

FLIPPING THE CLASSROOM IN COMMUNITY COLLEGES:
RETHINKING HISTORY INSTRUCTION TO
DEVELOP WORKFORCE DESIRABLE SKILLS

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A DISSERTATION

Submitted in partial fulfillment of the requirements
for the degree of Doctor of Philosophy in the
Department of Educational Leadership,
Policy, and Technology Studies
in the Graduate School of
The University of Alabama

TUSCALOOSA, ALABAMA

2017

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ABSTRACT

This study utilized a quasi-experimental research design to investigate the effectiveness of the flipped classroom pedagogical technique on students' development of 21st century skills in community college history classes. This study focused specifically on the following skills: critical thinking, creative thinking, ethical reasoning, information literacy, problem solving, and written communication. Several studies, focused on the needs of employers, reported that in order for college graduates to succeed in the workplace, they should possess 21st century skills.

The key finding of the study was that the flipped classroom was effective at creating an instructional environment conducive for the development of critical thinking, creative thinking, ethical reasoning, information literacy, problem solving, and written communication skills in a community college history classroom. Using a pretest/posttest model and the VALUE Rubrics created by the Association of American Colleges & Universities, students who were in the group exposed to the flipped classroom pedagogy made statistically significant increases for all six of the observed skills compared to students who were not exposed to the flipped instruction. However, another notable finding was that the students in the control group, those students not exposed to flipped instruction, also made increases from pretest to posttest on all six observed skills. This finding suggests additional influences contributing to student success in developing the observed skills.

The study findings suggest that teaching faculty should explore the flipped classroom pedagogical method if 21st century skills or soft skills are part of their course learning objectives. By using the flipped classroom, instructors are able to use in-class time for active learning strategies which appears to create an environment conducive for student skill development. Additionally, the findings also suggest that the use of multiple formative assessments allowing students to further interact with the material beyond the knowledge level also contributes to skills development. Future research should investigate the

effect that flipped instruction has on the learning environments other than community college history classes. Also, further research on pedagogical and formative assessment methods that create or contribute to an active learning classroom environment should also be explored for their effectiveness in student workforce skill development.

DEDICATION

First, I want to dedicate this dissertation to my parents. Magic Johnson once said, “All kids need is a little help, a little hope, and somebody who believes in them.” Throughout my life, my parents have always been there for me—to help me in any way they knew how. They have always believed in me and had confidence that I would accomplish my goals. Most of all however, no matter the circumstance, they have always been proud of me. It is for this reason that I dedicate this document to my parents because I could not have done it without them.

Second, I want to dedicate this dissertation to Dusty Folds. Hellen Keller once said, “I would rather walk with a friend in the dark, than alone in the light.” Throughout this entire process, Dusty was with me at my darkest times. I don’t think that I could have succeeded without his constant support and encouragement. At no point did I ever feel alone. He was always there with a word of encouragement, a red pen to make sure my grammar was on point, and a smile at each and every milestone.

Finally, I lost one of my oldest and dearest friends the day before I defended this dissertation. I felt it was only appropriate that I include him as part of the dedication.

In Loving Memory

Kristopher Clint “Biscuit” Vickery

December 20, 1980–February 19, 2017

Some people are bound to die young. By dying young a person stays young in people's memory. If he burns brightly before he dies, his brightness shines for all time.” -Aleksandr Solzhenitsyn

And burned brightly you did. Rest easy friend.

LIST OF ABBREVIATIONS AND SYMBOLS

AAC&U	American Association of Colleges and Universities
AACC	American Association of Community Colleges
ACCS	Alabama Community College System
ACRL	Association of College and Research Libraries
AHA	American History Association
ASCD	Association for Supervision and Curriculum Development
CFR	Code of Federal Regulations
CI	Confidence Interval
CPS	Creative Problem Solving
DAX	Data Access and Exchange Reporting System
EMSI	Economic Modeling Specialists International
ESOs	Essential Learning Outcomes
HTS	<i>Historical Thinking Skills: A Workbook for U.S. History</i>
IR	Independent Raters
IRB	Institutional Review Board
ISTE	International Society for Technology in Education
LEAP	Liberal Education and America's Promise
LGBTQ	Lesbian, gay, bisexual, transgender, and queer
LMS	Learning Management System
M	Mean
MOOC	Massive Open Online Courses
NAEP	National Assessment of Educational Progress

NCREL	North Central Regional Educational Laboratory
NEA	National Education Association
NETS	National Educational Testing Standards
NRC	National Research Council
OECD	Organisation for Economic Co-operation and Development
p	P-value or calculated probability
PI	Participant Instructors
r	Pearson's correlation
SD	Standard deviation
SHRM	Society for Human Resources Management
STEM	Science, technology, engineering, and math
t	t-test value
VALUE	Valid Assessment of Learning in Undergraduate Education

ACKNOWLEDGMENTS

Have you ever heard the term, “It takes a village?” I’m sure you have. This is exactly how I feel about myself when it comes to the number of people that has helped me to complete my doctoral studies. There are so many people who deserve to be mentioned in this section of my dissertation. Unfortunately, if I did that, the acknowledgements section would be longer than the dissertation itself. So, let me take the opportunity to hit as many awesome people as I can think of. Prepare yourself—this is a long one.

I want to begin by invoking an acknowledgement of faith. Proverbs 13:4 (KJV) says, “The soul of the sluggard desireth, and hath nothing: but the soul of the diligent shall be made fat.” While I realize that I have gained a significant amount of weight during this whole process, that is not what I am referring to in using this Bible verse. I give thanks to God that He blessed me with the following: the ability to finish this accomplishment, amazing parents who got to see me graduate, amazing family and friends that provide me with an over-abundance of support, and the best life that any person could ask for.

First, I have to thank Dr. Vivian Wright. She was the greatest advisor any person could ever ask for. From the beginnings of the program to the “weekly pest emails,” from the monthly “foodie” lunch meetings all over Birmingham to the very end, she has always been supportive, enthusiastic, and simply wonderful. I couldn’t have done it without her.

To my dissertation committee: It is my opinion that you guys are the best committee a Ph.D. student could ask for! In every possible way, you guys were encouraging, inspiring, and there for me regardless of your busy schedules. Dr. David Hardy, I can’t articulate how much I have learned from you. Also, thank you for listening to my constant griping about “the professor who shall not be named” during my course work. You’re truly amazing. Dr. Margaret Rice, I think of you as a role model in my own teaching. You are always encouraging and willing to engage in a fascinating discussion—all while not sweating the small stuff. Dr. Marilyn Staffo, your course on distance learning was one of my favorite

courses in graduate school. If it were not for the content that I learned from you about distance learning, I would not have the job I have today. And last, but certainly not least, Dr. Liza Wilson—you were my very first graduate level professor in the summer of 2003. I was fresh out of undergrad and had not even found my first teaching job yet. However, you inspired me in more ways that you will ever know. I am the teacher I am today because of you.

Of course, I have to thank the fine gentlemen who helped me conduct this study. To Dr. Richard Dobbs, Mr. David McRae, Mr. Grover Kitchens, and Mr. Justin Williams. You guys exemplify what this whole teaching and learning thing is all about. I am honored to call each of you a colleague, a role model, and most importantly, a friend. Thank you so very much.

I must thank everyone at Gadsden State Community College (past and present) who have encouraged and pushed me to be a better teacher, employee, and example for my colleagues and students. Dr. Martha Lavender, thank you for your confidence and appreciation. There isn't a day that goes by that I'm not thankful for the opportunities that you have given me. Dr. Leslie Worthington, thank you for your confidence in me as well. I wouldn't be where I am without you either. Dr. Jim Jolly, I wouldn't have even started a doctorate if it were not for you. I am thankful to you for so many reasons that I can't express them in this document. Dr. Paula Ross-Derrick, my English 101 teacher and valued colleague, thank you for making me the writer that I am today. Dr. Teresa Rhea, thank you for pushing me to finish every time you saw me on campus. To my friends and colleagues in the Social Science Division, you guys are the best group of teachers in the world. I will forever be thankful that I get to work with you day in and day out. To Brandy Gilchrist, thank you so much for your assistance, kind words, and willingness to jump in and help me with whatever—especially while writing this dissertation. And last, but certainly not least, I want to thank the following people: Dr. Sara Wheeler, Dr. Brian Gieslinger, Dr. Billy Jenkins, and Mr. Phillip Snider for renewing my faith in higher education and Ms. Dorothy Burgess, Mr. Phillip Burgess, Ms. Sara Cooper, and Ms. Julie Kennedy for renewing my faith in humanity. I'm sure that I forgot someone, and if I did, I apologize.

Outside of Gadsden State, I also have several people to thank. During this entire process, I put certain aspects of my life on hold at one point or another. It is because of these people, their patience, and encouragement that saw me through. They are Dr. Cathlena Martin, Mr. Jim Roebuck, Dr. Ron Aday, Dr. Jason Ayers, Mr. Brad Fricks, Dr. David Campbell, The *Gadsden Shrine Club*, The *Gadsden Masonic Lodge #236*, Mr. Tyler James, Ms. Jauna Little, Mr. Mark Taylor, Mr. Tyler Erwin, The *Gadsden/Etowah Chamber of Commerce*, The *United Way of Etowah County*, my friends at *Tu'Kanoos*, my friends at *Somewhere In Time: Antiques & Collectibles*, and *The Mystic Krewe of Apollo*. I realize that I have not been the best friend or best volunteer while working on this project; however, each of you have been supportive, understanding, and provided me with the motivation to finish. Whether it was picking up my slack, sharing a beer or a glass of wine with me, playing games to get my mind off the stress, making me be social when I wasn't in the mood, or simply saying a kind word, I wouldn't be done if it weren't for you folks.

In conclusion, I only wish my grandparents, both maternal and paternal, had been here to see me finish. I have no doubt that they would be proud of me. I feel like the values and perseverance that have been instilled in me by my family have a significant role to play in my success. I am who I am because I come from a family tree that knows how to get things done. Thank you.

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CHAPTER I

INTRODUCTION

Community colleges are a central component of America's human capital development system. They dwarf in scale any other institution in terms of providing vocational training, and they are also a resource for firms in training their incumbent work force and for obtaining new skills in emerging technologies. Education is not simply an economic tool. Higher education helps grow young people into citizens and enriches the cultural life of communities in numerous ways.
(Osterman, 2011, p. 130)

Being "all things for all people" now seems unsustainable. Indeed the net effect of the current fiscal crisis is that many community colleges must now grapple with the painful truth of moving from a comprehensive institution that provides everyone with access to an affordable postsecondary education toward a niche institution, which, due to fiscal realities, may limit enrollments, offer only a few specialized programs (rather than a comprehensive curriculum), and offer some programs and services through external providers. (Phelan, 2014, p. 12)

Since the late 1990s, a discussion of the skills, not necessarily the knowledge that students receive from a college education, has been increasing among business, government, and educational leaders (Wildavsky, Kelly, & Carey, 2011). In a report from the North Central Regional Educational Laboratory and the Metiri Group entitled "enGauge 21st Century Skills: Literacy in the Digital Age," (Lemke, 2003) employers and local communities expect the future of their workforce to have a solid and marketable skill-set upon graduation. However, it appears that colleges and universities are falling short of that expectation. Phelan (2014) reported that the number of credit hours and grades are increasingly becoming unimportant to employers with emphasis now being placed on skill attainment that business and industry need to fill their workforce requirements. In another report conducted by The Conference Board, Inc.

(Casner-Lotto & Barrington, 2006), 400 employers from a variety of major corporations were surveyed and the major consensus was that college graduates, both 2-year and 4-year, lacked necessary skills for today's workplace demands. While the report indicated that college graduates are better prepared for workforce entry than high-school graduates, with regard to 2-year colleges specifically, the findings show a variety of deficiencies in applied skills such as communication, critical thinking, and problem solving (Casner-Lotto & Barrington, 2006).

21st Century Skills or Lack Thereof

Several authors (Breivik, 2005; Friedman, 2012; Partnership for 21st Century Skills, 2010; Wagner, 2008) have identified that in a knowledge-based economy workers need to possess both technical or "hard skills" and general "soft skills." The former category includes a worker's abilities with regard to career/major specific language, numeracy, and technology (i.e., systems and processes). The latter category, termed by some as "21st century skills" (Lemke, Coughlin, Thadani, & Martin, 2003; Partnership for 21st Century Skills, 2010; Wagner, 2008), includes abilities such as communications, creativity, information literacy, problem solving, and adaptability. The soft skills or 21st century skills are considered as important as the trainable or hard skills in determining the eventual success of individuals in the workplace (Partnership for 21st Century Skills, 2010; Wagner, 2008). The expectation is that students should not only be able to demonstrate technical, job-specific skills, but also demonstrate skills such as effective communication, problem solving, cultural appreciation, and other important generalized skills (Phelan, 2014).

It is important that prospective job seekers have certain skills and abilities (Casner-Lotto & Barrington, 2006; Phelan, 2014). According to Bahr et al. (2015), higher-earning occupations generally require skills and abilities that are developed during the acquisition of higher

education. Lower-earning occupations might require less formal higher education, but they still require a certain amount of basic skills and abilities that should be acquired by the time an individual graduates from high school (Bahr et al, 2015; Lemke et al., 2003; Partnership for 21st Century Skills, 2010; Wagner, 2008). In reaction to concerns about the disconnect between K-12, higher education, and the skills necessary for success in the 21st century workplace, a myriad of business and educational leaders started developing frameworks of skills that they believed high school and/or college graduates should have mastered while earning their diploma or degree. One of the earliest 21st century skills frameworks entitled, *enGauge 21st Century Skills for 21st Century Learners*, was published in 2003 (Lemke et al., 2003). Only 4 years later, the Partnership for 21st Century Skills (2007) published the *21st Century Student Outcomes*. Building up their work, The Partnership for 21st Century Skills, in a consortium with The Conference Board, Corporate Voices for Working Families, and the Society for Human Resource Management published *Are They Really Ready to Work? Employers' Perspectives on the Basic Knowledge and Applied Skills of New Entrants to the 21st Century U.S. Workforce* (Casner-Lotto & Barrington, 2006). In 2008, focused specifically on higher education, the Association of American Colleges and Universities created the Liberal Education & America's Promise (LEAP) Essential Learning Outcomes (Kuh, 2008). These frameworks are similar in that they all were skills focused and were developed using workforce research that consistently reported that critical thinking, communication, technology, and problem-solving skills are critical for an individual's success in a 21st century workplace.

Further supporting the research compiled during the development of the 21st century skills frameworks, a study by The University of Alabama's Center for Business and Economic Research (Addy, 2015), showed that there is a projected mismatch (or a "skills gap") between

the needs of employers for skilled talent and the skills possessed by the available workforce. For the projected period of 2008-2018, the top five critical skills in Alabama as identified by selected occupations were reading comprehension, active listening, critical thinking, active learning, and speaking. In the same report, a list of “primary skills” was presented that were considered important by employers in Alabama. Primary skills were defined as the 10 most important skills in the overall required skill set for an occupation. At the top of the list, there were 10 “basic skills” that are the most frequently listed primary skills that are deemed important for practically any and all jobs. Among select high-demand, fast-growing, and high-earning occupations, the basic skills of active learning and critical thinking were deemed most important in all three general categories. The top five high-demand occupations were registered nurses, team assemblers, general and operations managers, licensed practical and licensed vocational nurses, and personal care aides. The top five fast-growing occupations were engine and other machine assemblers, occupational therapist assistants, personal care aides, diagnostic sonographers, and helpers for brickmasons, blockmasons, stonemasons, and tile/marble setters. The top 50 high-earning occupations were in the sectors of health, management, engineering, computer, postsecondary education, and science fields and had an average salary of \$93,757. The skills of speaking, reading comprehension, monitoring, writing, and active learning rounded out the top 7 skills of the top 10 in all three general occupational categories mentioned above (Addy, 2015).

Increased Expectations, Decreased Funding

Not only is Alabama facing a skills gap, but it is also faced with a problem of low educational attainment as compared to the nation as a whole (Addy, 2015). Unfortunately, this problem is further complicated by the fact that skill attainment and education requirements for jobs keep rising (Phelan, 2014). As demands for workforce preparation increase, funding for

public higher education appears to be drying up (Phelan, 2014). From 1980 to 2011, states have reduced their support of higher education anywhere from 14.8% to as high as 69.4% (Mortenson, 2012). Per-student expenditures in higher education has been reduced by more than 35% since the 2007-2008 academic year in Alabama, Arizona, Louisiana, Pennsylvania, and South Carolina (Mitchell & Leachman, 2015).

A related problem to decreased public funding for colleges and universities is that the costs of higher education continue to increase. The price of higher education per-student has surged more than 538% since 1985 (Best Value Schools, 2015). The average yearly cost for all types of institutions (both public and private) in 1981-82 was \$3,489 per student (U.S. Department of Education, 2015). By the 2012-2013 academic year, the average yearly cost per student was \$20,234 (U.S. Department of Education, 2015). Many public institutions have had to make difficult decisions to manage the funding cuts. Tuition increases are the most obvious strategy to recoup lost funding. The most dramatic increase in tuition costs since 2008 has occurred in Arizona (83.6%). In Alabama, tuition costs have increased 51.8% during the same time frame. The less obvious funding strategies have included the elimination of jobs at both the administrative and faculty levels, elimination of courses or entire programs, increased class sizes, or at the most drastic level, the elimination or merger of entire departments or schools (Mitchell & Leachman, 2015). According to O'Leary and Frame (2015) West Virginia University has fired 13 employees and chosen not to fill more than 100 positions. Also reported by Flaherty (2015), the University of Southern Maine eliminated 50 faculty positions and eliminated two academic programs just to balance the budget. In North Carolina and Pennsylvania, colleges and universities have slashed more than 6% of their overall course offerings and eliminated more than 95 academic programs between 2011 and 2014 (Heiland, Huber, & Kanter, 2014; London,

2014; Mitchell & Leachman, 2015). Even private institutions of higher education are experiencing increased costs. For example, Loyola University in New Orleans, Louisiana is faced with cutting \$50 million from its budget over the next 5 years (Adelson, 2015).

