *The Journal of chiropractic
    education*, *33*(1), 21-29. https://doi.org/10.7899/JCE-17-26

Burns, E. C. (2011). The adult learner: A Change Agent in post-secondary education.
    Online Journal of Distance Learning Administration, 14(2). Retrieved from
    https://www.westga.edu/~distance/ojdla/summer142/burns_142.html

Byun, J., & Cardenas, J. (2013, August). *Online presence in digital learning environments*.
    Paper presented at the Nineteenth Americas Conference on Information Systems,
    Chicago, IL. Retrieved from
    https://pdfs.semanticscholar.org/d72a/83fcb3abf64eefe8be260ca9746b290302ce.pdf

Cacamese, S. M., Elnicki, M., & Speer, A. J., (2007). Grade inflation and the internal medicine
    subinternship: A national survey of clerkship directors. *Teaching and Learning in
    Medicine, 19*(4), 343-346.

Cagiltay, K., Erdogdu, F., Kara, M., & Kokoc, M. (2019). Challenges faced by adult learners in
    online distance education: A literature review. *Open Praxis, 11*(1), 5-22. Doi:
    http://dx.doi.org/10.5944/openpraxis.11.1.929

Cantu, N. V., & Riley, R. W. (2000). The use of tests as part of high-stakes decision-making for
    students: A resource guide for educators and policymakers. *U.S. Department of
    Education Office for Civil Rights*. Retrieved from
    https://www2.ed.gov/offices/OCR/archives/pdf/TestingResource.pdf

Carter, M. J., & Lara, P. (2016). Grade inflation in higher education: Is the end in sight? *Academic Questions, 29,* 346-353. doi: 10.1007/s12129-016-9569-5

Caruth, D. L., & Caruth, G. D. (2013). Grade inflation: An issue for higher education? *Turkish Journal of Distance Education, 14*(1), 102-110.

Casalaspi, D. (2016, November 29). Green & Write: A is for average (or even awful). Michigan State University, College of Education. https://education.msu.edu/green-and-write/2016/a-is-for-average-or-even-awful/

Cavanaugh, J. K. & Jacquemin, S. J. (2015). A large sample comparison of grade-based student learning outcomes in online vs. face-to-face courses. Journal of Asynchronous Learning Network. doi: 19.10.24059/olj.v19i2.454.

Center for Education Development and Assessment (2010). Digest of Education Statistics. Retrieved from https://www2.ed.gov/programs/gtep/gtep2010.pdf

Chan, S. (2010). Applications of andragogy in multi-disciplined teaching and learning. *Journal of Adult Education, 39*(2), 25-35.

Chandler, J. D., & Teckchandani, A. (2015). Using social constructivist pedagogy to implement liberal learning in business education. *Decision Sciences Journal of Innovative Education, 13*(3), 31-39. doi: 10.1177/0273475308324088

Chautauqua Movement. (2019). *In Encyclopedia Britannica Online*. Retrieved from https://www.britannica.com/topic/chautauqua-movement

Cheikem, E. (2015). Grading practices as valid measures of academic achievement of secondary school students for national development. *Journal of Education and Practice, 6*(26), 24 – 28.

Chick, N. (2020). Learning styles: What are learning styles? Vanderbilt University: Center for

    Teaching. Retrieved from https://cft.vanderbilt.edu/guides-sub-pages/learning-styles-

    preferences/

Chowdhury, F. (2018). Grade inflation: Causes, consequences and cure. *Journal of Education*

    and Learning, 7, 86-92. doi: 10.5539/jel.v7n6p86

Cohen, D. K. (1984). The American common school: A divided vision. *Education and Urban*

    Society, 16, 253-261. doi:10.1177/0013124584016003002

Cohen, H. (1984). Inflated grades, deflated courses: Has insecurity induced compromise? *Center*

    for Initiatives in Education, 16(4), 8-10.

Cole, J. E. (Ed.) (2012). Preparing change agents for the classroom: From paradigm to practice.

    Lanham: MD: Rowman and Littlefield Publishers.

Cole, M., John-Steiner, V., Scribner, S., & Souberman, E. (Eds.). (1978). L. S. Vygostky: Mind

    in society. The development of higher psychological processes. Cambridge, MA: Harvard

    University Press.