The increased costs of higher education and amount of student loan debt nationwide has colleges and universities experiencing a great deal of scrutiny from politicians, business leaders, and the public at-large (Viaene & Zilcha, 2013). As colleges and universities attempt to address this issue, institutional leaders are faced with difficult decisions. In some cases, funding is being redirected from the social sciences and humanities in favor of science, technology, engineering, and math (STEM) fields (Baars, 2014; Newfield, 2010; Rhodes, 2010). Pressure is being placed on institutions to prioritize funding programs that appear to have a more direct impact on the workforce (Heiland et al., 2014; London, 2014). As mentioned earlier, Loyola University is being forced to reduce its budget substantially. As a part of those cuts, 22 programs are slated for elimination. Among the 22, American studies, Catholic studies, film studies, the Center for Spiritual Capital and the Center for Entrepreneurship, studio art, theater, and the Center for the Study of New Orleans are included (Adelson, 2015). In the University of Alaska system, a total of 31 programs is being suggested for elimination. Of those, the Bachelor's of sociology and Master's of music degrees are at the top of the list (Moritz, 2015). According to Cranston (2015), the North Carolina Board of Governors has eliminated 46 degree programs across the UNC System. While each university in the system only experienced a few program cuts, some institutions saw the loss of programs such as Public History, Political Science, Linguistics, Composition, Africana Studies, Women's and Gender Studies, Theatre, Jazz, Film Music Composition, and Child and Family Development (Cranston, 2015). In community colleges, funding is being prioritized for programs that do not include academic transfer education. While

California's 2015-2016 budget for community colleges saw an increase of 8% from the previous academic year, priorities are being placed on career technical education, apprenticeship programs, adult education, and workforce development related to energy sustainability (California Community Colleges, 2015).

History Instruction for the 21st Century Workplace

The reality is that many of the critical workforce skills as outlined by the Conference Board report and the 21st Century skills report (many of which overlap) can actually be taught and conveyed through the humanities and social sciences. Combined with a rethinking of instructional methods, current and evolving instructional technologies, and collaborative learning, students in social science and humanities classes can develop a multitude of workforce desirable skills (American Academy of Arts and Sciences, 2013). The social sciences and humanities involve a great deal of literature for students to explore and analyze (Gallavan & Kottler, 2012; Kent, 2012). The social sciences can require students to research, analyze, synthesize, and discuss a wide selection of information and ideas that are applicable to any career they choose to pursue (Gallavan & Kottler, 2012; Kent, 2012).

More specifically, history courses are environments where students can learn to think critically, problem solve, and communicate effectively (Bower, Lobdell, & Swenson, 1999; Lesh, 2011; Mandell & Malone, 2007). Through rethinking the way that college history survey courses are taught, students can develop soft skills that will make them more marketable in the workforce (Reed & Kromrey, 2001). If students are required to engage in activities where they role play, collaborate, solve problems, apply data, and communicate extensively in a number of ways, history courses can be ideal environments for the development of soft skills (Bower,

Lobdell, & Swenson, 1999; Greenhill, 2009; Kyllonen, 2013; Lesh, 2011; Mandell & Malone, 2007; Reed & Kromrey, 2001).

There are several instructional methods discussed in the body of literature with the aim of skills development as opposed to simply developing knowledge. One such method, the “flipped classroom” or “flipped learning,” as noted by Bishop and Verleger (2013) and Bergmann and Sams (2012a), combines technology, collaborative learning, and skills development strategies to create a learning environment that takes students beyond basic knowledge based or teacher-centered instruction. The flipped classroom can be defined as a pedagogical technique that consists of direct technology-based individualized instruction outside the classroom in order to prepare for interactive, cooperative, and student-centered activities within the classroom (Bishop & Verleger, 2013). While there was limited research on the effectiveness of the flipped classroom, the literature that was available suggested that it is more effective at increasing student performance than traditional teacher-centered instructional approaches. The flipped classroom approach is favorable for the development of critical thinking and information literacy skills because students spend in-class time actively engaging in knowledge construction through focused interactions with peers and teachers (Bergmann & Sams, 2012a; Kong, 2014; Missildine, Fountain, Summers, & Gosselin, 2013). There is a lack of robust scientific studies that evaluate the effectiveness of flipped learning in achieving educational outcomes or in the development of higher order thinking skills, problem solving skills or creative thinking skills (O’Flaherty and Phillips, 2015). It was a goal of this study to add to the evolving literature on the flipped classroom.

Statement of the Problem

Students, workforce demands, instructional technologies, and higher education funding models have changed and continue to evolve. However, the way that instructors are teaching in college classrooms has not changed significantly (Kumar, 2012). As funding priorities shift toward workforce development and STEM fields, educators in traditional liberal arts fields such as history, literature, art, music, sociology, and psychology are faced with budget cuts, increased class sizes, and in some areas of the country, loss of employment opportunities (Mitchell & Leachman, 2015; Phelan; 2014). Higher education is currently faced with shrinking funds, increasing costs, calls for more accountability, and the elimination of courses, programs, and faculty (Phelan, 2014). It is becoming increasingly important that educators in fields experiencing the most cuts (particularly the liberal arts) show that what they are teaching is relevant for the needs of today's workforce (Mitchell & Leachman, 2015; Phelan; 2014). These educators must demonstrate that students can develop the desired soft skills as outlined by leaders in US business and industry (American Academy of Arts and Sciences, 2013; Bahr et al., 2015; Casner-Lotto & Barrington, 2006; Kyllonen, 2013; Greenhill, 2009; Lemke et al., 2003).

Purpose of the Study

The purpose of this study was to determine if students can more effectively develop workforce desirable skills by changing the teaching methods in a United States history class at two different community colleges in the Alabama Community College System. Specifically, the study analyzed the effectiveness of the flipped classroom model at helping students develop the following skills: critical thinking, problem solving, effective communication, creativity and innovation, information literacy, and ethical reasoning skills.

Significance of the Study

This study determined if changing the way instructors teach in history courses has a significant impact on students developing desirable workforce skills. This information is useful for colleges and universities as faculty and administrators make decisions with regard to the teaching and learning process. In light of the increased scrutiny being placed on institutions of higher learning to demonstrate accountability by government, parents, students, accrediting bodies, potential funding sources, and potential employers, this information can demonstrate that history courses (and arguably other liberal arts disciplines) can significantly contribute to student preparation for the workforce. Finally, this study adds to the body of research on the flipped classroom.

Research Questions

The research questions for this study were

1. Is there a significant difference in a student's development of critical thinking skills between students taught history with the flipped classroom model and those taught with a traditional teacher-centered instructional approach?
2. Is there a significant difference in a student's development of creative thinking skills between students taught history with the flipped classroom model and those taught with a traditional teacher-centered instructional approach?
3. Is there a significant difference in a student's development of ethical reasoning skills between students taught history with the flipped classroom model and those taught with a traditional teacher-centered instructional approach?

4. Is there a significant difference in a student's development of information literacy skills between students taught history with the flipped classroom model and those taught with a traditional teacher-centered instructional approach?

5. Is there a significant difference in a student's development of problem solving skills between students taught history with the flipped classroom model and those taught with a traditional teacher-centered instructional approach?

6. Is there a significant difference in a student's development of written communication skills between students taught history with the flipped classroom model and those taught with a traditional teacher-centered instructional approach?

Methodology

Data to answer the above questions were derived from student scores on pretest and posttest essays evaluated using the Valid Assessment of Learning in Undergraduate Education (VALUE) Rubrics for each of the target skills. There is a VALUE rubric designed to assess each skill identified in the research questions. The six skills chosen to research for this study were consistently referred to as important or critical in the 21st century skills/workforce skills literature (Casner-Lotto & Barrington, 2006; Parsons, 2008; Partnership for 21st Century Skills, 2010; Rhodes, 2010; and Robles, 2012). The VALUE Rubrics were developed as a part of the Association of American Colleges and University's Liberal Education and America's Promise (LEAP) initiative (Rhodes, 2010). The goal of the LEAP project was to achieve a high-quality and peer reviewed method of evaluating student learning of essential learning outcomes that educators, employers, and community leaders have identified as desirable for the current century and global environment (Rhodes, 2010; Rhodes & Finley, 2013).

According to Rhodes and Finley (2013), the VALUE rubrics hold a high degree of face and content validity. Between June 2010 and June 2012, more than 17,000 people from over 4,000 institutions worldwide accessed the rubrics on the American Association of Colleges and Universities' (AAC&U) website. Additionally, since the rubrics were developed by multiple teams of higher education experts across the United States, the AAC&U reported that there is a high degree of confidence that each rubric effectively evaluates the target learning outcome (Rhodes & Finley, 2013). A common method for establishing reliability for rubrics is through inter-coder/inter-rater scoring. In the fall of 2012, the AAC&U conducted a national inter-rater reliability study, developing preliminary reliability scores for the VALUE rubrics. While a traditional calibration training session did not occur due to geographic constraints on the participating faculty, a high degree of reliability was still reported. The faculty scorers were found to have perfect agreement on scores one-third of the time (32%) on average. When a rule of approximate agreement was used, the average agreement among scorers increased to 57% and 80% depending on how approximate the categories were. Perhaps most useful in establishing the reliability of the rubrics is that there were low standard deviations across the scores for all of the rubrics despite the faculty scorers coming from various teaching disciplines (Rhodes & Finley, 2013).

This study employed a quasi-experimental research design where there was an experimental group and control group at each participating community college. At both institutions, a full-time history instructor who was teaching two sections of the second half of United States history (HIS 202) taught two instructional units using the flipped-classroom model in the experimental section and a traditional lecture or direct-instruction approach in the control section. A quasi-experimental design was chosen for this study because of the impossibility of

establishing perfect equivalency between the experimental and control sections. Furthermore, the participating history instructors were chosen by a convenience sample.

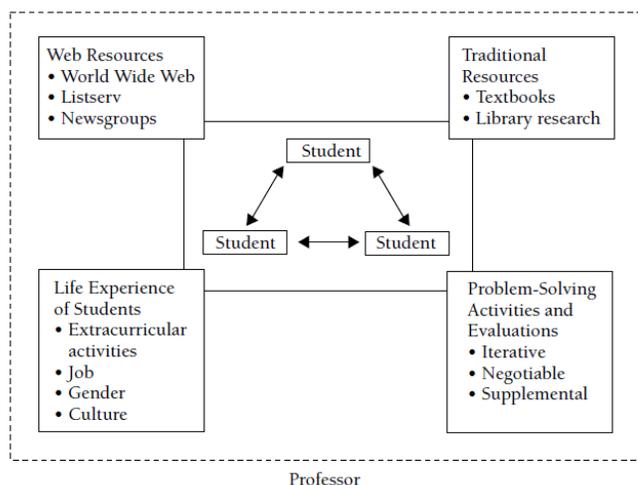
The participating students completed a pretest and posttest assessment employing all six of the target skills to be evaluated using the VALUE rubrics. Two independent raters who were also history instructors in the Alabama Community College System evaluated the pretest and posttest assessments. The independent raters were also chosen by a convenience sample adding to the rationale for employing a quasi-experimental research design for this study. The SPSS data analysis software was used to determine differences in the pretest and posttest essay scores (as established by the VALUE rubrics) between the experimental and control sections. Using the mean pretest and posttest rubric scores, gain scores were calculated to determine the overall increase in scores for both groups. Independent samples *t*-tests were used to compare the gain scores for each group to determine if the increase from pretest to posttest was statistically significant for the experimental group versus the control group. Finally, to support reliability, a Pearson Correlation statistical analysis was also calculated.

Theoretical Framework

Knowlton (2000) developed a framework for a student-centered online classroom that can be applied to a flipped learning model. This framework is grounded in constructivism and requires that the students are involved in active learning. Knowlton used Connelly and Clandinin's (1985) model of the classroom situation to illustrate a definition of the student-centered classroom. In this model, the researchers broke down the pedagogical orientation of the classroom into "things," people, and processes. In a student-centered, constructivist classroom, "things" refer to sources that students may use to develop a new perspective in their effort to master the course content. People refer to the roles of the student and the instructor. In a

student-centered classroom, the roles are dynamic with the students becoming active participants in their own learning as mentored, coached, or facilitated by the instructor. Processes refer to the pedagogical actions that take place in the classroom. In a student-centered environment, students engage in collaborative and problem-based learning activities with the instructor facilitating, instead of lecturing, to a classroom full of passive-learners (Anderson, 1998; Connelly & Clandinin, 1985; Jonassen, Davidson, Collins, Campbell, & Haag, 1995; Kearsley & Shneiderman, 1998; Knowlton, 2000; Savery & Duffy, 1995).

Knowlton’s (2000) Figure 1 represents a student-centered classroom. The goal in this classroom environment is for students to have meaningful learning experiences. Technology is important to this classroom model; however, the focus must be on learning as opposed to the technology itself. Here, the focus is entirely on the learner’s experience with technology serving only to support the learning. Additionally, the technology should function as efficiently as possible as to not take away from the content (Knowlton, 2000).



Note. The Online Classroom. Reprinted from “A Theoretical Framework for the Online Classroom: A Defense and Delineation of a Student-Centered Pedagogy.” *New Directions For Teaching & Learning*, 2000(84), 5 by D.S. Knowlton. Copyright 2000 by *Jossey-Bass*. Permission for usage obtained by *Jossey-Bass* on October 7, 2015. Agreement included in Appendix A.

Figure 1. Knowlton’s (2000) Framework for the Online Classroom

This model of the student-centered classroom as developed by Knowlton (2000) is related to the concept of active learning that is heavily grounded in constructivist theory. Simply put, active learning is learning while doing (Cooperstein & Kocevar-Weidinger, 2004). Constructivism is a theory that elaborates on the concept of students actively constructing knowledge through interaction with their environments and connecting with prior knowledge and experiences that lead to learning and the acquisition of new concepts (Marlowe & Page, 2005; Vygotsky, 1978). Bruner (1985) built upon this idea by arguing that using prior experiences to construct knowledge creates a valuable learning experience. Using knowledge to experience and manipulate content is what encourages significant learning to occur (Bruner, 1985). Students being actively involved and engaged in higher-order thinking tasks are critical to create the ideal active learning environment (Bonwell & Eison, 1991; Cooperstein & Kocevar-Weidinger, 2004). As a result, active learning is a particularly important component of success for the flipped classroom. Students must be actively involved in critical thinking and problem-solving activities during in-class time for the flipped model to be a true success (Noonoo, 2012). Finally, active learning is a major component to ensure that the classroom moves from a teacher-centered environment to a student-centered environment (Bergmann & Sams, 2012b; Knowlton, 2000). Students must take an active role in the learning process if teachers hope to develop key skills such as critical thinking, effective communication, teamwork, and other 21st century skills (Toto & Nguyen, 2009).

Definition of Terms

21st Century Skills—The Partnership for 21st Century Skills developed the 21st Century Student Outcomes, a framework of the skills, knowledge, and core beliefs that students need to be successful in life and an increasingly complex and technologically based workplace

(Partnership for 21st Century Skills, 2010). Twenty-first century skills are life skills that are essential to the success of students in today's world, which include critical thinking and problem solving, creativity and innovation, leadership and collaboration, agility and adaptability, initiative and entrepreneurialism, effective communication, accessing and analyzing information, and curiosity and imagination (Wagner, 2008).

Active Learning—Active learning is defined as a pedagogical process that involves students actively engaging in activities in the classroom that requires them to think about the content and produce evidence of how well they understood the material (Bonwell & Eison, 1991).

Creative Thinking—Creative thinking is both the capacity to combine or synthesize existing ideas, images, or expertise in original ways and the experience of thinking, reacting, and working in an imaginative way characterized by a high degree of innovation, divergent thinking, and risk taking (AAC&U, 2007).

Critical Thinking—Critical thinking is a habit of mind characterized by the comprehensive exploration of issues, ideas, artifacts, and events before accepting or formulating an opinion or conclusion (AAC&U, 2007).

Direct Instruction—The term direct instruction refers to teacher-centered instructional approaches that are structured and sequenced in such a way so that academic content can be delivered to students in the form of a lecture or demonstration. The method gets its name because teachers are “directing” the instructional process or instruction is being “directed” at students (Hidden Curriculum, 2014).

Ethical Reasoning Skills—Ethical Reasoning is reasoning about right and wrong human conduct. It requires students to be able to assess their own ethical values and the social context

of problems, recognize ethical issues in a variety of settings, think about how different ethical perspectives might be applied to ethical dilemmas and consider the ramifications of alternative actions. Students' ethical self-identity evolves as they practice ethical decision-making skills and learn how to describe and analyze positions on ethical issues (AAC&U, 2007).

Faculty Development—Faculty development can be defined simply as the theory and/or practice of facilitating improved faculty performance (Banta, 1996).

Flipped Classroom—The flipped classroom can be defined as a pedagogical technique that consists of direct technology-based individualized instruction outside the classroom in order to prepare for interactive, cooperative, and student-centered activities within the classroom (Bishop & Verleger, 2013).

Formative assessment—Formative assessment is defined as informal assessment procedures conducted by teachers during the teaching and learning process in order to modify instruction and create opportunities for students aimed at improved learning (Angelo & Cross, 1993; Crooks, 2001). Formative assessments are intended to be low-stakes and are rarely graded with the primary goal of providing instructors with information on what, how much, and how well students are learning (Angelo & Cross, 1993).

Generic Skills—The skills that allow an individual to function in routine or changing work environments (Tribble, 2009). Generic skills, according to Badcock, Pattison, and Harris (2010), incorporate critical thinking, problem solving, and interaction skills, in addition to written communication skills.

Hard Skills—Hard skills are defined as technical expertise and knowledge required for a job that are acquired through the pursuit of formal education or on-the-job training. Examples of hard skills might include mathematic competency, ability to program a computer, or the ability to

weld (Lemke et al., 2003; The Partnership for 21st Century Skills, 2010; Robles, 2012; Wagner, 2008).

Historical Thinking Skills—Historical thinking skills are defined as a set of reasoning skills that students should learn because of studying history skills (Lesh, 2011). Through the process of asking historical questions, gathering and assessing historical information, making historical arguments, and effectively communicating ideas and conclusions, historical thinking skills are developed through critical thinking, problem solving, and other higher-order cognitive skills (Elder, Gorzycki, & Paul, 2012; Lesh, 2011).

Information Literacy—Information literacy is a skill that involves an individual's ability to recognize that information is needed and be able to efficiently locate, critically evaluate, and clearly communicate the information in a responsible and ethical way (AAC&U, 2007).

Lecture—Lecture is defined as a pedagogical method that involves teachers presenting an organized summary of their understanding of the content to be taught and, in some cases, leading class discussions of the subject matter using questions intended to intrigue the students and engage them in the material (Fink, 2013).

Passive Learning—is a pedagogical model that is considered the “traditional class” where the instructor lectures by verbalizing information to passive note-taking students (Lesh, 2011).

Problem Solving Skills—Problem solving is the process of designing, evaluating, and implementing a strategy to answer an open-ended question or achieve a desired goal (AAC&U, 2007).

Skills Gap—The skills gap is the perceived mismatch between the needs of employers for skilled talent and the skills possessed by the available workforce [Economic Modeling Specialists International (EMSI), 2013].

Soft Skills—Soft skills are defined as qualities for employment that do not necessarily depend on acquired knowledge but rather the ability to work with people, desirable character traits, attitudes and behaviors conducive to a work place environment, and the ability to think critically and solve problems (Lemke et al., 2003; Robles, 2012; Wagner, 2008).

Workforce Desirable Skills (or Employability Skills)—Those skills that encompass a wide array of skills which are technical and nontechnical (generic) competencies (Ju, Zhang, & Pacha, 2012, p. 2). Jackson (2013) suggested that employability skills, also known as “professional, core, generic, key, and nontechnical skills,” enhance the work-readiness of graduates (p. 272). Overtom (2000) defined employability skills as the “transferable core skill groups that represent essential functional and enabling knowledge, skills, and attitudes required by the 21st century workplace” (p. 2). Keller, Parker, and Chan (2011) claimed that employability skills are a classification of attributes and skills, in which attributes speak to non-skill related behaviors and attitudes, while skills refer to the ability to carry out a technical task. Employability skills encompass a wide array of skills that include technical and nontechnical (generic) competencies.

Written Communication Skills—Written communication is the development and expression of ideas in writing. Written communication involves learning to work in many genres and styles. It can involve working with many different writing technologies, and mixing texts, data, and images. Written communication abilities develop through iterative experiences across the curriculum (AAC&U, 2007).

Assumptions of the Study

The following assumptions were made for this study:

1. Participants exhibited the population characteristics consistent with the Alabama Community College System.

2. Participants exerted sincere effort and provided honest answers in the completion of the formative assessments and pretest and posttest assessments.

3. After engaging in the faculty development activities and preparation for participation in this study, the participating instructors created comparable instructional environments for both the experimental and control groups.

Limitations

The present study has limited generalizability. The study was conducted using two different Alabama Community College instructors teaching two classes each. Additionally, because of the use of a convenience sample, the students were not selected randomly and participation in the study was voluntary. As a result, the possibility exists that students involved in this study may be atypical of other students enrolled at the respective community colleges and/or the Alabama Community College system as a whole. The study also has limited generalizability because of the relatively small sample sizes employed in this study.

Another limitation to this study is that, because two different instructors had to be employed in order to accomplish the goal of the instructor needing multiple sections of the same course, the instructors are different in a variety of ways. While every effort was made to find two instructors that were as similar as possible, controlling for differences was still difficult. Both instructors received their degrees in history at the same institution and had a similar approach to teaching history with regard to teaching philosophy and historical training. However, the fact remains that they were two different instructors which, at the end of the day, also reduces the ability to generalize this study.

Summary

This chapter introduced the relevant literature, statement of the problem, purpose and significance of the study, the research questions, overview of the research methodology, theoretical framework, and definition of the terms for this study. Business and industry leaders have expressed the need for employees to possess a multitude of 21st century Skills, more commonly referred to as soft skills. This comes at a time of financial uncertainty and increased accountability for institutions of higher learning. To maintain relevance in the uncertain environment of higher education, it is important that community college liberal arts instructors (more specifically history instructors for the purposes of this study) demonstrate that soft skills or workforce desirable skills can be developed in their courses. In terms of instructional innovation, this study focused specifically on the effect of using the flipped classroom as an instructional method in history courses on the development of workforce desirable skills.

CHAPTER II

REVIEW OF THE LITERATURE

Though the United States has arguably the most dynamic and accessible post-secondary education system in the world, future demand for workers with the skills and abilities provided by postsecondary education is projected to outstrip supply. Economists debate the extent and nature of today's "skills gap," but there can be little doubt that the long-term economic and social health of the country is tied closely to the educational attainment of its citizenry. (Bahr et al., 2015, p. 5)

Many educators in the liberal arts sector endorse the view that shaping "the intellectual maturation of young people and widening their cultural horizons has traditionally been the strength and the mission of American undergraduate education" and agree with the assessment that the decline of the liberal arts tradition can only lead to a significant deterioration in "the vitality of intellectual life throughout the broad middle of the academic hierarchy." Against this view, many educators in other sectors argue that colleges and universities have little choice but to adapt to the job-related interests of today's students, and in any event this adaptation allows higher education to contribute more effectively than it once did to the economic life of the country. (Brint, Riddle, Turk-Bicakci, & Levy, 2005, p. 172)

In the United States today, having a college degree increases your likelihood of being employed. According to the Bureau of Labor Statistics (2015), the unemployment rate gradually decreases as the level of educational attainment increases. For individuals with a high school diploma or some college, the unemployment rate is 6%. However, with each successful degree, the unemployment rate goes down. The rates are as follows: Associate's degree 4.5%, Bachelor's degree 3.5%, Master's degree 2.8%, Doctoral degree 2.1%, and with a professional degree, the unemployment rate is only 1.8%. While these statistics certainly look appealing for someone who might be questioning whether or not college is the answer to a secure future, questions of affordability, quality, and outcomes are being asked more than ever. The cost of higher education continues to increase (Baars, 2014; Newfield, 2010; Rhodes, 2010; Viaene &

Zilcha, 2013) and the quality of higher education and student learning outcomes are increasingly being questioned (American Academy of Arts and Sciences, 2013; Arum and Roksa, 2011; Casner-Lotto & Barrington, 2006; Lemke et al., 2003; Kumar, 2012).

With questions of cost and quality being routinely mentioned in current literature and with the current legislative environment, specific disciplines are finding themselves on the defensive. The humanities and social sciences have recently become an option for funding reduction in favor of STEM fields (Baars, 2014; Newfield, 2010; Rhodes, 2010). Furthermore, with increased financial strain, class sizes in humanities and social sciences are being increased, with emphasis being placed on other programs that appear to have a more direct impact on the workforce (Heiland et al., 2014; London, 2014).

With the current popularity of literature about MOOCs (Massive Open Online Courses), some researchers are concerned that this may impact the future of courses that can be taught in a similar fashion in colleges and universities. A MOOC is a class made available over the Internet, usually without charge, to a very large number of people. So, some question that if MOOCs can be taught to hundreds or thousands of people with little interaction from the teacher by way of instructional videos and automatically graded quizzes and exams, then why could certain courses in large institutions not be taught in the same fashion ultimately reducing the need for faculty and resources (Young, 2003)?

Because of trends in higher education with regard to funding, quality, and student outcomes, humanities and social science faculty should be evaluating how they approach their courses and what impact they have on the needs of the 21st century workforce. A variety of groups like The Conference Board (Casner-Lotto & Barrington, 2006), American Academy of Arts and Sciences (2013), the North Central Regional Educational Lab (NCREL) and Metiri

Group (Lemke et al., 2003) have all published research on the skills that today's employers are looking for in college graduates. The reality is that many of the critical workforce skills, as outlined by these reports (many of which overlap), can actually be taught and conveyed through the humanities and social sciences. Combined with a rethinking of instructional methods, current and evolving instructional technologies, and collaborative learning, students in social science and humanities classes can develop the skills that employers desire (American Academy of Arts and Sciences, 2013).

Overview of the Literature Review

There is a great deal of literature presented in this chapter to connect all of the relevant research to this study. The literature review begins a discussion of hard skills versus soft skills and the research that supports employers' needs and desires with regard to these skills. The literature then shifts to the development of the various 21st century skills frameworks that have been created to bridge the relationship and expose the skills gap between workforce needs and educational/workforce preparation. Because the focus on workforce preparation has been particularly prevalent in the nation's community colleges, this chapter reviews relevant literature on community colleges and the students that they serve. As higher education shifts more toward a workforce focus, the role of general education courses, particularly the humanities and liberal arts, comes into question—especially for community colleges. Finally, this chapter concludes with an overview of research on history education, its utility for skills development, pedagogy conducive for skills development in history courses (the flipped classroom being a large part of this research), and the target skills of this study and their relationship to history education.

Workforce Essentials: These Graduates are Missing Something

Starting in the fall semester of 2015, Bishop State Community College, part of the Alabama Community College System, began offering a new course called “Workforce Essentials.” In this newly required course for all new certificates and degrees, student learning outcomes are based on employability skills such as problem solving, goal setting, interpersonal skills, and workplace ethics. The dean of technical education for the institution said that the reason for including the new course was in response to employers reporting that they want employees who not only have the expected technical competencies (or hard skills), but are also able to collaborate with fellow employees and demonstrate basic skills (or soft skills) such as punctuality, work ethic, and professionalism (Dugan, 2015).

Workforce skills, college and career readiness, soft skills, or 21st century skills are different names for the same or similar set of skills that business and industry are identifying as lacking among recent college graduates and new employees (Partnership for 21st Century Skills, 2010). Regardless of the terminology, many employers indicate that the future of America’s workforce is under-prepared for employment. In a survey of over 400 employers across the United States, many respondents believed that their new employees’ skill sets did not match their expectations (Casner-Lotto & Barrington, 2006). Employers also reported that because a number of new employees are underprepared, a great deal of additional corporate investment to close the skills gap is required (Casner-Lotto, Rosenblum, & Wright, 2009). While many employers indicated that their newest employees and potential employees lack skills such as team-building, communication, and project management skills, only an average of 6% of operating budgets include training programs for these skills (McLeman, 2014). Due to the costs and time requirements, there is an expectation of business and industry leaders that the necessary skills to

obtain a job should be taught in the formal education setting as opposed to on-the-job training (Partnership for 21st Century Skills, 2010). Business and industry leaders would rather cooperate with colleges and universities to develop future employees as opposed to conducting their own training programs (Casner-Lotto et al., 2009).

A study by sociologists Arum and Roksa (2011) reported that 45% of undergraduates show no statistically significant gains in critical thinking, complex reasoning, or written communications during their first 2 years of college. Furthermore, they argued that when the success of college graduates with a 4-year degree is analyzed, they might have obtained the technical competencies of their respective major but not the higher-order cognitive skills that are widely assumed that college graduates should have mastered. The authors indicated that this is problematic because the global competitiveness of the United States is unable to reach its potential when the white-collar workforce does not have a rigorous academic experience while working toward a degree (Arum & Roksa, 2011). Wildavsky et al. (2011) compiled and presented a variety of other studies and essays that report that the American higher education system has fallen behind its competitor nations in terms of the quality of credentials. For example, as far back as 1988, Ernest Boyer's *College: The Undergraduate Experience in America* identified many weaknesses in American higher education. Robert Zemsky (2009) reported in *Making Reform Work: The Case for Transforming Higher Education* that higher education in the United States suffers from the systematic problem of unwillingness to change. More recently, Mark Taylor's 2010 report, *Crisis on Campus*, argued that higher education as a whole needs to be revamped, everything from academic programs to faculty tenure (Wildavsky et al., 2011).

The Changing Workforce: A new Century Calls for new Skills

Employers' needs from their workforce have changed over the last 50 years and continue to change. Soft skills have become the focus of literature detailing the deficiencies of new college graduates as they enter the workplace (Arum & Roksa, 2011; Casner-Lotto & Barrington, 2006; The Partnership for 21st Century Skills, 2010). The literature (Arum & Roksa, 2011; Breivik, 2005; Casner-Lotto & Barrington, 2006; Partnership for 21st Century Skills, 2010; Wagner, 2008) suggested that workers in knowledge-based economy need to possess both technical or "hard skills" and general or "soft skills." Soft skills are defined as qualities for employment that do not necessarily depend on acquired knowledge but rather the ability to work with people, desirable character traits, attitudes and behaviors conducive to a work place environment, and the ability to think critically and solve problems (Lemke et al., 2003; Robles, 2012; Wagner, 2008). Hard skills, on the other hand, are defined as technical expertise and knowledge required for a job that are acquired through the pursuit of formal education or on-the-job training. Examples of hard skills might include mathematic competency, ability to program a computer, or the ability to weld (Lemke et al., 2003; The Partnership for 21st Century Skills, 2010; Robles, 2012; Wagner, 2008). The hard skills represent a person's technical skill set specific to certain career fields where soft skills are interpersonal skills and are applicable and important for any career (Parsons, 2008; Robles, 2012).

Bridging Workforce Needs and Education: The 21st Century Skills Frameworks

As early as the year 2000, various groups and organizations have been pushing a discussion about "21st Century Skills" (Voogt & Roblin, 2012). Kyllonen (2013) described 21st century skills as a set of skills or competencies brought on by changes in technology and culture that are in high demand for employees before entering the workforce. Levy and Murnane (2004)

argued that due to the rapid decline in jobs involving routine manual labor, larger elements of the population will pursue jobs that require 21st century skills like complex thinking and communication skills. The National Research Council [NRC] (Koenig, 2011) also argued that the requirements of the workplace have become quite different as information and communication technology has proliferated. As such, the NRC defined 21st century skills as “interpersonal skills,” including social and communicative skills, “intrapersonal skills,” including self-regulatory skills, and “broader cognitive skills,” which include critical thinking and problem solving skills (Koenig, 2011).

In any case, no matter the group or organization defining 21st century skills, there is an almost universal rationale in the reason for publishing research on the subject: changes in workforce demands and needs (Voogt & Roblin, 2012). The workplace is rapidly changing because of the dynamic landscape of technology (Levy & Murnane, 2004). These changes present the unique challenge of not only preparing the future of today’s workforce needs, but also the needs of a workplace or job that has yet to come into existence (Duff, 2008). As a result, future workers should develop skills that are relevant across many fields, associated with higher order thinking and problem solving, and associated with the ability to adapt to new working environments and complex problems or unpredictable situations (Voogt & Roblin, 2012).

The result of this discussion of workplace changes and 21st century skills has been the development of several 21st century skills frameworks aimed at integrating these skills into educational curriculum at all levels (Dede, 2010). Several organizations and consortiums, both public and private, have provided their own interpretations of 21st century skills and how they should be implemented into educational policy. Several of these frameworks included

information and research on the types of teaching, learning, and assessment approaches that should be associated with implementation. There are several well-known 21st century skill frameworks in the literature. The Partnership for 21st Century Skills (2006), for example, published the *21st Century Student Outcomes*. Likewise, Lemke et al. (2003) published the *enGauge 21st Century Skills for 21st Century Learners*. The Conference Board (2006) published *Are They Really Ready to Work?: Employers' Perspectives on the Basic Knowledge and Applied Skills of New Entrants to the 21st Century U.S. Workforce* (Casner-Lotto & Barrington, 2006). According to Dede (2010) and Voogt and Roblin (2012), other frameworks included Assessment and Teaching of 21st Century Skills (2010), National Educational Technology Standards [NETS] (ISTE, 2007), Technological Literacy Framework for the 2012 National Assessment of Educational Progress [NAEP] (2010), and 21st Century Skills and Competencies for New Millennium Learners (Ananiadou & Cairo, 2009). Each of these frameworks presented a selection of skills that business leaders and educators view as critical for the success of students in the 21st century (Dede, 2010).

The Partnership for 21st Century Skills Framework

In 2002, leaders in business and education created the Partnership for 21st Century Skills (or the Partnership). Members of this group included Apple, Inc.; the Association for Supervision and Curriculum Development (ASCD); Cisco Systems; Microsoft Corporation; and the National Education Association (NEA); just to name a few. The Partnership developed the 21st Century Student Outcomes, a framework of the skills, knowledge, and core beliefs that students need to be successful in life and an increasingly complex and technologically based workplace. The original mission of the Partnership was to incorporate 21st century skills framework into K-12

education in the United States (The Partnership for 21st Century Skills, 2010). However, the Partnership for 21st Century Skills (2015) website now lists the mission as

P21's mission is to serve as catalyst for 21st century learning to build collaborative partnerships among education, business, community and government leaders so that all learners acquire the knowledge and skills they need to thrive in a world where change is constant and learning never stops. (Mission section, para. 1)

The 21st Century Skills Framework (2015) is clustered into four areas: (a) content knowledge and 21st century themes; (b) learning and innovation skills; (c) information, media, and technology skills; and (d) life and career skills (The Partnership for 21st Century Skills, 2010). The first area of the framework, content knowledge and 21st century themes, refers to students mastering the various content specific disciplines that they take in the K-12 school setting. These disciplines are (in no specific order) English, reading or language arts, world languages, arts, mathematics, economics, science, geography, history, and government/civics. In addition to these disciplines, “21st century themes” are to be woven into the curriculum. The 21st century themes are global awareness; financial, economic, business, and entrepreneurial literacy; civic literacy; health literacy; and environmental literacy (The Partnership for 21st Century Skills, 2010).