Clark, T. A., & Verduin, J. R. (1991). *Distance education: The foundations of effective practice.*

    San Francisco: Jossey-Bass Publishers.

Clouder, L., & Toms, J. (2005). An evaluation of the validity of assessment strategies used to

    grade practice learning in undergraduate physiotherapy students: Final report to the

    Health Science and Practice Subject Centre of the Higher Education Academy. Retrieved

    from http://www.hsaparchive.org.uk/doc/mp/06-35_lynnclouder.pdf

Colorado Department of Education. (2020). *Adult education initiatives.* Retrieved from

    https://www.cde.state.co.us/cdeadult

Colosetti, S. D., Gallant, J. P., & Holland, T. P. (1994). Assessment of teaching a constructivist approach to social work practice. *Arete, 18*(2), 45-60.

Courts, B., & Tucker, J. (2010). Grade inflation in the college classroom. *Foresight, 12,* 45-53. doi: 10.1108/14636681011020155

Creswell, J. W. (2009). Research design: Qualitative, quantitative, and mixed methods approaches (3rd ed.). Thousand Oaks, CA: Sage.

Cushman, T. (2003). Who best to tame grade inflation?. *Academic Questions 16*, 48–56. https://doi.org/10.1007/s12129-003-1063-1

Deming, D., Goldin, C., & Katz, L. (2013). For-profit colleges. *The Future of Children, 23*, 137-163. doi: 10.1353/foc.2013.0005

Desjardins, R., & Rubenson, K. (2009). The impact of welfare state regimes on barriers to participation in adult education: A bounded agency model. *Adult Education Quarterly 59*(3). doi: 10.1177/0741713609331548

Dewey, J. (1902). The child and the curriculum. Chicago: The University of Chicago Press.

Dhawan, S. (2020). Online learning: A panacea in the time of COVID-19 crisis. *Journal of Educational Technology, 49*(1), 5-22. doi: 10.1177/0047239520934018

Donald, J., & Gray, M. (2011). Systematic review of grading practices: Is there evidence of grade inflation? *Nurse Education in Practice, 12* (2012), 101-114. doi:10.1016/j.nepr.2011.10.007

Driscoll, A., Hunt, A. N., Jicha, K. A., Tichavsky, L., & Thompson, G. (2012). Can online courses deliver in-class results? A comparison of student performance and satisfaction in an online versus a face-to-face introductory sociology course. *Teaching Sociology, 40*(4), 312-331. doi: 10.1177/0092055x12446624

Duran, V., & Senturk, S. (2020). Lifelong learning tendencies of trainers in adult education. *International Journal of Evaluation and Research in Education, 9*(1), 1-9. Retrieved from http://spot.lib.auburn.edu/login?url=https://www-proquest-com.spot.lib.auburn.edu/docview/2396849985?accountid=8421

Dutra, J., Gibbons, J. F., Pannoni, R., Sipusic, M. J., Smith, R. B., & Sutherland, W. R. (1999). Virtual collaborative learning: A comparison between face-to-face tutored video instruction (TVI) and distributed tutored video instruction (DTVI). [Report No. SMLI TR-99-72]. Sun Microsystem Laboratories, Palo Alto: CA

Dutta, B. (2012). Generating web-based information services using semantic web technology. University of Pune. Retrieved from http://hdl.handle.net/10603/3732

Eberwin. D. H. (2011). The role of technology in transforming higher education. *Journal of Leadership Studies, 4*(4), 61-64.

Edwards, C. (1999). Let's end the grading game. New York, NY: The Clearing House, *72*(5) 260-263.

Eggert, S. (2009). Students' use of decision-making strategies with regard to socioscientific issues: An application of the Rasch partial credit model. *Science Education, 94*(2). https://doi.org/10.1002/sce.20358

Eide, B. J., Geiger, M. A., & Schwartz, B. N. (2001). The canfield learning styles inventory: An assessment of its usefulness in accounting education research. *Issues in Accounting Education, 16*(3), 341-365. doi: 10.2308/iace.2001.16.3.341

Elias, J. L., & Merriam, S. B. (1980). Philosophical Foundations of Adult Education. R. E. Malabar: Krieger Publishing Company.