The second area of the framework is focused on learning and innovation skills. This area focused on developing student skills related to creativity, innovation, critical thinking, problem solving, communication, and collaboration. The overarching focus here is on the skills that, according to the Partnership (2015), separate students who are prepared for the workforce and those who are not. For this area, teachers should be teaching students to think critically, analyze information in new settings, communicate their ideas to others, and develop new and innovative solutions as they apply their knowledge of core subject matter and 21st century themes (The Partnership for 21st Century Skills, 2010).

A third aspect of the framework is comprised of information, media, and technology skills. The focus of this aspect is on students being able to access print and non-print resources so they can identify, evaluate, and synthesize critical information. The Partnership (2015) pointed out that because we live in a technology and media-rich environment, students have access to an abundance of information and are faced with rapid changes in technology. The final, and fourth, area of the framework is life and career skills, defined by the Partnership (2015) as the skills needed to navigate a complicated and changing world. Specifically, life and career skills encompass flexibility, adaptability, initiative, self-direction, social and cross-cultural skills, productivity, accountability, leadership, and responsibility. These skills allow students to interact with people of different cultures, adapt to the constant changes of the workplace, continue their learning, and serve as leaders in their workplace and community (Partnership for 21st Century Skills, 2010). The Partnership for 21st Century Skills Framework (2010) is shown in Figure 2.

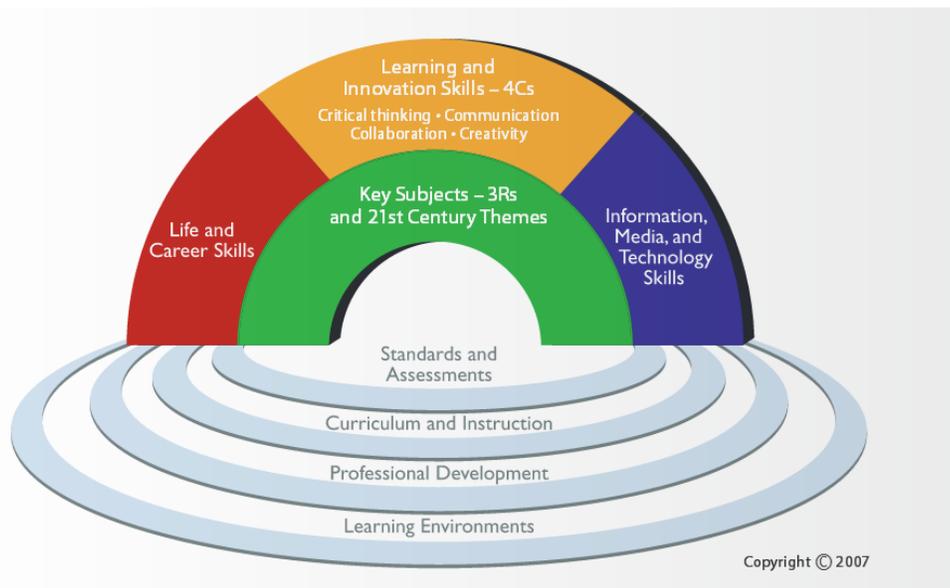


Figure 2. The Partnership for 21st Century Skills Framework

Key Subjects and 21st Century Themes

Mastery of key subjects and 21st century themes is essential to student success. Key subjects include English, reading or language arts, world languages, arts, mathematics, economics, science, geography, history, government and civics.

In addition, schools must promote an understanding of academic content at much higher levels by weaving 21st century interdisciplinary themes into key subjects:

- Global Awareness
- Financial, Economic, Business and Entrepreneurial Literacy
- Civic Literacy
- Health Literacy
- Environmental Literacy

Learning and Innovation Skills

Learning and innovation skills are what separate students who are prepared for increasingly complex life and work environments in today's world and those who are not. They include:

- Creativity and Innovation
- Critical Thinking and Problem Solving
- Communication
- Collaboration

Information, Media and Technology Skills

Today, we live in a technology and media-driven environment, marked by access to an abundance of information, rapid changes in technology tools and the ability to collaborate and make individual contributions on an unprecedented scale. Effective citizens and workers must be able to exhibit a range of functional and critical thinking skills, such as:

- Information Literacy
- Media Literacy
- ICT (Information, Communications and Technology) Literacy

Life and Career Skills

Today's students need to develop thinking skills, content knowledge, and social and emotional competencies to navigate complex life and work environments. P21's essential Life and Career Skills include:

- Flexibility and Adaptability
- Initiative and Self-Direction
- Social and Cross-Cultural Skills
- Productivity and Accountability
- Leadership and Responsibility

Note: Partnership for 21st Century Learning: Framework for 21st Century Learning. Reprinted from *P21: Partnership for 21st Century Learning*, 2016, Retrieved from <http://www.p21.org/about-us/p21-framework>. Copyright 2007 by the Partnership for 21st Century Learning.

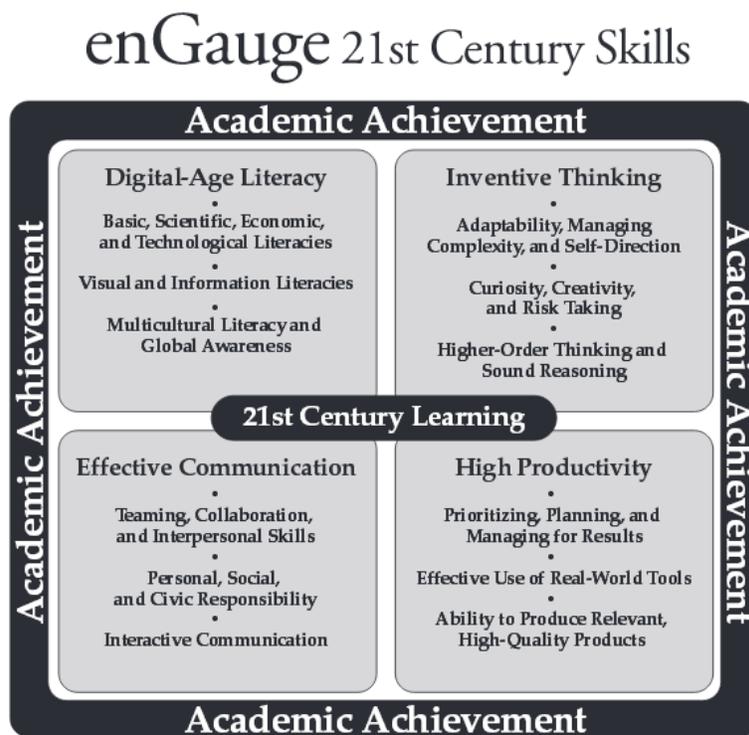
enGauge 21st Century Skills for 21st Century Learners Framework

Created by the Metiri Group and North Central Regional Educational Laboratory (NCREL), *enGauge 21st Century Skills for 21st Century Learners* (Lemke et al., 2003) was designed to give business and educational leaders a common language for the skills needed by students in the 21st century. The authors reviewed literature on the “Net Generation” and workplace trends, analyzed similar 21st century skill sets, and surveyed educators. Lemke et al. (2003) summarized the competencies for future workers being most needed, as identified by the research, in a framework that is clustered into four areas: (a) digital-age literacy; (b) inventive thinking; (c) effective communication; and (d) high productivity and quality, state-of-the-art results. After identifying the skills in each of these areas, Lemke et al. (2003) used research from education and psychology and the researchers’ current instructional practices to develop descriptions of student proficiencies within each area (Lemke et al., 2003).

The first area in the enGauge framework is “digital-age literacy.” This includes basic literacy in reading, writing, and math; visual and information literacies; and 23 multicultural literacy and global awareness (Lemke et al., 2003). According to the framework, a literate person in the 21st century must be able to communicate effectively, understand information in a wide variety of formats, and understand the international and multicultural nature of the workplace. The second area of this framework is “inventive thinking.” Inventive thinking refers to students being able to adapt to new situations and manage complexity; be self-directed; develop habits of curiosity, creativity, and risk-taking; and to think critically (Lemke et al., 2003).

The third area of the enGauge framework is “effective communication skills.” This area encompasses teaming, collaboration, and interpersonal skills; personal, social, and civic

responsibility; and interactive communication. The research associated with this section says that students need to be able to work with other people, take responsibility for their actions, and communicate effectively and ethically using electronic media (Lemke et al., 2003). The fourth and final area in their framework is “high productivity.” This section includes students being able to prioritize and manage their time to maximize their results, use real-world technologies, and create high-quality and effective products. Critical skills also included using current software, hardware, and accessories to develop real-world products that would be suitable for an audience outside of their classroom (Lemke et al., 2003). The enGauge framework (Lemke et al., 2003) is shown in Figure 3.



Note. enGauge 21st Century Skills Framework. Reprinted from *enGauge 21st Century Skills for 21st Century Learners* (p. 5), by The North Central Regional Educational Laboratory (NCREL) and Metiri Group (Lemke et al., 2003).

Figure 3. enGauge 21st Century Skills Framework

Are They Really Ready to Work? Framework

The Society for Human Resource Management (SHRM), The Conference Board, Corporate Voices for Working Families, and The Partnership for 21st Century Skills collaborated on a 2006 study that assessed the perspectives of business and industry on the workforce readiness of American college students. The study, entitled “Are They Really Ready to Work?,” involved surveying more than 400 employers across the United States in a variety of sectors. The survey asked employers how important various “applied” (or soft skills) and “content” (or hard skills) skills were for potential employees entering with a high school diploma, 2-year degree, or 4-year degree (Casner-Lotto & Barrington, 2006).

The majority (90%) of employers indicated that the applied skill sets of oral and written communication, teamwork and collaboration, professionalism and work ethic, and critical thinking and problem solving were “very important” for college graduates. In the top 10 skills rated as “very important,” for both applied and content skills, only 1 content skill (English language) made the list with 88% of employers rating it as “very important.” The other 9 skills in top 10 were identified as “applied” skills including oral communication, teamwork/collaboration, professionalism/work ethic, written communication, critical thinking/problem solving, ethics/social responsibility, leadership, information technology, and creativity/innovation (Casner-Lotto & Barrington, 2006). The Are They Really Ready to Work? Framework (Casner-Lotto & Barrington, 2006) is shown in Figure 4.

Basic Knowledge/Skills	Applied Skills
English Language (spoken)	Critical Thinking/Problem Solving
Reading Comprehension (in English)	Oral Communications
Writing in English (grammar, spelling, etc.)	Written Communications
Mathematics	Teamwork/Collaboration
Science	Diversity
Government/Economics	Information Technology Application
Humanities/Arts	Leadership
Foreign Languages	Creativity/Innovation
History/Geography	Lifelong Learning/Self Direction
	Professionalism/Work Ethic
	Ethics/Social Responsibility

Figure 4. “Are They Really Ready to Work?” Skills Framework

Basic Knowledge/Skills

The term refers to 1.) basic skills which includes *English Language (spoken)*, *Reading Comprehension*, *Writing (in English)*, and *Mathematics*, and 2.) other academic subjects which include *Science*, *Government*, *Economics*, *Humanities/Arts*, *Foreign Languages*, and *History/Geography*. These are the basic skill and knowledge areas normally acquired in school and, for the most part, are the core academic subjects identified by the No Child Left Behind Act (NCLB) of 2001. According to NCLB, core academic subjects is defined as English, reading or language arts, mathematics, science, foreign languages, civics and government, economics, arts, history, and geography.

- *English Language (spoken)*
- *Reading Comprehension (in English)*
- *Writing in English (grammar, spelling, etc.)*
- *Mathematics*
- *Science*
- *Government/Economics*
- *Humanities/Arts*
- *Foreign Languages*
- *History/Geography*

Applied Skills

Refers to those skills that enable new entrants to use the basic knowledge they have acquired in school to perform in the workplace. Applied skills include those based on cognitive abilities, social skills, and behavioral skills. This list of skills was derived primarily from the *Partnership for 21st Century Skills*. In addition, several members of The Conference Board’s Business and Education Council were consulted.

- *Critical Thinking/Problem Solving*
 - ↳ Exercise sound reasoning and analytical thinking; use knowledge, facts, and data to solve workplace problems; apply math and science concepts to problem solving.

- *Oral Communications*
 - ↳ Articulate thoughts, ideas clearly and effectively; have public speaking skills.
- *Written Communications*
 - ↳ Write memos, letters and complex technical reports clearly and effectively.
- *Teamwork/Collaboration*
 - ↳ Build collaborative relationships with colleagues and customers; be able to work with diverse teams, negotiate and manage conflicts.
- *Diversity*
 - ↳ Learn from and work collaboratively with individuals representing diverse cultures, races, ages, gender, religions, lifestyles, and viewpoints.
- *Information Technology Application*
 - ↳ Select and use appropriate technology to accomplish a given task, apply computing skills to problem-solving.
- *Leadership*
 - ↳ Leverage the strengths of others to achieve common goals; use interpersonal skills to coach and develop others.
- *Creativity/Innovation*
 - ↳ Demonstrate originality and inventiveness in work; communicate new ideas to others; integrate knowledge across different disciplines
- *Lifelong Learning/Self Direction*
 - ↳ Be able to continuously acquire new knowledge and skills; monitor one's own learning needs; be able to learn from one's mistakes.
- *Professionalism/Work Ethic*
 - ↳ Demonstrate personal accountability, effective work habits, e.g., punctuality, working productively with others, and time and workload management.
- *Ethics/Social Responsibility*
 - ↳ Demonstrate integrity and ethical behavior; act responsibly with the interests of the larger community in mind.

Note. Are They Ready to Work? Framework. Adapted from *Are They Really Ready to Work? Employers' Perspectives on the Basic Knowledge and Applied Skills of New Entrants to the 21st Century U.S. Workforce* (p. 9, 15-16), by J. Casner-Lotto, L. Barrington. Copyright 2006 by The Conference Board, Inc., the Partnership for 21st Century Skills, Corporate Voices for Working Families, and the Society for Human Resource Management.

The Liberal Education & America's Promise (LEAP) Essential Learning Outcomes

The Association of American Colleges and Universities (AAC&U) launched the Liberal Education and America's Promise (LEAP) initiative in 2005 (LEAP, 2007). The LEAP initiative was developed to support the importance of a "twenty-first-century liberal education" to prepare students to live in a nation that is dependent on "economic creativity and democratic vitality" (LEAP, 2007). LEAP argued that its initiative were designed in response to the demands of the

21st century where college graduates need higher levels of knowledge, intellectual skills, practical skills, and information literacy (LEAP, 2007).

The LEAP initiative is organized around a set of “Essential Learning Outcomes” (ESOs) which they argue are best developed by a contemporary liberal education (LEAP, 2007).

Designed as a reimagining of college learning in the 21st century, the ESOs (see Table 1 below) outline what contemporary college students need to know and be able to do (Loris, 2010). The ESOs provide a framework to guide student learning in order to create citizens who can function in ever-changing economic, political, environmental, global, and cross-cultural contexts (Loris, 2010).

Table 1

LEAP’s Essential Learning Outcomes

Outcome	Content and/or Skills	Ideal Pedagogy
Knowledge of Human Cultures and the Physical and Natural World	Study in the sciences and mathematics, social sciences, humanities, histories, languages, and the arts	Engagement with big questions, both contemporary and enduring
Intellectual and Practical Skills	Inquiry and analysis, critical and creative thinking, written and oral communication, quantitative literacy, information literacy, and teamwork and problem solving	Skills should be practiced extensively, across the curriculum, in the context of progressively more challenging problems, projects, and standards for performance
Personal and Social Responsibility	Civic knowledge and engagement (local and global), intercultural knowledge and competence, ethical reasoning and action, foundations and skills for lifelong learning	Active involvement with diverse communities and real-world challenges
Integrative and Applied Learning	Synthesis and advanced accomplishment across general and specialized studies	Application of knowledge, skills, and responsibilities to new settings and complex problems

Note. LEAP’s Essential Learning Outcomes. Adapted from *College Learning for the New Global Century* (p. 3), by Association of American Colleges and Universities (AAC&U), 2008, Washington, DC: AAC&U. Copyright 2008 by AAC&U.

The ESOs were developed through a multiyear dialogue with multiple institutions of higher education colleges about needed goals for student learning (LEAP, 2007). Additional

influences included an analysis of a recommendations from the business community and accreditation requirements for engineering, business, nursing, and teacher education programs (LEAP, 2007). In an effort to further support the ESOs, the AAC&U developed the Valid Assessment of Learning in Undergraduate Education (VALUE) initiative (Rhodes & Finley, 2013). The AAC&U recruited teams of faculty and educational professionals from various types of institutions of higher education across the country to develop rubrics for 16 ESOs (Maki, 2015; Rhodes & Finley, 2013). The VALUE rubrics provide a way to assess student work where various skills are concerned (Maki, 2015; Rhodes & Finley, 2013). There are individual VALUE rubrics to assess the following skills: Inquiry and Analysis, Critical Thinking, Creative Thinking, Written Communication, Oral Communication, Quantitative Literacy, Information Literacy, Reading, Teamwork, Problem Solving, Civic Knowledge and Engagement—Local and Global, Intercultural Knowledge and Competence, Ethical Reasoning and Action, Global Learning, Foundations and Skills for Lifelong Learning, and Integrative Learning (Maki, 2016).

Different Frameworks, Same Skills

While the terms that are used vary, soft skills, applied skills, and 21st century skills are very much the same in terms of skills that employers deem as most important (Casner-Lotto & Barrington, 2006; Parsons, 2008; Robles, 2012; The Partnership for 21st Century Skills, 2010). As stated above, Casner-Lotto and Barrington (2006) reported that in their surveys administered to prospective employers, the five skills that were most frequently identified as “very important” were professionalism/work ethic, oral and written communication, teamwork/collaboration, critical thinking/problem solving, and ethics/social responsibility (Casner-Lotto & Barrington, 2006). The Partnership for 21st Century Skills (2010) reported that employers have a critical need for employees who exhibit critical thinking and problem-solving skills, ethics and social

responsibility, professionalism and work ethic, creativity and innovation, and lifelong learning and self-direction (Partnership for 21st Century Learning, 2010). Even in graduate education, Salleh, Yusoff, Harun, and Memon (2015) reported that oral and written communication, time management skills, listening skills, critical thinking and problem solving skills, interpersonal skills, and the ability to work with others as the most important soft skills that graduates are expected to have obtained when they enter the workforce. Table 2 shows a comparison of eight different 21st century skills frameworks.

Table 2

Comparison of 21st Century Skills Frameworks and the Target Skills of This Study

Skills Framework	Critical Thinking	Creative Thinking	Ethical Reasoning	Information Literacy	Problem Solving	Written Comm.
Framework 1: Partnership	X	X	O	X	X	X
Framework 2: Ready to Work	X	X	X	O	X	X
Framework 3: Employer Priorities	O	X	O	X	O	X
Framework 4: enGauge	X	X	X	X	X	X
Framework 5: LEAP/VALUE	X	X	X	X	X	X
Framework 6: DQP	O		X	X	O	X
Framework 7: World Economic Forum	X	X	O	X	X	X

Note. X = Skill explicitly mentioned in framework; O = Skill mentioned in explanation of framework; Framework 1 = Framework for 21st Century Learning (Partnership for 21st Century Skills, 2015); Framework 2 = *Are They Really Ready to Work?: Employers Perspectives on the Basic Knowledge and Applied Skills of New Entrants to the 21st Century Workforce*(Casner-Lotto & Barrington, 2006); Framework 3 = *It Takes More Than a Major: Employer Priorities for College Learning and Student Success* (Hart Research Associates, 2013); Framework 4 = enGauge 21st Century Skills (Lemke, 2002; Lemke et al., 2003); Framework 5 = Liberal Education and America’s Promise (LEAP) Initiative by the Association of American Colleges & Universities (Kuh, 2008); Framework 6 = The Lumina Foundation's Degree Qualifications Profile (DQP) Framework (Adelman, Ewell, Gaston, & Schneider, 2014); and Framework 7 = World Economic Forum's New Vision for Education: Unlocking the Potential of Technology Skills for the 21st Century (Luo, Li, Subotic, & Woodward, 2015).

The Lack of 21st^t Century Skills in Alabama: Community College to the Rescue

In a study from The University of Alabama's Center for Business and Economic Research, Addy (2015) identified skills that are deemed as most important for prospective employers in the state of Alabama. Of the extensive skill set compiled by Addy (2015), the top skills that were identified as important for the majority of careers across the state were active learning, active listening, critical thinking, learning strategies, reading comprehension, speaking, writing, and complex problem solving. For higher earning occupations, management of resources, coordination, social perceptiveness, decision making, mathematics, and monitoring were also important (Addy, 2015).

Alabama is faced with the problem of overall low education attainment. As reported by Addy (2015), of Alabamians age 25 and over, 83% have graduated from high school. The national average is 86%. Only 23% of Alabamians have received a Bachelor's degree or higher. Alabama is faced with a skills gap for many of the critical skills that have been identified by business and industry (Addy, 2015). A skills gap is the perceived mismatch between the needs of employers for skilled talent and the skills possessed by the available workforce (Friedman, 2012). The top five skills of particular need for the projected period of 2008–2018 as identified by the skills gap indexes were reading comprehension, active listening, critical thinking, active learning, and speaking (Addy, 2015).

Increasing pressure is being placed on community colleges nationwide to provide workforce training (Phelan, 2014). As for Alabama, the following quote from the Alabama Community College System (ACCS) Chancellor in the Chancellor's Message section of the ACCS provides evidence of this push toward workforce training:

It is essential that we maintain a strong workforce for Alabama to emerge from this economic downturn. National and international businesses continue to look to Alabama

for growth opportunities and a highly-skilled workforce. Small businesses, the lifeblood of our state's economy, count on us to provide skilled workers equipped with new and enhanced skill sets to meet their changing needs. (ACCS, 2015, Chancellor's Message Section)

Community College to the Rescue: What are They and who Goes There?

Between 1965 and 1997, community colleges saw a 78% increase in enrollment from 1.2 million to 5.5 million students (Coley, 2000). In the fall of 2009, some 3,346 community colleges enrolled an estimated 6.8 to 8 million students (American Association of Community Colleges, 2010). According to Cohen and Brawer (2008), students chose community college for a variety of reasons. A primary reason is that students chose community colleges looking for a practical education that would place them in the workforce quickly (Cohen & Brawer, 2008). Students also chose community colleges because they tend to be close to home, have lower tuition rates than 4-year institutions, and ultimately, are usually more convenient to enroll in and attend (Absher & Crawford, 1996). VanWagoner, Bowman, and Spraggs (2005) reported that some students find themselves attending a community college due to "reverse-transferring" after an unsuccessful experience at a university. Finally, because the student populations of community colleges are quite diverse, many students have work or family responsibilities are seeking a student-friendly institution offering flexible course schedules (Bryant, 2001).

Although community colleges have been praised for their diversity, commitment to the community, and their ability to meet the needs of a number of constituencies, 2-year colleges face challenges to overcome the perception that they provide a lower quality education than a university (Handel, 2008). For example, in 2009, NBC introduced a new sitcom entitled *Community*, which focused on a group of community college students who become friends via a Spanish class study group (Schwartz et al., 2009). Several of the main characters in the sitcom represented a negative stereotyping of community college students (Moltz, 2009). The show

presented a few non-traditional students (over the age of 24) who have returned to college for a variety of reasons, but with little direction or purpose (Schwartz et al., 2009). For example, an academically underprepared minority student was attending the college because he was unable to obtain an athletic scholarship elsewhere. A female student was portrayed as having a substance abuse problem stemming from her high school days and was relegated to attend a community college due to a lack of other legitimate choices. The campus was a collection of buildings constructed in what appears to be the late '60s or early '70s architecturally and is lacking few positive aesthetic elements. Overall, the show paints a picture of community college that could potentially be seen as offensive by the millions of students who attend community colleges nationwide (Moltz, 2009; Schwartz et al., 2009).

A number of recent research studies have also found similar examples where negative perceptions of community colleges still linger (Beach, 2012; Handel, 2008). Handel (2008) found that in discussion with teachers and counselors many stated they rarely refer students to their local community colleges. One reason given included the notion that a community college would not present a challenging enough academic environment and, as a result, some parents chose not to send their children to a 2-year institution. Furthermore, Handel (2008) reported that when students were encouraged to explore community colleges as an educational option, parents frequently expressed anger and felt that this encouragement was insulting of the student's academic abilities. This view is supported by Beach (2012) who reported that students attending a 2-year institution perceived their learning to be significantly more deficient than students attending a 4-year institution. Plank and Jordon's (2001) research also expressed a negative view of community colleges in that they referred to attending such an institution as a "talent

loss,” meaning that academically gifted students coming out of high school would find this a “less than challenging” experience.

Several additional criticisms of community colleges also emerged in a nationally drawn random survey conducted by Belden, Russonello, and Stewart (2004). One negative view stemmed from the open admission policy resulting in 48% of respondents thinking community colleges have low standards. This view was reinforced by a large majority (73%) who felt that community college courses are, at least some of the time, easier than the same courses taught in a 4-year institution. Only 19% totally disagreed with the notion that students attended a community college because they are academically inferior. Four-fifths of those responding felt that community college students frequently lacked the necessary commitment to attend a 4-year institution (Belden et al., 2004).

On the other hand, Handel (2008) has suggested that the perception of community colleges primarily serving low-income constituents, reverse-transfer students, first-generation, or minority students is an unfair characterization. In an even more positive light, Boggs (2004) presented research that praised the success of community colleges, referring to them as the “intellectual hubs” of their communities and essential institutions for educating the public and providing the necessary training for jobs in the 21st century (Boggs, 2004). With over one-half of the general public reporting they have either received a degree or at least some service, it is easy to see why community colleges are an important link in the educational system in America (Boggs, 2004).

Belden et al.’s (2004) overall findings demonstrated that the majority of the American public view community colleges as providing good affordable education and training in locations convenient for traditional and non-tradition students alike. Of those responding, 93% found

community colleges to be conveniently located, 89% rated them as providing a high-quality education, 85% good job training, and 82% affordable. Respondents age 40 or older of those having attended a community college tended to have the most positive perceptions. About one-half of the public over the age of 40 felt community colleges were providing a high-quality education compared to 39% in the 18-24 age category (Belden et al., 2004). In support of this positive view, a local study conducted in California found that 43% of 682 students reported they were encouraged by high school counselors to attend a community college, and the majority reported that both their family (69%) and friends (59%) held positive perceptions about community colleges (Coutts & Utter, 2008).

The Continuous Evolution of the Community College

America's community colleges have transformed into comprehensive institutions with a multitude of purposes over the past 100 years (Cohen & Brawer, 2008). Community colleges evolved from a single institution (Joliet Junior College founded in 1901), to over 1000 institutions by the end of the 20th century (Lovell & Trough, 2002). Community colleges now exist in every state and in the Fall 2012 semester, enrolled 45% of all undergraduate students in the United States (Juszkiewicz, 2014). According to Cohen and Brawer (2008), among all of the social forces that contributed to the rise of community colleges, most prominent was the need for workers trained to operate the nation's expanding industries. That said, they defined the comprehensive mission of community colleges as having open student access, collegiate liberal arts and transfer, career education, general education, remedial education, and community education mission functions (Cohen & Brawer, 2008).

In recent years, community colleges have come to the national political forefront due to affordability and opportunities for workforce training (Baum, Little, & Payea, 2011). For

example, the Obama Administration placed a great deal of emphasis on community colleges being a key component of preparing workers to be competitive in the world economy (White House, 2015). In 2012, the flagship of the President's proposed education budget was the \$8 billion "Community College to Career Fund," with the goal to train 2 million workers for jobs in fields such as high-tech manufacturing, clean energy, and healthcare (Simon, 2012; White House, 2012).

Mullin (2012) concluded that the current economic climate and high unemployment rates lend credence to the need for rebalancing the mission of community colleges to focus on returning people to a changing work environment. According to Bumphus (2012), the community college is fundamental as a center for vocational-technical training. Most people view the institution as a venue to help Americans become competitive in a highly educated society to help the economy grow (Bumphus, 2012). The American Association of Community Colleges (AACC) and the Center for Workforce and Economic Development (CWED) have mutual interest in aligning with partners to respond to regional labor market needs (Mullin, 2012). Partnerships have been established in a multitude of fields such as biotechnology, healthcare, chemical process technology, manufacturing, and hospitality (Mullin, 2012).

At the end of the day, the community college has become the institution to serve anyone and everyone, even those who are not prepared for college level work (Phelan, 2014). Mullin and Phillippe (2013) asserted that the community college serves as an easy access starting point on the road to educational attainment for almost anyone. The community college has a mission of developmental education; to provide remediation for students to gain reading, writing, and mathematics competencies and offer support services for students with special needs (Cohen & Brawer, 2008). According to the Melinda and Bill Gates Foundation (2009), nearly 60% of

students will need developmental education before taking college credit courses. Regardless of the level that students find themselves when they start, the community college is seen as the place to start down the path to become knowledgeable, holistic citizens (Dougherty, 2003). Furthermore, many communities depend on the community college to fill the workforce and keep local economies strong (Robinson, 2012).

The Community College Student

Community colleges are known by everyone for the concept of open access (Vaughn, 2006). The demographic characteristics of 2-year students vary in terms of ethnicity, socioeconomic status, age, gender, academic, and employment experience (Miller, Pope, & Steinmann, 2005). According to Juskiewicz (2014), 42% of community college students are the first in their families to attend college and their average age is 29 (with 55% being 24 or older). Of course, because of the wide variety of ages found in the community college classroom, it is not uncommon to see an age range as wide as 16 to 65 (Beck, Joshi, & Nsiah, 2009). Furthermore, 13% are single parents, 12% have disabilities, 6% are non-US citizens, 3% are veterans, and a majority of community college students receive financial aid (Juskiewicz, 2014). Finally, 56% of community college students are part-time students and approximately 60% of community college students work at least 20 hours per week (Provasnik & Planty, 2008).

In terms of race and gender, as the United States becomes more diverse, the community college student body also reflects that diversity (Miller et al., 2005). By proportion, those who identify as Hispanic, Asian, or Black represent the largest growth in community college racial diversity (Cedja & Rhodes, 2004). According to the National Center for Education Statistics (2012), of the approximately 7.7 million community college students, 54% are White, 16% Hispanic, 14% Black, 6% Asian/Pacific Islander, and 11% are other or unknown (Provasnik &

Planty, 2008). With regard to gender, 58% of community college students are female and 42% are male (Provasnik & Planty, 2008).

While community colleges have traditionally been seen as serving underrepresented student populations due to a strong commitment to diversity and an open-door admission policy, according to Garvey, Taylor, and Rankin (2015), the population of students in community colleges we know the least about are those who identify as lesbian, gay, bisexual, transgender, and queer (LGBTQ). While many scholars (Bailey & Morest, 2006; Bragg, 2001; Cohen & Brawer, 2008; Garvey et al., 2015) described community college as the “people’s college” with an inclusive environment for everyone, there appears to be a lack of services for LGBTQ students, an unsupportive or non-inclusive classroom environment, and in some cases, discriminatory attitudes and behaviors (Garvey et al., 2015; Ivory, 2005; Manning, Pring, & Glider, 2012).

America’s community colleges are indeed diverse institutions. Again, that diversity is the result of the community college’s time honored tradition of open access (Mullin, 2012). That being said, community colleges are criticized for relatively low completion rates (Bailey, Jeong, & Cho, 2010). Only about 28% of community college students graduate with some sort of credential within 3 years of initial enrollment (Juszkiewicz, 2014). The number of students who must take at least one developmental course is 80%, with fewer than 25% actually earning a credential within 8 years of enrollment (Bickerstaff & Cormier, 2015). Baum and Ma (2011) found that as acceptance rates in 4-year institutions increased, graduation rates decreased. If community colleges were more selective, retention and graduation rates would likely increase (Mullin, 2012). There is a concern that with such focus on college completion by political and business leaders, community colleges might become less accessible (Mullin, 2012). Because

accessibility is such an integral component of the community college mission and culture, it is unlikely that access will decrease (Mullin, 2012). It appears, at least for the time being, that access to college by route of the public 2-year college will remain intact for anyone who would like to get an education and become more employable (Mullin, 2012).

The strong slant toward workforce training over a traditional “well-rounded” liberal arts education in community colleges has led some to question the future of liberal arts for 2-year institutions (Phelan, 2014). While “academic transfer” is still considered to be part of the mission of a comprehensive community college, growing calls from the political arena to base success on graduation rates brings this part of the mission into question due to low graduation rates among this group of students (Phelan, 2014). As a result, there are several studies that have emerged in recent years that support this aspect of a community college education (Kanny, 2013). In 2013, the American Academy of Arts and Sciences published a document called *The Heart of the Matter* to reaffirm the importance of the humanities and social sciences in community colleges (and American higher education as whole). The report argued that the continued prosperity and security of liberal democracy depends on support of the liberal arts. The academy advocated for greater accountability among community colleges in controlling costs; communicating the importance of a broad, liberal arts education in addition to vocational training; fostering greater integration across curricular domains; sharing best practices; and capitalizing on new information technology (American Academy of Arts and Sciences, 2013). In the book, *The Community College and the Good Society: How the Liberal Arts Were Undermined and What We Can Do to Bring Them Back*, Hanson (2010) asserted the premise that the focus of community college education has moved drastically away from liberal arts education in favor of job training. Jenkins and Cho (2012) argued that in the face of growing publicity for

the importance of community colleges and the related push for their increased supply of vocational or skills-based education, community colleges must not forget their role in providing a liberal arts education. Many students in a significant number of 4-year institutions fulfill their general education requirements at a community college which includes courses from the liberal arts. As such, the community college must continue to provide ample support for the liberal arts as a critical number of current college graduates attended a community college at some point in their academic career (Jenkins & Cho, 2012).

General Education, Liberal Arts, and Social Sciences—“Oh the Humanities!”

General, liberal arts education, in which the humanities and social sciences are core subjects, has historically been associated with private liberal arts colleges and universities that dominated American higher education for many years (Gaff, 1983). Today, since more students attend a variety of institutions like state colleges and universities, state community and technical colleges, professional and technical institutions, and proprietary schools, there is not a guarantee that general liberal arts education was part of every degree program being offered because these institutions were created with several purposes in mind, chief among those being occupational or vocational preparation (Gaff, 1983). Apter (1996) argued that general or a liberal arts education is to develop students by giving them the tools to fully engage in their roles outside of the college setting as moral and ethical citizens.