Ennes, M., & Jones, G. M. (2018). High-stakes testing. Retrieved from

    https://www.oxfordbibliographies.com/view/document/obo-9780199756810/obo-

    9780199756810-

    0200.xml#targetText=High%2Dstakes%20testing%20in%20schools,admissions%2C%20

    graduation%2C%20and%20salaries.

European Commission (2018). Promoting adult learning in the workplace. In *Final report of the*

    ET 2020 Working Group 2016 – 2-18 of Adult Learning. Retrieved from

    https://www.eurydice.si/wp-content/uploads/2019/04/promotion-of-adult-learning-in-the-

    workplace-ET-2020-final-report-Group-on-Adult-learning.pdf

Finefter-Rosenbluh, I., & Levinson, M. (2015). What is wrong with grade inflation (if anything)?

    Philosophy Inquiry in Education, 23, 3-21.

Floyd, C. E. (2007). Know your competitor: Impact of for-profit colleges on the higher education

    landscape. *New Directions for Higher Education, 140*, 121-129. doi: 10.1002/he.286

Ford, H. T., Puckett, J. R., & Tucker, L. A. (1987). Predictors of grades assigned by graduate

    teaching assistants in physical education. *Psychological Reports, 60*, 735-739. doi:

    10.2466/pr0.1987.60.3.735

Franklin, J., Ludlow, L., & Theall, M. (1991). Grade inflation and student ratings: A closer look.

    Paper presented at the American Educational Research Association, Chicago.

Galbraith, D., & Mondal, S. (2018). The road to graduation: On-line or classroom [Special

    section]. *Research in Higher Education Journal,* (35). Retrieved from

    https://www.aabri.com/manuscripts/182787.pdf

Gardner, H. (2013). *Frequently asked questions—Multiple intelligences and related educational topics.* Retrieved from

 https://howardgardner01.files.wordpress.com/2012/06/faq_march2013.pdf

Garrison, D. R., & Shale, D. (1987). Mapping the boundaries of distance education: Problems in defining the field. *American Journal of Distance Education, 1*(1), 7-13. doi: 10.1080/08923648709526567

Garth, A. (2008). Analysis data using SPSS. Retrieved from

 https://students.shu.ac.uk/lits/it/documents/pdf/analysing_data_using_spss.pdf

Garten, E. D., & Olday, D. B. (1980). Grade inflation: Magnitude, causes, and consequences. 1-12. Retrieved from

 http://spot.lib.auburn.edu/login?url=https://search.proquest.com/docview/63686088?accountid=8421

Geiger, R. L. (Ed.). (2000). *The American college in the nineteenth century.* Nashville, TN: Vanderbilt University Press.

Gordan, M. E., & O'Halloran, K. C. (2014). A synergistic approach to turning the tide of grade inflation. *High Education, 68*. https://doi.org/10.1007/s10734-014-9758-5

Goldin, C., and & Katz, L. (1999). The shaping of higher education: the formative years in the united states, 1890 to 1940. *Journal of Economic Perspectives*, *13*(1), 37-62. Retrieved from

 https://scholar.harvard.edu/goldin/files/the_shaping_of_higher_education_the_formative_years_in_the_united_states_1890-1940.pdf

Gordan, H. R. D. (1993, December). *Houle's typology: Time for reconsideration*. Paper

presented at the American Vocational Education Association Convention, Nashville, TN.

Retrieved from https://files.eric.ed.gov/fulltext/ED363785.pdf

Green, S. B., and Salkind, N. J. (2005). *Using SPSS for Windows and Macintosh: Understanding*

and analyzing data. (4th ed.). Upper Saddle River, NJ: Prentice Hall.

Grodsky, E., Muller, C., & Pattison, E. (2018). Is the sky falling? Grade inflation and the

signaling power of grades. *Educational Researcher, 42*, 259-265. Retrieved from

https://journals.sagepub.com/doi/abs/10.3102/0013189X13481382

Guskey, T. R., & Royal, K. D. (2014). The perils of prescribed grade distributions: what every

medical educator should know. Online Submission. Retrieved from https://search-

ebscohost-

com.libproxy.troy.edu/login.aspx?direct=true&db=eric&AN=ED565160&site=ehost-live

Hamrick, F. (2020). Faculty roles and responsibilities: The teaching role, the research role, the

service role, integration of faculty roles and responsibilities. Retrieved from

https://education.stateuniversity.com/pages/1972/Faculty-Roles-Responsibilities.html

Hartley, M., & Rovovosky, H. (2002). Evaluation and the academy: Are we doing the right

thing? Cambridge, MA: American Academy of Arts and Sciences.