In 1994, the Association of American Colleges and Universities’ report, *Strong Foundations: Twelve Principles for Effective General Education Programs*, laid out 12 principles for general education programs:

1. The task of general education programs is to prepare students to: understand and deal constructively with the diversity of the contemporary world, a diversity manifested not only in ideas and ways of knowing but also in populations and cultures; construct a coherent framework for ongoing intellectual, ethical, and aesthetic growth in the presence

of such diversity; and develop lifelong competencies such as critical and creative thinking, written and oral communication, quantitative reasoning, and problem solving. . . . (p. 4)

2. Strong general education programs embody institutional mission. . . . (p. 7)
3. Strong general education programs continuously strive for educational coherence. . . . (p. 12)
4. Strong general education programs are self-consciously value-based and teach social responsibility. . . . (p. 18)
5. Strong general education programs attend carefully to student experience. . . . (p. 22)
6. Strong general education programs are consciously designed so that they will continue to evolve. . . . (p. 27)
7. Strong general education programs require and foster academic community. . . . (p. 31)
8. Strong general education programs have strong faculty and administrative leadership. . . . (p. 36)
9. Strong general education programs cultivate substantial and enduring support from multiple constituencies. . . . (p. 40)
10. Strong general education programs ensure continuing support for faculty, especially as they engage in dialogues across academic specialties. . . . (p. 44)
11. Strong general education programs reach beyond the classroom to the broad range of student co-curricular experiences. . . . (p. 48)
12. Strong general education programs assess and monitor progress toward an evolving vision through ongoing self-reflection. (p. 52)

While most students in colleges and universities take some form of general education or core requirements for a degree, there is a debate about what those core requirements should be and how much of those requirements students should take—especially in community colleges (Dadgar & Weiss, 2012). Across the United States, colleges and universities are being forced to make difficult funding decisions with regard to academic programs and faculty (Pehlan, 2014). Many decision makers in higher education are using employer demand and feedback to inform those decisions (Mitchell & Leachman, 2015). In looking at a sample of courses and programs that have been eliminated, there appears to be a disproportionate number that are in both the humanities and social sciences (Newfield, 2010). Exacerbating this issue, as student loan debt has reached alarming levels and employment has become more competitive, simply having a Bachelor's degree no longer ensures that a person will find a job quickly (Razaki, Koprowski, & Lindberg, 2014). In a volatile job market, some degrees have become more employable than

others (Razaki et al., 2014). For example, a Bachelor's degree in engineering or accounting will almost certainly be more employable than a Bachelor's degree in English or sociology (Razaki et al., 2014).

While the humanities and social sciences are still a component of many general education requirements for a wide variety of degree programs, as budgetary problems loom, some social science or humanities courses or programs have been eliminated (Heiland et al., 2014; London, 2014). Kanny (2013) reported that some business and industry leaders have begun to question the value of a traditional liberal arts education in community colleges. In an effort to stay relevant in the current financial and workforce environment, a few institutions have sought to increase enrollment by offering non-traditional course offerings and degree programs with the aim of getting students into the workforce in an expedited manner (Ghosh, Naik, & Xiaolin, 2014; Kanny, 2013). In these particular programs, students may find themselves not having to take traditional liberal arts courses in favor of more career-specific courses or courses that focus entirely on employability skills (Pangle, 2013).

The Discipline of History and Skills Development

The humanities and social sciences encompass a huge cross-section of disciplines (i.e., history, art, literature, economics, philosophy, political science, geography, sociology, psychology, music, etc.) and each discipline has a distinct knowledge base and way of thinking (Conley, 2007). In the discipline of U.S. History, besides a fundamental knowledge of important events and documents such as the Civil War or the U.S. Constitution, students need to develop certain cognitive skills that relate to historical thinking (Bain, 2005; Conley, 2007). Along with possessing factual knowledge and a sense of chronological sequence and causation over time, students need to master tools and ways of thinking that foster a deeper understanding of history.

Given the parade of details and the prevalence of textbook-driven instruction, U.S. History students may get the impression that social sciences are primarily a collection of facts to be memorized and reiterated (Epstein, 1994; Harniss, Caros, & Gersten, 2007; Ketterlin-Geller, McCoy, Twyman, & Tindal, 2003). Regardless of the quality of history textbooks or the traditional history classroom content delivery models, if students are to master complex content, they must move from memorizing facts to making connections that anchor a deeper understanding. When students develop strategies for sorting, processing, and analyzing content, they can develop a working knowledge that makes deeper understanding and historical thinking possible (Conley, 2007; McKeown & Beck, 1994; Nokes, Dole, & Hacker, 2007).

Historians and researchers alike argued that students need training to develop foundational factual, chronological, and causal content knowledge and history-specific ways of thinking (Bain, 2005; Brooks, Aris, & Perry, 1993; Timmins, Vernon, & Kinealy, 2005). There are a wide variety of instructional tools and techniques designed to assist students in acquiring key content knowledge and developing historical thinking skills. Some of these tools and methodologies include cognitive organizers, problem-based learning, issue-centered instruction, and concept-based instruction (Bain, 2005; Brooks, Aris, & Perry, 2014; Timmins, Vernon, & Kinealy, 2005). Each of these methods include processing and analyzing information for the express purpose of learning history (Bain, 2005; Boon et al., 2006; Evans-Stout, 1998; Harniss, et al., 2007; Twyman & Tindal, 2006). In each approach, students are taught to employ a learning strategy to sort and process content, develop analytical thinking skills, and the ability to connect discrete facts heavy details to larger concepts and ideas (Bain, 2005). Discussions of more effective history instruction consistently address critical thinking and problem-inquiry approaches that reflect real-world concerns and interests (Erekson, 2011).

A central theme of reform in social studies education for the past few years has focused on higher-order thinking within contexts that would foster civic responsibility in all students, particularly in the K-12 education (Bower et al., 1999; Lesh, 2011). Osana Tucker, and Bennett (2003) argued that the focus of social studies education is skill of decision making. Memory, Yoder, Bollinger, and Wilson's (2004) research indicated that by using problem-based thinking and inquiry tasks that reflect real-world concerns and interests, students were more likely to develop higher order thinking skills. To successfully engage students in learning history with a critical-thinking and problem-solving approach, Wright (2002) asserted that students need background information, criteria for judgement on the issue, knowledge of key vocabulary, and thinking strategies.

Instructional Approaches in the History Classroom

Wilson (2001) suggested that history classes have a universal reputation for being boring and mind numbing. Downey and Levstik (1998) reported that traditional history instruction includes an over-reliance on textbooks, a dominance of teacher lecture/recitation, and that weekly quizzes and individual assignments are interspersed with films. Goodlad's (1984) comprehensive study on schooling found that students consistently ranked social studies as less important than mathematics, English, or vocational education. In a recent op-ed article from the *L.A. Times*, Grossman (2016) echoed this sentiment by paraphrasing Senator Marco Rubio's comments that welders out-earn philosophers to point out that there is a devaluation of the discipline of history in favor of more utilitarian fields. Contrary to this view, however, research has shown that history instruction can have a significant impact on student learning (Leinhardt, 1988; Monte-Sano, 2008; Murphree, 2015; Newman, 1990; VanSledright, 1997). Morrell and Rogers (2006) reported that history provides the skills for students to study the past, become

members of a literate citizenry, engage in individual analysis, and develop reasoned arguments. Courses in history can give rise to students who are critical thinkers, problem solvers, and are informationally and civically literate (Scholes, 1995).

The barriers that hinder student access and retention in history courses could be rooted in traditional instructional approaches (Bower et al., 1999; Lesh, 2011). Murphree (2015) reported that general education history courses in college and universities have traditionally depended on a lecture-exam model to convey information and evaluate students' understanding of content. Murphree's (2015) assertion supported findings by a number of other research studies (Booth & Hyland, 2000; Maloy & LaRoche 2010; Mascolo, 2009; Trifan 1997). Advocates of instructional approaches that emphasize critical thinking and problem solving identified several challenges that instructors of history indicated that they experienced. Some of these challenges were pressure to cover a broad scope and sequence of content, lack of students' prior knowledge necessary for higher-order thinking, and a lack of student motivation or interest (Ehman, Glen, Johnson, & White, 1990; Memory et al., 2004).

Despite the challenges and limitations of fact-heavy traditional textbook-driven instruction, students' limited prior knowledge, or lack of student motivation, several studies have shown success in the development of higher order thinking skills in the history classroom (Reed & Kromrey, 2001). Harniss et al. (2007) investigated the impact of an experimental middle school U.S. History textbook on content knowledge development. Using a selection of relevant items from the National Assessment of Educational Progress (NAEP) American history tests, the researchers compared the performance of students who received instruction through a traditional U.S. History text with the performance of students who received instruction through a nontraditional textbook with a narrative that included a series of related events and actions to

make the relationships explicit. Harniss et al. (2007) found that students in the experimental group performed significantly higher on the content-specific tests than did the comparison group. Results also showed that students in the experimental group were significantly more actively engaged and significantly less off-task than the comparison group. Finally, they answered significantly more questions correctly and significantly fewer questions incorrectly (Harniss et al., 2007).

Using a quasi-experimental design, Twyman and Tindal (2006) studied the effect of explicitly teaching concept and problem-solving strategies on middle school students' content knowledge, content-based vocabulary development, and problem-solving skills when compared to traditional history instruction using only lectures and textbook-driven reading. To address documented limitations of textbooks in the areas of prior content knowledge and to foster historical thinking and problem solving, Twyman and Tindal (2006) designed a concept-based instruction module to build a knowledge base and develop student-centered strategies for applying the knowledge. Using concepts and attributes as a framework for introducing, delivering, and discussing U.S. History, students could practice organizing content with a structure that explicitly identified connections between larger domain ideas and detailed information from the textbook. Twyman and Tindal (2006) found significant differences on vocabulary and problem-solving measures.

Nokes et al. (2007) also used a quasi-experimental design to investigate the impact of teaching high school students to use historical thinking strategies on U.S. History content knowledge. They randomly assigned eight history classrooms to one of four 3-week interventions: (a) traditional textbooks and content instruction, (b) traditional textbooks and heuristic instruction, (c) multiple texts and content instruction, and (d) multiple texts and

heuristic instruction. Heuristic instruction taught sourcing, corroboration, and contextualization: three definitive sense-making strategies used by historians to construct meaning from historical documents. Nokes et al. (2007) found that students who read multiple texts scored higher on a content test with questions collected from published NAEP and Advanced Placement tests. Students who used heuristics in a document analysis scored better on the content test.

For a history course to be a significant learning experience in terms of workforce skills development, it must engage students in the application of evidence to make reasoned arguments about the past (Lesh, 2011). According to Lesh (2011), the key historical skills of causality, chronology, multiple perspectives, contingency, empathy, change and continuity over time, influence/significance/impact, contrasting interpretations, and intent/motivation led to students developing the skills that employers are looking for such as critical thinking, problem solving, and effective communication. Mandell and Malone (2007) described history as a discipline that encourages students to develop analytical skills, the ability to evaluate and discuss historical materials, and making well-reasoned arguments about past events. The best history courses engage students in the study of historical artifacts and documents which are often contradictory and muddled. Through this process, they produce original work with well-researched and written conclusions (Mandell & Malone, 2007).

According to Bain (2011), the most effective college instructors do the following seven things: (a) create a natural critical learning environment, (b) get the attention of their students and keep it, (c) start with students rather than subject matter, (d) seek commitments, (e) help learners outside of class, (f) engage students in disciplinary thinking, and (g) create a diverse learning experience (Bain, 2011). A major criticism of history is that students do not learn the tools necessary to understand how knowledge is constructed. Instead, history instructors look for

ways to make the content easy to memorize, interesting through stories during lecture, or just fun to learn (Lesh, 2011). While, there is nothing wrong with history being interesting, fun, or easy to memorize, the students must learn to think critically and do some learning through discovery (Mandell & Malone, 2007). History is a field where faculty can strive to achieve Bain's seven characteristics of a highly effective instructor (Bain, 2011). Ultimately, it is possible for history instructors to create learning experiences where students walk away with critical 21st century or soft skills (Bower et al., 1999; Fink, 2013; Lesh, 2011; Mandell & Malone, 2007).

The Sage on the Stage: The Pedagogy of Lecture

In the United States, and worldwide, the lecture is the most common method of teaching adults (Bligh, 2000). Despite an opportunity for change and innovation through technology, educational research shows that the lecture still reigns supreme in terms of instructional methods (Bligh, 2000). The lecture method of teaching is defined as an instructional method where the teacher formally delivers a carefully planned expository address on a particular topic or problem it is traditionally considered the oldest pedagogical form applied to formal education (Newton, Tucker, Dawson, & Currie, 2014). Fink (2013) defined the lecture as teachers presenting an organized summary of their understanding of the content to be taught and, in some cases, leading class discussions of the subject matter using questions intended to intrigue the students and engage them in the material.

Another term for lecture that often appears in research is "direct instruction." According to The Glossary of Education Reform (2013), direct instruction refers to an instructional approach that involves a structured and sequenced presentation of academic content that is delivered to students by the teacher (EdGlossary.Org, 2013). According to Engelmann (2015), direct instruction is a model of teaching where teachers deliver lessons to students in a carefully

prescribed sequence. Schug (2003) reported that direct instruction and lecture are highly effective instructional approaches for the following: (a) delivering clear expectations and learning objectives to students, (b) allowing for the facilitation of classroom discussion and an opportunity for students to ask critical questions about content, and (c) allowing for the teacher to provide instant feedback when students ask questions. Brophy and Good (1984) reported that through direct instruction, teachers are able to maintain a sustained focus on the content, involve all students in a single class at one time, maintain a brisk instructional pace, and provide immediate feedback. Direct instruction also allows teachers to introduce materials with a clear overview, use review and repetition to support learning and memorization, give immediate praise to students who understand the material, and more accurately and instantly gauge student understanding of material being taught, allowing teachers to adjust to the students' needs (Gage, 1978).

There is a great deal of debate about lecture as an instructional method (Bain, 2011). As Bain (2011) stated, "One side in that squabble is convinced that research has proven that lectures never work; the other is often passionately devoted to using the ancient pedagogical device" (p. 98). The reality is that instructors can engage their students with effective lectures that encourage learning and interaction at a high level (Bain, 2011). Teachers can make their lectures more effective by ensuring that they are expressive, clearly organized, providing up-to-date information, summarizing widely scattered material, helping students to build connections between prior knowledge and the material, and adapted to a wide variety of student backgrounds and interests (Lattuca & Stark, 2009). A good lecture presents a coherent set of ideas that help students organize the material that they are learning (Lattuca & Stark, 2009). However, the traditional lecture that lasts the entire class period is simply too long for the attention span of

today's students no matter what their age is (Lattuca & Stark, 2009). As a result, it is more effective for instructors to break lectures into smaller chunks and mix a variety of activities in between those chunks (Lattuca & Stark, 2009).

Research literature on college instruction has raised questions about the effectiveness of lecture or direct instruction method (Fink, 2013). The major criticism of lecture was that it does not promote “active-learning” in the classroom (Fink, 2013). Bonwell and Eison (1991) defined active learning as a pedagogical process that involves students in actively engaging in activities in the classroom that requires them to think about the content and produce evidence of how well they understood the material. Fink (2013) expanded on the concept of active learning by dividing it into two dimensions: experiences and reflection. Experiences involve students actively “doing” or “observing” something in the classroom related directly to the learning objectives. Reflection involves students actively making meaning of what it is that they are learning. It is through reflection that students understand the significance of the material being learned (Bonwell & Eison, 1991; Fink, 2013). Fink's (2013) criticism of the lecture is that if the instructor does not engage in activities that allow students to practice material being learned and receive feedback on that material, that instructor will unlikely be successful in achieving specific learning goals. A straight lecture course with a minimal number of high-stakes assessments creates a disconnect between the learning goals and the teaching and learning activities (Fink, 2013).

The lecture will remain a major part of history instruction (and higher education instruction as a whole) as it has for many years (Bain, 2011; Lattuca & Stark, 2009; Lesh, 2001). However, it is important for faculty to remember that there is a right way and wrong way to lecture in the pursuit of student learning (Lattuca & Stark, 2009). Fink (2013) noted that while

lecture is a convenient method of content delivery, the drawback is that both the lectures and textbooks expose students to the same secondary information. Also, lecture consumes a great deal of class time thus making it difficult for teachers to engage students in rich learning experiences and other activities that would be difficult for students to do outside of the classroom environment (Fink, 2013). Of course, one answer to the lecture problem taking up class-time is to assign readings or activities to be done outside of class before students return for the next class session. Teachers complain, however, that students will not read or complete assignments outside of class and, as a result, they must cover the material while they have the students in the classroom (Fink, 2013). Fink (2013) went on to say that because teachers usually cover the same material in class that students are to read or engage in at home is a major reason why students do not feel the obligation to complete the work outside of class. Then, when students see that the teacher simply covers the material in class anyway, they choose not to do the out-of-class work. Fink (2013) referred to this as a “double-feedback loop.” The key is to make sure that material to be done at home is not covered in class. Also, teachers need to hold students accountable for that information by giving some sort of in-class activity that requires students know the information (Fink, 2013). The “flipped classroom” pedagogy incorporates many of the issues that Fink (2013) discussed as it involves short lectures to be watched outside of class and active learning activities that engage students in the material takes place within the classroom (Fink, 2013; O’Flaherty & Phillips, 2015).

The Sage off the Stage: The Pedagogy of the Flipped Classroom

One of the earliest definitions of the flipped (or inverted) classroom comes from Lage, Platt, and Treglia (2000). The definition said that inverting the classroom is literally having students participate in activities in-class that would have traditionally been done at home.