Hasan, M. C. (2016). *Comparing instructor learning style, teaching style, and student learning*

in online education recertification courses (Doctoral dissertation). Retrieved from

http://spot.lib.auburn.edu/login?url=https://www-proquest-

com.spot.lib.auburn.edu/docview/1858812009?accountid=8421

Healey, M., & Jenkins, A. (2007). Kolb's experiential learning theory and its application in

    geography in higher education. Journal of Geography, 99(5), 185-195. doi:

    10.1080/00221340008978967

Healy, C., & Rojstaczer, S. (2012). Where a is ordinary: The evolution of American college and

    university grading, 1940-2009. Retrieved from

    http://www.tcrecord.org/content.asp?contentid=16473

Helms, J. L. (Panelist). (2005, February). *The new psychology faculty member: Getting the job*

    and surviving your first year. Panel presentation/discussion at the 18th Annual

    Southeastern Conference on the Teaching of Psychology, Marietta, GA.

Hernandez-Julian, R. (2006, May 26). Merit-based scholarships and grade inflation in higher

    education. Retrieved from https://papers.ssrn.com/sol3/papers.cfm?abstract_id=904625

Hodgman, M. (2018). Understanding for-profit higher education in the United States through

    history, criticism, and public policy: A brief sector landscape synopsis. *Journal of*

    Educational Issues. Retrieved from https://doi.org/10.5296/jei.v4i2.13302

Huddleston, A. P., & Rockwell, E. C. (2015). Assessment for the masses: A historical critique of

    high-stakes testing in reading. *Texas Journal of Literacy Education, 3*(1). Retrieved from

    https://files.eric.ed.gov/fulltext/EJ1110955.pdf

Hursh, D. (2013). The growth of high stakes testing in the USA: Accountability, markets, and the

    decline in educational equality. *British Educational Research Association, 31*(5), 605-

    622. doi: 10.1080/01411920500240767

Irani, T., Jones, L., & Ricketts, J. C. (2003). The effects of instructional delivery methods on the critical thinking disposition of distance learners and traditional on-campus learners. *Journal of Southern Agricultural Education Research, 53*(1), 59-71.

Javeri, M., & Persichitte, K. (2004). Use of an innovation component configuration map to measure technology integration practices of high education faculty. *Educational Technology Research and Development.* Retrieved from https://files.eric.ed.gov/fulltext/ED485120.pdf

Jefferson, J. & Paul, J. (2019). A comparative analysis of student performance in an online vs. face-to-face environmental science course from 2009 to 2016. *Frontiers in Computer Science, 1*(7). doi: 10.3389/fcomp.2019.00007

Johnson, V. (2003). Grade inflation: A crisis in college education. New York, NY: Springer.

Johnson, D. (2011). Examining the relationship between age, race, and disability on the academic aptitude of delinquent females in juvenile corrections. (Doctoral dissertation). Available from ProQuest Dissertations and Theses database.

Jones, S. J., & Long, V. M. (2013). Learning equity between online and on-site mathematics courses. *MERLOT Journal of Online Learning and Teaching, 9*(1)Retrieved from https://jolt.merlot.org/vol9no1/jones_0313.htm.

Kayes, D. C. (2005). Inventory validity and reliability of Kolb's learning style inventory version 3 (1999). *Journal of Business and Psychology, 20*(2). doi: 10.1007/s10869-005-8262-4

Kelly, T. (2018, February 16). Challenges with adult learning…Using microlearning to effectively educate [Web log post]. Retrieved from https://kta.com/kta-university/using-microlearning-educate/

Kezim, Pariseau & Quinn, F. 2005. Is grade inflation related to faculty status? *Journal of Education for Business, 80*(6), 58-364. doi: 10.3200/JOEB.80.6.358-364

Kinser, K. (2006). From Main street to Wall Street: The transformation of for-profit higher education. San Francisco, CA: Jossey-Bass.

Kirschenbaum, H., Napier, R. W., & Simon, S. B. (1971). Wad-ja-get? The grading game in American education. New York, NY: Hart.

Knowles, M. S. (1980). The modern practice of adult education; From andragogy to pedagogy. Englewood Cliffs: Cambridge Adult Education.

Kolb, A. Y., & Kolb, D. A. (2005). Learning styles and learning spaces: Enhancing experiential learning in higher education. *Academy of Management Learning & Education, 4*(2), 192-212. Retrieved from

https://people.ok.ubc.ca/cstother/Learning%20Styles%20&%20Learning%20Spaces.pdf

Krautmann, A. C., & Sander, W. (1999). Grades and student evaluations of teachers. *Economic of Education Review, 18,* 59-63. https://doi.org/10.1016/S0272-7757(98)00004-1

Lindsay, T. K. (2014). Combating the 'other' inflation: Arresting the cancer of college grade inflation. Retrieved from https://files.texaspolicy.com/uploads/2018/08/16101325/2014-08-RR04-GradeInflation-CHE-TomLindsay-post.pdf

Lindsay, T. (2019, October). Grade inflation in U.S. higher education – we have a problem, part 1 of 4. *Forbes.* Retrieved from

https://www.forbes.com/sites/tomlindsay/2019/10/30/grade-inflation-in-us-higher-educationwe-have-a-problem-part-1-of-4/#4f6397f85a1e

Lindsay, T. (2019). The 'other' college scandal: Grade inflation has turned transcripts into monopoly money. *Forbes.* Retrieved from

https://www.forbes.com/sites/tomlindsay/2019/03/30/the-other-college-scandal-grade-inflation-has-turned-transcripts-into-monopoly-money/#4fd38bb44182

Lowyck, J. (2014). Bridging learning theories and technology-enhanced environments: A critical appraisal of its history. *Handbook of Research on Educational Communications and Technology.* Springer, New York: NY. doi: 10.1007/978-1-4614-3185-5_1

Lyceum movement. (2017). *In Encyclopedia Britannica Online.* Retrieved from https://www.britannica.com/topic/lyceum-movement

Marcy, V. (2001). Adult learning styles: How the VARK learning style inventory can be used to improve student learning. *Journal of Physician Assistant Education, 12*(2). Retrieved from https://vark-learn.com/wp-content/uploads/2014/08/VanessaMarcy.pdf

Marquis, J. (2013, May 14). Why students should fear grade inflation [Blog post]. Retrieved from https://www.onlineuniversities.com/blog/2013/05/why-students-should-fear-grade-inflation/

Marzano, R. (1992). A different kind of classroom: Teaching with dimensions of learning. Alexandria, VA: Association of Supervisions and Curriculum Development.

Matthews, D. (1991). The effects of learning style on grades of first-year college students. *Research in Higher Education, 32*(3), 253-268.

Maya, R. E. (2004). Should there be a three strikes rule against pure discovery learning? The case for guided methods of instruction. *American Psychologist, 59*(1), 14-19. doi.org/10.1037/0003-66X.59.1.14

Mayer, R. (2004). Should there be a three-strikes rule against pure discovery learning? The case for guided methods of instruction. *American Psychologist, 59,* 14-19.

McLeod, S. A. (2019, July 17). *Constructivism as a theory for teaching and learning*. Simple

   Psychology. Retrieved from https://www.simplypsychology.org/constructivism.html

Moghadam, N. J., & Tahmassian, K. (2011). Relationship between self-efficacy and symptoms

   of anxiety, depression, worry and social avoidance in a normal sample of

   students. *Iranian Journal of Psychiatry and Behavioral Sciences, 5*(2), 91–98.

Nagle, B. (1998). A proposal for dealing with grade inflation: The relative performance index.

   Journal of Education Business, 74, 40-43. doi: 10.1080/08832329809601659

National Center for Education Statistics. (2013). *The condition of education 2013.* Retrieved

   from https://nces.ed.gov/programs/coe/ataglance.asp

National Commission on Excellence in Education. (1983). *A nation at risk: The imperative for

   educational reform.* Washington, DC: US Government Printing Office. Retrieved from

   https://edreform.com/wp-content/uploads/2013/02/A_Nation_At_Risk_1983.pdf

O'Banion, T., & Wilson, C. (2010). Focus on learning: A learning college reader. *The Core

   Mission of Higher Education*. Retrieved from

   http://www.jsu.edu/redballoon/docs/1O_Banion-Focus_on_Learning_Final.pdf

O'Halloran, K., & Gordon, M. E. (2014). A synergistic approach to turning the tide of grade

   inflation. *Higher Education, 68*, 1005-1023. doi:10.1007/s10734-014-9758-5

Olsen, D. R. (1995). Grade inflation: Reality or myth? Student preparation level vs. grades at

   Brigham Young University 1975-1994. Paper presented at the Annual Forum of the

   Association for Institutional Research, Orlando, FL.