However, while this definition is technically correct in terms of practice, it can be argued that the flipped classroom has been in existence within educational pedagogies for quite some time through the requirement of students to prepare for class at home in order to engage in lecture content and class discussions more effectively (O’Flaherty & Phillips, 2015). The idea of simple preparation at home does not include other key components that help define today’s flipped classroom. A successful flipped classroom model goes well beyond just having students read content at home and be ready to discuss it in class the next day as the aforementioned definition would suggest (Bergmann & Sams, 2012a). An updated and more appropriate definition of the flipped classroom is that it is a pedagogical technique that consists of direct, technology-based, individualized instruction outside the classroom in order to prepare for interactive, cooperative, and student-centered activities within the classroom (Bishop & Verleger, 2013).

The flipped classroom involves a change in traditional student and teacher roles (O’Flaherty & Phillips, 2015). Students spend their time in class actively applying what they have learned at home which adds an active-learning component to the class (Kreutzer, 2009). In the flipped classroom, the teacher provides out-of-class activities that are usually knowledge based. These activities include, but are not limited to, video lectures recorded by the instructor, recordings that use images with the instructor discussing them, podcasts, or a learning object or module in which the student interacts with a certain amount of content and takes a short quiz at the end (Heng Ngee, 2014; Kreutzer, 2009). O’Flaherty and Phillips (2015) also found that most flipped classroom literature indicates that the most common form of out-of-class activities included pre-recorded lectures in the way of podcasting, vodcasting, screencasts, or annotated notes with captured video. Additionally, many instructors also use interactive videos that have been posted by others (O’Flaherty & Phillips, 2015). The key is, however, that technology is

used to deliver the content that students will consume at home. It is not technically a flipped classroom if students are only reading at home as there is no teaching or instruction involved in the out-of-class learning experience (Bishop & Verleger, 2013).

For the in-class portion of the class, students spend time interacting with each other and the instructor. The most common in-class activities and assessments, implemented to have students demonstrate learning of the content or skill development, include collaborative activities like presentations or discussions, role-playing activities, and debates (O’Flaherty & Phillips, 2015). Other activities and assessments include think-pair-share activities, quizzes using classroom response systems, and other forms of real-time formative assessments that provide instant feedback (O’Flaherty & Phillips, 2015). The in-class activities will likely vary per discipline, but a few key components are usually present. The first component is collaboration. Through the process of collaboration, students are interacting with each other, the content, and the instructor to produce something or solve a specific problem. Another component includes discussion. Students must spend time discussing the content with each other, as well as the instructor. Finally, a last component includes presentation. Oftentimes, students will present whatever they have produced or answered and, in some cases, even debate about controversial topics in front of the class (Heng Ngee, 2014; Kreutzer, 2009; O’Flaherty & Phillips, 2015).

The instructor’s role in a flipped environment requires engagement with the students during the in-class time. The instructor becomes a “facilitator” as opposed to an authoritarian instructional figure. This engagement occurs through facilitating the in-class activities, answering questions, providing motivation and guidance, and providing quick feedback (Bland, 2006). In order for this new role of instructors to be effective, instructors must spend a great deal of time preparing the out-of-class activities and setting up the in-class activities (Heng Ngee,

2014). Young (2009) said that this is difficult for instructors to make this role change because they can no longer rely on a prepared lecture or practiced presentation. They must be essentially on the spot as students ask questions and engage in the in-class activities (Young, 2009).

Its proponents often praise the flipped classroom because they argue that it is a pedagogical method where students take responsibility for their own learning, thus developing critical thinking and problem-solving skills (O’Flaherty & Phillips, 2015). Murphree (2015) reported that students generally preferred the flipped classroom model and produced higher scores on posttests with regard to general content knowledge as compared to students who were in a traditional lecture/exam model of history instruction. For maximum effectiveness, students must be given clear expectations with regard to a flipped or inverted course. Students must understand that it is critical for them to take responsibility for out-of-class expectations and assignments (O’Flaherty & Phillips, 2015). A student who is familiar with a teacher-centered lecture environment that requires them to sit quietly and take notes is often uncomfortable when exposed to a flipped classroom environment (Gilboy, Heinerichs, & Pazzaglia, 2015). Several research studies reiterated that self-direction is an important skill that students can develop from this change (Gannod et al., 2008; Gilboy, Heinerichs, & Pazzaglia, 2015; Weimer, 2013). The function of content and process of evaluation must also change and this can be difficult for both teachers and students (Weimer, 2013). Finally, with regard to evaluation, teachers must choose forms of assessment beyond quizzes and exams. Evaluation should include more peer evaluation and constant teacher feedback (Weimer, 2003).

With the flipped classroom, a great deal of pressure is now placed on students to complete the out-of-class expectations so that they are prepared for class the next day (Weimer, 2003). As opposed to the instructor solely being responsible for the transmission of information

during class, students are now responsible for watching, listening, and interacting with all of the required content outside of class (Weimer, 2003). Finally, it is important that teachers avoid the double-feedback loop when planning both in-class and out-of-class time and ensure that the content to be covered at home will not be repeated in class and that students must use the material to engage in the active-learning portion of the class (Fink, 2013).

While it is difficult for students to make a transition to a student-centered classroom model, it is often difficult for teachers as well (Gilboy et al., 2015). Weimer (2003) presented five issues that must be addressed when making switch to a student-centered environment. The issues are change in the balance of power, change in the role of the teacher, student responsibility for learning, function of content, and purpose and process of evaluation. For many teachers, changing the balance of power can be difficult. Giving students a more shared role in course activities and content can be uncomfortable for teachers (Weimer, 2003). Additionally, teachers moving from being the central figure of the classroom to a facilitator role is contrary to what many teachers see as their place in the classroom (Weimer, 2003).

Developing the Faculty: Overcoming a Resistance to Change

Generally speaking, many faculty members are resistant to change (Caruth, 2013). The thought of change creates a great deal of discomfort among higher education faculty for a variety of reasons: faculty feel that a suggestion of change is an indication that the current structure is defective and needs change, they see change as a potential loss of meaning and tradition, or it is the fear of failure when a new system or procedure is implemented (Caruth, 2013). However, with technological advances, the way we produce and disseminate knowledge, and rapid globalization, institutions of higher learning must adapt and while faculty can be resistant, they must adapt as well (Caruth, 2013). Therefore, it is important for faculty members to develop the

ability to cope with change and learn ways to develop and improve as educational professionals (Caruth, 2013).

Definition of Faculty Development

Faculty development can be defined simply as the theory and/or practice of facilitating improved faculty performance (Banta, 1996). Steinert (2000) defined faculty development as any type of activity that is aimed at assisting faculty within their various roles. Similarly, Stes, Min-Leliveld, Gijbels, and Van Petegem (2010) defined faculty development as an activity that faculty engage in that will help them to become more effective at all aspects of their role as college or university educator. Taylor and Rege Colet (2009) referred to faculty development as activities that faculty engage in that are designed to improve teaching and student learning outcomes. Hoekstra and Crocker (2015) expanded on these definitions to include aspects of professional learning for faculty such as research and administrative tasks. Hoekstra and Crocker described quality faculty development and training as a continuous and systematic process. As a result, faculty development is frequently seen as a critical part of an institution's major short- and long-term goals (Hoekstra & Crocker, 2015). Research on faculty development conducted by Bandiera, Lee, and Foote (2005) found that development initiatives should be interactive and include opportunities for practice.

Appropriately and strategically planned faculty development programs can encourage a culture of continuous improvement, innovation, and a focus on teaching (Eib & Miller, 2006). Research showed that faculty often view quality faculty development as an opportunity to refresh skills and renew thinking (Menges, 1985). Sorcinelli and Austin (2006) found that many programs for faculty development are largely aimed at improving the quality of the educational process by working intimately with faculty. Research by Eleser and Chauvin (1998) indicated

that developing faculty is an important process in achieving student learning outcomes. In order to reach this goal, faculty in all sectors of higher education must be motivated to engage in development activities for the purpose of improving classroom instruction, thus potentially leading to improving student learning outcomes (Eleser & Chauvin, 1998). Eleser and Chauvin (1998) also researched the perceived needs of full-time faculty. The results showed that full-time faculty place the greatest emphasis for development on improving their instructional skills and maintaining knowledge in their teaching field. Upon reviewing faculty development programs, Steinert (2000) concluded that computer-based faculty development as a possible solution to time constraints placed on faculty members and a way to share resources. The major issue noted with these conclusions was potential isolation and losing sight of the value of working with closely with colleagues (Steinert, 2000).

Designing Faculty Development Programs

Berquist and Phillips (1975) developed a comprehensive model of professional development based on the assumption that change takes place on three levels: personal development (attitude), instructional development (process), and organizational development (structure). In the proposed model, instructional development (curriculum, teaching, and training) is deemed a primary component of faculty development while personal development (faculty growth), and organizational development (institutional improvements and decision making for faculty and staff) are identified as secondary (Berquist & Phillips, 1975; Centra, 1978).

According to research conducted by Sorcinelli and Austin (2013), effective faculty development programs often lead to change in life goals and values, translating to improved relationships with colleagues and students. Professionally, and from an institutional standpoint,

in order to effectively affect student learning, faculty development outcomes need to meet a multitude of faculty needs such as learning new technology, assessing student learning in new ways, and connecting to community (Sorcinelli & Austin, 2013).

Faculty development outcomes resulting from face-to-face delivery, an online mode of delivery, or from a blended-learning experience can result in varying perceptions. These perceptions can differ based on tenure of participants, content and quality of the development activity, and interaction with peers among other factors (Janicik, Kalet, & Zabar, 2002). According to research conducted by Hiser (2008), online faculty development provided an opportunity for new and seasoned faculty to experience growth relative to their area of specialization and/or areas of improvement and provides an outlet for sharing experiences and seeking assistance.

A blended learning professional development course utilizing face-to-face interaction and a videoconference system was designed to bring together teachers from more than 15 institutions of higher learning in Bucharest with varying degrees of technical experience in web-based learning systems. Results found that faculty experienced “flexibility, access, and degrees of freedom not possible in the face-to-face environment” (Mironov, Borzea, & Ciolan, 2012, p. 231). By contrast Owston, Wideman, Murphy, and Lupshenyuk (2008) conducted an evaluation of three blended professional development programs for design and implementation, active participation, change to classroom practice, and impact on students. Results indicated participants gained new technological knowledge, sought out new ways to engage students and utilize newly learned teaching practices, and perceived greater student engagement. However, participants felt isolated during the asynchronous discussions. Interviews with participating faculty revealed that there was shared value in the overall experience, yet perception that the

face-to-face component was the most important component of the overall program to increase confidence and professional growth (Owston et al., 2008).

In order to determine if the mode of delivery for faculty development programs would affect understanding of the course content, Dillon, Gengler, and Olson (2008) developed a professional development course offered to participants in both an online and face-to-face format. Participants in the online course spent less time in the course but more time on course content while participants in the face-to-face course spent more time on discussion. Results found no significant differences regarding increases in knowledge base or if new information learned would be used; in addition participants in both modes of delivery reported significant learning gains (Dillon et al., 2008). Fishman et al. (2013) measured change in faculty teaching behaviors and efficacy beliefs resulting from engagement in online faculty development compared to faculty development delivered in a face-to-face format. Though no overall significant differences were found between the modes of delivery in regard to change to personal beliefs or teaching beliefs, results did find improvement in content knowledge for both modalities. Results also found that faculty who engaged in the online faculty development program more likely to “make connections” relative to delivery of curriculum (Fishman et al., 2013).

Faculty Development, Adult Learning Theory, and Transference of Learning

Learners, particularly adult learners, need to see that what they are learning makes sense in order to become motivated in learning and engage in learning activities that are challenging and create meaning (Wlodkowski, 2003). Basic principles of adult learning can assist in the design of professional development modules (Cranton, 1996). For example, knowing that adults want immediate application of new learning to real-life situations, the modules should reflect the

teaching strategies that can be applied directly to the classroom (Briton, 1996; Cranton, 1996). In addition, understanding that adults want to know why they need to know something before engaging, the modules should clearly identify the course learning outcomes prior to the start of the course (Briton, 1996; Cranton, 1996).

Lawler and King (2000) presented six adult learning principles to guide professional development: “create a climate of respect, encourage active participation, build on experience, employ collaborative inquiry, learn for action, and empower the participants” (pp. 21-22). A study of three online faculty development modules specifically designed to improve reading instruction for K-3 teachers was conducted by Roskos, Jarosewich, Lenhart, and Collins (2007). In terms of instructional design, all modules mimicked a “show and tell” didactic pedagogy. The emphasis on information presentation was largely facts and figures (receptive). Sensory design was the strongest component in all modules, achieving the goal of motivation to engage and hold attention (Roskos et al., 2007).

According to Lieb and Goodlad (2005) adults have specific needs as learners that are different from that of children. As a result, they identify four critical elements of learning to be most successful in teaching adults. Those elements are motivation, reinforcement, retention, and transference. With regard to motivation, if the adult learner does not recognize the need for the information being conveyed, it is unlikely that the instructor was successful in creating “transference of learning,” the ability of the learner to use information that is being taught in a new setting (Lieb & Goodlad, 2005). Haskell (2001) described transfer of learning as the application of what is learned to new and different contexts and then extending that learning to new situations. Prawat (1992) described transfer of learning as the facilitation of movement of lower-level acquisition of facts and skills to a more complex mastery of skills and knowledge

(Prawat, 1992). In terms of the college classroom, research by Barr and Tagg (1995) suggested that colleges do not just deliver instruction, rather they produce learning grounded in part by construction of knowledge that is shaped by individual experience, with faculty as the designer of the learning experience (Barr & Tagg, 1995). From a purely theoretical standpoint, the behaviorist view of learning transfer encompasses the association between stimulus and response, taking into account similarity between situations (Leberman, McDonald, & Doyle, 2006). The constructivist viewpoint is that knowledge and learning strategies gained from engagement in faculty development can be applied to the classroom as a result of the similarity in methods of delivery, applicability of new and existing knowledge, and connecting academic and experiential knowledge to real-life experiences.

For successful transfer of learning for faculty, they should be willing to change and implement knowledge gained from professional development with a belief that they could make changes that will positively influence teaching effectiveness (Egan, Yang, & Bartlett, 2004; Haskell, 2001). To be most successful, an instructor sees transfer of learning as a dynamic process that requires learners to actively choose and evaluate strategies, consider resources, and receive feedback (Bransford et al., 2000). Successful learning transfer is based on the knowledge individuals bring to the learning situation and on building upon that existing knowledge (Bransford et al., 2000; Wlodkowski, 2008). “Direct application of learning” (DA) is the ability to directly apply one’s previous learning to a new setting or problem while “preparation for future learning” (PFL) shifts learning transfer thought processes to explore people’s ability to learn in knowledge-rich environments and relates that knowledge to previous experience (Bransford & Schwartz, 1999). Both DA and PFL concepts are in sync with adult learning theories. With this in mind, Bransford and Schwartz (1999) reported that adults seek

the immediate application of learning, show a readiness to learn on a problem-centered orientation, and frequently draw from personal experience in order to create new learning (Bransford & Schwartz, 1999; Knowles, 1973). Strategies of professional development that begin with the intention of learning transfer combined with the appropriate support and resources that assist in making learning last will likely see a great deal of success in learning objective achievement (Wlodkowski, 2008).

Success in Faculty Development

In a basic sense, enthusiasm for teaching can be tied to real and perceived opportunities for career growth and success in professional development (Menges, 1985). However, motivation for effective teaching is critical, provides a significant contribution to student achievement, and ultimately, is one of the four critical elements of learning (Lieb & Goodlad, 2005). Without motivation, faculty members may be less likely to engage in development opportunities and be enthusiastic about learning new skills and strategies that can be applied to improvement in classroom instruction (Ray, 1992). In clinical settings, as with adult learners, self-efficacy comes into play as educators must believe they possess the appropriate knowledge and perceive a need to improve in order to be motivated to learn (Skeff et al., 1997). A study of business faculty in higher education was conducted to examine how adjunct faculty differ in their desire for professional development (Backhaus, 2009). Results revealed that the faculty who aspire to a full-time tenure position has stronger beliefs that faculty development would help them improve both their teaching and research. Low interest in faculty development was discovered from the group of adjunct faculty who did not desire a full-time position, calling into question the need for a faculty development program tailored to motivate this group of faculty (Backhaus, 2009).

According to Newstrom (1986), the workplace environment and overall involvement of the supervisor can create significant barriers to learning transfer leading to a lack of success in learner achievement of outcomes. Thomas (2007) found that barriers to learning transfer varied. For example, with regard to learner characteristics, barriers were identified as a lack of both foundation knowledge, personal motivation to learn, or a lack of confidence to make change occur (Thomas, 2007). Thomas (2007) also noted a lack of support from supervisors or peers as a barrier to learning transfer. Faculty in higher education generally appreciated when discussion surrounding best practices takes place, whether in an individual or a group setting, with their supervisor or peers, such as during a training follow-up, faculty meeting, or in-service session (Thomas, 2007).

Findings from a study by Merriam and Leahy (2005) to encourage successful learning transfer revealed that learners should be included in the program planning, strategies for learning transfer should be built into the program, and a supportive work environment should be developed to enable learning transfer to occur. Baldwin and Ford (1988) presented a framework for examining learning transfer that specifically identifies the work environment, namely supervisory support and reinforcement, as imperative for success. Also, providing opportunities and encouragement for employees to utilize skills learned is an important component of learning transfer success (Baldwin & Ford, 1988).