Olenik, A. (2009). Does education corrupt? Theories of grade inflation. *Educational Research

   Review, 4*(2), 156-164. https://doi.org/10.1016/j.edurev.2009.03.001

Pintrich, P. R., & Schunk, D. H. (2002). Motivation in education 2 ed. Upper Saddle River. NJ: Merrill/Prentice Hall.

Pozdnyakov, A., & Pozdnyakova, O. (2017, October). *Adults students' problems in the distance learning.* Paper presented at the 16th Conference on Reliability and Statistics in Transportation and Communication, Riga, Latvia. doi: 10.1016/j.proeng.2017.01.105

Rampell, C. (2011, July 14). A history of college grade inflation. The New York Times. Retrieved from https://economix.blogs.nytimes.com/2011/07/14/the-history-of-college-grade-inflation/?_php=true&_type=blogs&_r=2

Reeves, D. (2008). Leading to change / effective grading practices. *Educational Leadership, 65*(5), 85-87. Retrieved from http://www.ascd.org/publications/educational-leadership/feb08/vol65/num05/Effective-Grading-Practices.aspx

Riedel, M. (2000). Research strategies for secondary data: A perspective for criminology and criminal justice. Thousand Oak, CA: Sage.

Rojstaczer, S. (2010). Grade inflation at American colleges and universities: Recent GPA trends nationwide. April 20, 2010. Retrieved from http://web.crc.losrios.edu/~larsenl/ExtraCredit/GradeInflation.pdf

Ruch, R. S. (2001). Higher Ed. Inc.: The rise of the for-profit university. Baltimore, MD: Johns Hopkins University Press.

Santovec, M. L. (2004). Faculty: Training the people who train the teachers. *Distance Education Report*. Madison, WI: Magna Publications Inc.

Schlosser, L. A., & Simonson, M. (2009). *Distance Education: Definition and glossary of terms,* (3rd ed.). Charlotte, NC: Information Age.

Scott, J. C. (1999). The chautauqua movement: Revolution in popular higher education. *Journal of Higher Education, 70(*4), 389-412.

Secore, S. (2017). Social constructivism in online learning: Andragogical influence and the effectual educator. *E-mentor,* 3(70). http://dx.doi.org/10.15219/em70.1300.

Self-efficacy. (n.d.). *In Cambridge's online dictionary*. Retrieved

from

https://dictionary.cambridge.org/us/dictionary/english/self-

efficacy

Seldomridge, L. A. & Walsh, C. M. (2005). Clinical grades: Upward bound. *Journal of Nursing Education, 44*(4), 162-168.

Shall, M. S. (2019). Using micro-learning on mobile applications to increase knowledge retention and work performance: A review of literature. *Cureus, 11*(8). https://doi.org/10.7759/cureus.5307

Shao-Hsun Keng. (2018). Tenure system and its impact on grading leniency, teaching effectiveness and student effort. *Empirical Economics, 55*(3), 1207-1227. http://doi.org/10.1007/s00181-017-1313-7

Simonson, M. (2012). *Teaching and learning at a distance: Foundations of distance education.* Boston, MA: Pearson.

Sonner, B. S. 2000. A is for "adjunct": examining grade inflation in higher education. *Journal of Education for Business, 76*(1), 5-8. doi: 10.1080/08832320009599042

Stanoyevitch, A. (2008). Controlling grade inflation. Retrieved from https://www.nea.org/home/1821.htm

Strauss, V. (2013, December 20). Why grade inflation (even) at Harvard is a big problem. *The Washington Post.* Retrieved from https://www.washingtonpost.com/news/answer-sheet/wp/2013/12/20/why-grade-inflation-even-at-harvard-is-a-big-problem/

Strass, V. (2013, Oct. 16). Howard Gardner: "Multiple Intelligence" are not "learning styles" *The Washington Post*. Retrieved from https://www.washingtonpost.com/news/answer-sheet/wp/2013/10/16/howard-gardner-multiple-intelligences-are-not-learning-styles/

The Teaching Excellence in Adult Literacy, U.S. Department of Education, and Office of Vocational and Adult Education. (2011). *Adult learning theories* (TEAL Center Fact Sheet No. 11).

 Retrieved from

 https://lincs.ed.gov/sites/default/files/11_%20TEAL_Adult_Learning_Theory.pdf

Thomas, J. D. (2018). The effects of demographic, academic, and loan related variables on the student loan default status of college students enrolled in a historically black college in south Texas. Available from ERIC. Retrieved from http://spot.lib.auburn.edu/login?url=https://search.proquest.com/docview/2130849737?accountid=8421 [dissertation]

Tight, M. (1996). *Key concepts in adult education and training*. New York, NY: Routledge.

Tough, A. (1971). *The adult's learning projects: A fresh approach to theory and practice in adult learning.* Toronto: Ontario Institute for Studies in Education of the University of Toronto.

Tracey, K. (2016, October 18). Micro learning: A new way to provide professional development or classroom instruction [Web log post]. Retrieved from https://community.lincs.ed.gov/group/22/discussion/micro-learning-new-way-provide-professional-development-or-classroom

University College Dublin. (2010). *Education theory: Constructivism and social constructivism in the classroom.* Retrieved from

http://www.ucdoer.ie/index.php/Education_Theory/Constructivism_and_Social_Construc tivism_in_the_Classroom

U.S. Bureau of Labor Statistics. (2015). *Labor force projections to 2024: The labor force is growing, but slowly.* Division of Information and Marketing Services. Retrieved from https://www.bls.gov/opub/mlr/2015/article/labor-force-projections-to-2024.htm

U.S. Department of Education. (2015). *U.S. department of education launches second chance pell pilot program for incarcerated individuals.* Retrieved from https://www.ed.gov/news/press- releases/us-department-education-launches-second-chance-pell-pilot-program-incarcerated- individuals

U.S. Department of Education. (2017). *Elementary and secondary Education Act of 1965, as amended by the Every Student Succeeds Act-accountability and state plans.* (Report No. 86076-86248)/ Retrieved from

https://www.federalregister.gov/documents/2016/11/29/2016-27985/elementary-and-secondary-education-act-of-1965-as-amended-by-the-every-student-succeeds

U.S. Department of Education. (n.d.). *Reentry success through continuity of educational opportunities.* Office of Career, Technical, and Adult Education: Correctional Education. Retrieved from

https://www2.ed.gov/about/offices/list/ovae/pi/AdultEd/correctional-education.html

Walsh, C. M., & Seldomridge, L. A. (2005). Clinical grades: Upward bound. *The Journal of Nursing Education, 44*(4), 162-168. doi: 10.3928/01484834-20050401-05

Wegman, J. R. (1987, Winter). An economic analysis of grade inflation using indexing. *Colleges and University Journal, 62*(2), 137-146.

Williams, P., Nicholas, D., & Gunter, B. (2005). E-learning: what the literature tells us about distance education: An overview. *Aslib Proceedings, 57(*2), pp. 109-122. doi: https://doi.org/10.1108/00012530510589083

Windschitl, M. (2002). Framing constructivism in practice as the negotiation of dilemmas: An analysis of the conceptual, pedagogical, cultural, and political challenges facing teachers. *Review of Educational Research*. doi.org/10.3102/00346543072002131

Young, S. S. C. (2003). Integrating ICT into second language education in a vocational high school. *Journal of Computer Assisted Learning, 19*(4). doi.org/10.1046/j.0266-4909.2003.00049.x

Appendix A

Permission Letter for Research from Troy University

College of Health
and Human Services

Collegeview
Building
Troy, Alabama
36082

334-670-3712
334-670-3743 - Fax

TROY UNIVERSITY

MEMORANDUM

30 January, 2020

TO: Auburn University IRB

FROM: Dr. Denise M. Green, Dean
College of Health and Human Services

RE: Permission to conduct study, Ava Tabb

Please consider this memo permission for Ava Tabb, an employee at Troy University, to use collection data collected from Troy University from the timeframe of December 2019—December 2020 for the purpose of performing research for her dissertation at Auburn University.

As the Dean of the College of Health and Human Services, I will provide oversite for this data draw in my college. Both Ava Tabb and I have followed the protocol and policies outline by Troy University to do this research. Ava has submitted the Troy University IRB approval.

Please do not hesitate to contact me directly should you have any questions or require additional clarification.

dmgreen@troy.edu   or 334-670-3712
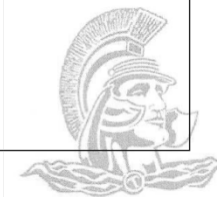
Appendix B

IRB Approval Troy University

Institutional Review
Board

Adams Administration
LL Rm 11 A
Troy, AL 36082

334-808-6294 Office
334-670-3912 Fax

http://www.troy.edu/insti
tutionalreview

December 9, 2019

Dr. Denise M. Green   Ava Tabb
Dean   Lecturer
CHHS   CCFA

Dear Researchers,

The Institutional Review Board has reviewed your project, Grade Distribution
Analysis, and has determined it falls into the exempt category, meaning your
research does not require IRB approval. However, if there are changes with your
protocol placing participants at risk, you are responsible for immediately informing
the IRB of these changes.

Please let me know if you have questions or if I can be of additional assistance.

Sincerely,

Dr. Barbara Williams

Barbara Williams

TROY
UNIVERSITY

IRB Approval Auburn University

Auburn University Human Research Protection Program

EXEMPTION REVIEW APPLICATION

For information or help completing this form, contact: **THE OFFICE OF RESEARCH COMPLIANCE,**
Location: 115 Ramsay Hall   Phone: 334-844-5966   Email:IRBAdmin@auburn.edu

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Submit completed application and supporting material as one attachment to IRBsubmit@auburn.edu.

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1. PROJECT IDENTIFICATION   Date 02/01/20

a. Project Title Grade Distribution Analysis

b. Principal Investigator Ava M. Tabb   Degree(s) Master of Science
Rank/Title Doctoral candidate   Department/School Educational Foundations, Technology, and Leadership/College of Education
Phone Number (205) 563-6725   AU Email amt0064@auburn.edu

Faculty Principal Investigator (required if PI is a student) James Witte
Title Professor   Department/School Adult Education/Educational Foundations, Technology, and Leadership
Phone Number (334) 844-3054   AU Email witteje@auburn.edu

Dept Head James Witte   Department/School Adult Education/College of Education
Phone Number (334) 844-3054   AU Email witteje@auburn.edu

c. Project Personnel (other PI) – Identify all individuals who will be involved with the conduct of the research and include their role on the project. Role may include design, recruitment, consent process, data collection, data analysis, and reporting. Attach a table if needed for additional personnel.

Personnel Name_____Degree (s) _____
Rank/Title_____Department/School_____
Role_____
AU affiliated? ☐ YES   ☐ NO   If no, name of home institution _____
Plan for IRB approval for non-AU affiliated personnel? _____

Personnel Name_____Degree (s) _____
Rank/Title_____Department/School_____
Role_____
AU affiliated? ☐ YES   ☐ NO   If no, name of home institution _____
Plan for IRB approval for non-AU affiliated personnel? _____

Personnel Name_____Degree (s) _____
Rank/Title_____Department/School_____
Role_____
AU affiliated? ☐ YES   ☐ NO   If no, name of home institution _____
Plan for IRB approval for non-AU affiliated personnel? _____

d. Training – Have all Key Personnel completed CITI human subjects training (including elective modules related to this research) within the last 3 years?   YES ☒   NO ☐

> **The Auburn University Institutional Review Board has approved this Document for use from**
> 2/3/2020 **to** ----------------
> **Protocol #** 20-041 EX 2002

AU Exemption
Form Version
4.29.2019

Page 1 of 8

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Directory:

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      ata/Documents
Template: /Users/professortabb/Library/Group
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      Content.localized/Templates.localized/Normal.dotm
Title:
Subject:
Author: Ava M Tabb
Keywords:
Comments:
Creation Date: 11/24/20 12:43:00 PM
Change Number: 2
Last Saved On: 11/24/20 12:43:00 PM
Last Saved By: Ava M Tabb
Total Editing Time: 1 Minute
Last Printed On: 11/24/20 12:44:00 PM
As of Last Complete Printing
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      Number of Words: 28,905
      Number of Characters: 179,855 (approx.)