Implementing the Flipped Classroom Model

The proliferation of learning technologies is largely what has made the flipped classroom possible as a pedagogical tool (Mazur, 2012). Learning management systems, Web 2.0 technology, and several forms of media that allow video and audio production have all contributed to creating a conducive environment for the incorporation of flipped classroom

instruction (Means, Toyama, Murphy, Bakia, & Jones, 2010; Reynard, 2009). The flipped classroom model is increasingly being seen as a way to combine available technologies to create a more student-centered or active learning environment (Mazur, 2012). As discussed earlier, in a flipped classroom model, students spend their time outside of class learning content through lectures on video or other interactive content and in-class time is spent interacting with the learned content through application and collaboration (Kreutzer, 2009). The flipped classroom is significant for use in community colleges because it adds a practical, active-learning instructional component to a multitude of disciplines that are currently being taught primarily with traditional lecture (Maloy, Edwards, & Evans, 2014). The flipped classroom is particularly practical because the technologies involved in the process is readily available and offered to faculty and most institutions of higher learning (Maloy et al., 2014). Another advantage of the flipped classroom is that because it involves more active learning, community college instructors have an opportunity to help students develop more 21st century workforce skills during class-time (O'Flaherty & Phillips, 2015).

Skill Development in Class: It's all About That Flip, 'Bout That Flip, no Lecture

Faculty in the social sciences perceive that helping students develop higher-order thinking skills as an important student learning outcome (Angelo & Cross, 1993). Angelo and Cross (1993) found that faculty members' discipline has a great deal of influence on how they teach. Angelo and Cross also found that teaching priorities and how the teaching role is viewed are also significantly different by discipline. Finally, they concluded that the discipline a faculty member teaches has more of an influence on teaching than does the place or institutional level, either 4-year or 2-year (Angelo & Cross 1993). In a study using the Teaching Goals inventory, social science faculty had the highest mean cluster score in both 4-year (43%) and 2-year (45%)

for perceiving their teaching goal as higher-order thinking skills. Also, in the same study, social science faculty members indicated that two of their top three teaching goals was the development of skills in application of principles and thinking for oneself (Angelo & Cross, 1993).

Social science courses can be conducive for the development of 21st century skills if faculty members are willing to change their instructional approaches (Abbiss, 2013). While lecture will likely always play a role in the college classroom, engaging students with interactive and collaborative activities can create an environment favorable for the development of workforce desirable skills (The Partnership for 21st Century Skills, 2010). Within a wide variety of disciplines, asking students to collaborate, develop, solve problems, and present helps them to develop critical thinking and problem-solving skills, written and spoken communication, teamwork, creativity and innovation, and information and media literacy. What is particularly important with regard to skill development is the types of activities in which students actively engage (Bean, 2011).

The flipped classroom approach is favorable for the development of critical thinking and information literacy skills because students spend in-class time actively engaging in knowledge construction through focused interactions with peers and teachers (Bergmann & Sams, 2012a; Kong, 2014; Missildine et al., 2013). Through interaction, class time involves collaborative learning activities, brain-storming activities, hand-on activities, and almost instant feedback from teachers and peers (Bergmann & Sams, 2012b).

Previous research on flipped learning has shown increased academic performance as measured by improved examination results, improved pretest or posttest scores, or improved overall course grades (Fraga & Harmon, 2015). Additionally, research (Fraga & Harmon, 2015) indicated that the flipped classroom increases student attendance and overall student satisfaction

with the course (Fraga & Harmon, 2015). Qualitative literature indicated that there is an increase in students developing workforce desirable skills such as the ability to work in teams, effective communication and interpersonal skills, student empowerment, independent learning, and problem-solving skills (O’Flaherty & Phillips, 2015). In a study looking at an inverted classroom in upper-division engineering courses, students showed statistically significant improvement in their understanding of engineering concepts (Mason, Shuman, & Cook, 2013). Kong (2014) found a statistically significant increase in the overall performance on assessments of information literacy in flipped classrooms versus traditional teacher-centered instruction. Additionally, in the same study, students showed a statistically significant increase in performance on assessments of critical thinking in a flipped classroom versus the teacher-centered approach (Kong, 2014).

A Framework for the Development of a Student-Centered Classroom

Knowlton (2000) developed a framework for a student-centered online classroom that can be applied to a flipped learning model. This framework is grounded in constructivism and requires that the students are involved in active learning. Knowlton used Connelly and Clandinin’s (1985) model of the classroom situation to illustrate his definition of the student-centered classroom. In this model, the pedagogical orientation of the classroom is divided into three categories: things, people, and processes. In a student-centered, constructivist classroom, “things” refer to sources that students may use to develop a new perspective in their effort to master the course content. “People” refer to the roles of the student and the instructor. In a student-centered classroom, the roles are dynamic with the students becoming active participants in their own learning as mentored, coached, or facilitated by the instructor. “Processes” refer to the pedagogical actions that take place in the classroom. In a student-centered environment,

students engage in collaborative and problem-based learning activities with the instructor facilitating instead of lecturing to a classroom full of passive learners (Anderson, 1998; Connelly & Clandinin, 1985; Jonassen et al., 1995; Kearsley & Shneiderman, 1998; Knowlton, 2000; Savery & Duffy, 1995).

Knowlton's (2000) goal for the classroom environment was for students to have meaningful learning experiences. Knowlton defined a meaningful learning experience as one where the knowledge learned has value to the learner. More specifically, it is knowledge that can be used in everyday or career application and which the learner incorporates into their thinking, feeling, or doing (Fink, 2013; Knowlton, 2000). Technology is important to this classroom model. The focus must be on learning more so than the technology itself. Here, the focus is entirely on the learner's experience with technology serving only to support the learning. Additionally, the technology should function as efficiently as possible as to not take away from the content (Knowlton, 2000).

The model of the student-centered classroom as developed by Knowlton (2000) is related to the concept of active learning which is grounded heavily in constructivist theory. Simply put, active learning is learning while doing (Cooperstein & Kocevar-Weidinger, 2004).

Constructivism is a theory that elaborates on the concept of students actively constructing knowledge through interaction with their environments and connecting with prior knowledge and experiences which lead to learning and the acquisition of new concepts (Marlowe & Page, 2005; Vygotsky, 1978). Bruner (1985) built upon this idea by arguing that using prior experiences to construct knowledge creates a valuable learning experience. Using knowledge to experience and manipulate content is what encourages significant learning to occur (Bruner, 1985). Students

being actively involved and engaged in higher-order thinking tasks are critical to create the ideal active learning environment (Bonwell & Eison, 1991; Cooperstein & Kocevar-Weidinger, 2004).

Active learning is an important component of success in a flipped classroom (Baepler, Walker, & Driessen, 2014; Freeman et al., 2014). Students must be actively involved in critical thinking and problem-solving activities during in-class time for the flipped model to be a true success (Noonoo, 2012). Active learning is a major component to ensure that the classroom moves from a teacher-centered environment to a student-centered environment (Bergmann & Sams, 2012a; Knowlton, 2000). Students must take an active role in the learning process if teachers hope to develop key skills such as critical thinking, effective communication, teamwork, and other 21st century skills (Toto & Nguyen, 2009).

Where to Begin in the Flipped Classroom Development

Fink's (2013) book, *Creating Significant Learning Experiences: An Integrated Approach to Designing College Courses*, provided an integrated course design model that is compatible with designing a class using the flipped classroom model. Informed by a great deal of literature on instructional design, the model provides a sequential process for course design. In summary, there are five key elements that must be present for an effective college course: (1) determining the course's situational factors, (2) identifying the specific learning goals, (3) identifying the kinds of feedback and assessment that was used, (4) designing the various teaching and learning activities that will take place, and (5) evaluating the course to determine if elements 1-4 are connected and integrated effectively (Fink, 2013).

When trying to integrate active learning and skills development into a course, the teacher must identify the learning goals, or more specifically, identify exactly what they want the students to know when they finish the course (Fink, 2013). Once this has been done, the teacher

can then determine the different forms of assessment that are to be used in the course. Feedback and assessment are important in the learning process for a number of reasons. In its simplest form, feedback is what teachers give students to help them understand how well they are learning the material (Ferguson, 2011). Feedback and assessment have an overall effect on the approach students take to a class and determines how much they study or work for the class (Gibbs & Simpson, 2004). Feedback and assessment are central to the learning process because students need to understand how they are performing (Black & William, 1998). For feedback to be particularly effective in the learning process, it must be timely, detailed, legible, easy to understand, and given on a regular basis (Carless, 2006; Ferguson, 2011).

Once the assessment and feedback for the course have been determined, instructors must then determine the teaching and learning activities (Fink, 2013). In the case of flipped classroom, short lectures that students are to watch at home would be one of those teaching and learning activities (Fink, 2013; Mazur, 2012; O’Flaherty & Phillips, 2015). Short video lectures deliver the content students need to know to be prepared for the active learning component of the course (Fink, 2013). In class, determining activities that reinforce the learning goals that the instructor has set forth can be challenging (Fink, 2013). Fink (2013) asserted that for learning activities to be successful in helping students develop target skills they must be experiential, or have the students be involved in “rich learning experiences” where they are doing something with the material learned at home, and involve an opportunity for students to regularly reflect on what they have learned overall (Fink, 2003).

The Assessment of Skills Development: To Rubric or not to Rubric?

With regard to the flipped classroom course design, there is a great deal of debate over how to measure and assess employability skill outcomes in the higher education classroom

(Riebe & Jackson, 2014). Measures of skill attainment that focus on individual achievements are often based on graduate self-reporting (Andrade & Valtcheva, 2009; Leach, 2012; Riebe & Jackson, 2014). While this method of assessment has merit because self-reflection on skill attainment can provide useful information, there is a great deal of criticism over concerns that students are unable to reliably assess their own skill development (Andrade & Valtcheva, 2009). If students lack confidence or lack perceived ability, they are unable to accurately self-assess their own skill development (Leach, 2012). Peer assessment is emerging as a means of measuring student attainment of workforce desirable skills. However, there is concern over inaccuracy, lack of reliability, or inflated perception of skill development (MacDonald, 2011). The conceptualization, development of instruction, and assessment methods for employability skills are notorious for being difficult to measure reliably for success (Hammer & Green, 2011; Phillips & Bond, 2004;).

Emerging evidence indicated that the use of rubrics for measuring skill outcomes has been gaining ground (Harvey, Bauseman, & Bollinger, 2012; Riebe & Jackson, 2014). A rubric is defined as an evaluation tool or set of guidelines used to promote the consistent application of learning outcomes or to measure their attainment against a consistent set of criteria (Stefl-Mabry, 2004). Rubrics are largely recognized as an acceptable measurement of student performance. They allow the instructor to be consistent in the evaluation process, especially for subjective measures in the classroom (Riebe & Jackson, 2014). Rubrics represent an acceptable model of evaluation because they allow a certain level of transparency and accountability and provide evidence-based grading to the students (Howell, 2011; Moskal, 2000; Rezaei & Lovorn, 2010; Riebe & Jackson, 2014; Sadler, 1987). They are often designed and implemented to counter subjective or arbitrary grading and create an atmosphere of evaluation that both teachers and

students feel is more equitable (Sadler, 2009). Additionally, students can use rubrics to compare their work in-progress to teacher expectations (Andrade & Du, 2005).

The Association of American Colleges and University's (AAC&U) Liberal Education and America's Promise (LEAP) initiative is responsible for establishing the Valid Assessment of Learning in Undergraduate Education (VALUE) project. The purpose of this project was to create authentic methods of assessing student achievement through rubrics designed to support both formative and summative assessment. The rubrics were designed so that they may be used at any institution by any academic field (Rhodes, 2010). There is a rubric that corresponds to each of LEAP's 16 essential learning outcomes that were developed from data collected in surveys and interviews administered to 305 employers whose companies have at least 25 employees (AAC&U, 2007). The skills or essential learning outcomes for the value project are inquiry and analysis, critical thinking, creative thinking, written communication, oral communication, quantitative literacy, information literacy, teamwork, problem solving, civic knowledge and engagement, intercultural knowledge and competence, ethical reasoning, lifelong learning, and integrative learning (AAC&U, 2007).

Finley (2012) conducted a study to determine the reliability of the VALUE rubrics. Among 40 participating faculty members in the study, the multi-rater kappa statistic for "perfect" agreement was .29 and kappa for approximate agreement was .52. Finley recognized that further tests were needed, but both she and the AAC&U were encouraged by the results of the study (Finley, 2012). The VALUE rubrics were used as a part of a comprehensive assessment framework for a doctoral dissertation (Rodriguez, 2012) analyzing the connection between students' use of library resources and their instructors' expectations of student learning. After using four of the rubrics for the study (inquiry and analysis, information literacy, written

communication, and problem solving), the validity and reliability of the rubrics were consistent with Finley's (2012) report (Rodriguez, 2012).

With so Many to Choose From, What Skills Should we Develop?

This study looks at the skills of critical thinking, creative thinking, ethical reasoning, information literacy, problem solving, and written communication. All of these skills, along with many other 21st century skills are intimately connected (AAC&U, 2007; Casno-Lotto & Barrington, 2003). Once instructors are convinced of the value of skills-based learning beyond basic content knowledge, they must ultimately design their course with specific skills in mind and create a learning environment that nurtures those skills (Bean, 2011). Kurfiss (1988) examined a wide range of courses that had been designed to promote critical thinking. While this study focused on several skills beyond critical thinking, Kurfiss's (1988) eight principles for designing a course that supports critical thinking, derived from the examinations of courses, relate to a number of the skills being observed in this study. Kurfiss's (1988) eight principles were as follows:

1. Critical thinking is a learnable skill; the instructor and peers are resources in developing critical thinking skills.
2. Problems, questions, or issues are the point of entry into the subject and a source of motivation for sustained inquiry.
3. Successful courses balance challenges to think critically with support tailored to students' developmental needs.
4. Courses are assignment centered rather than text and lecture centered. Goals, methods, and evaluation emphasize using content rather than simply acquiring it.
5. Students are required to formulate and justify their ideas in writing or other appropriate modes.
6. Students collaborate to learn and to stretch their thinking, for example, in pair problem solving and small group work.
7. Several courses, particularly those that teach problem-solving skills, nurture students' metacognitive abilities.
8. The developmental needs of students are acknowledged and used as information in the design of the course. Teachers in these courses make standards explicit and then help students learn how to achieve them (pp. 88-89).
- 9.

Critical Thinking

The American Association of Colleges and Universities (2007) defined critical thinking as a habit of mind characterized by the comprehensive exploration of issues, ideas, artifacts, and events before accepting or formulating an opinion or conclusion (AAC&U, 2007). Paul, Elder, and Bartell (1997) described the term *critical* as the development of discerning judgement which is based on standards. Ennis (1985) defined critical thinking as reflexive thinking that focuses on deciding on what to do or what to believe. Gomez and Gomez (2007) wrote that critical thinking involves the application of real-life skills of defining, summarizing, retrieving, analyzing, and synthesizing information. Thurman (2009) argued that critical thinking skills involve identification and analysis of informational sources for credibility, effective use of previous knowledge, and the ability to make connections and come to conclusions. Critical thinking is the ability of an individual to think clearly and logically about any situation, event, or condition, determine reliability and validity of the information being received, and finally, making comments or developing conclusions about the situation, event, or condition (Seferoğlu, 2006).

Paul and Elder (2009) described a well-cultivated critical thinker as someone who raises vital questions and problems, gathers and assesses relevant information, uses abstract ideas and thoughts, comes to well-reasoned conclusions and offers reasonable solutions, thinks open-mindedly, and communicates clearly and effectively. Effective critical thinkers question assumptions and seek out alternative perspectives that they analyze with an open mind (Perkins, Jay, & Tishman, 1993). Kurfiss (1988) argued that skilled critical thinkers demand justification of claims, seek to disconfirm hypotheses, avoid hasty conclusions, and provide reasons and evidence for their own claims.

The VALUE Rubric for Critical Thinking involves five evaluation criteria: (a) explanation of issues, (b) evidence, (c) influence of context and assumptions, (d) student's position (perspective, thesis/hypothesis), and (e) conclusions and related outcomes (implications and consequences). In order for students to achieve the full score of 5 for each of the evaluation criteria, they must accomplish the following:

1. *Explanation of Issues:* Issue/problem to be considered critically is stated clearly and described comprehensively, delivering all relevant information necessary for full understanding.
2. *Evidence (Selecting and using information to investigate a point of view or conclusion):* Information is taken from source(s) with enough interpretation/evaluation to develop a comprehensive analysis or synthesis. Viewpoints of experts are questioned thoroughly.
3. *Influence of Context and Assumptions:* Thoroughly (systematically and methodically) analyzes own and others' assumptions and carefully evaluates the relevance of contexts when presenting a position.
4. *Student's Position (Perspective, Thesis/Hypothesis):* Specific position (perspective, thesis/hypothesis) is imaginative, taking into account the complexities of an issue. Limits of position (perspective, thesis/hypothesis) are acknowledged. Others' points of view are synthesized within position (perspective, thesis/hypothesis).
5. *Conclusions and Related Outcomes (Implications and Consequences):* Conclusions and related outcomes (consequences and implications) are logical and reflect student's informed evaluation and ability to place evidence and perspectives discussed in priority order.

Teaching critical thinking. Brookfield (1987) argued that there are two features, or “central activities” as he called them, of instruction for the development of critical thinking that is generic and found in all disciplines: (a) identifying and challenging assumptions and (b) exploring alternative ways of thinking and acting. Critical thinking can be infused in lessons throughout all disciplines by utilizing in-depth questioning and evaluation of both data and sources (McCollister & Sayler, 2010). Having students track patterns in information forces them to look at the information as a process instead of simply information to be memorized and helps them develop skills of recognition and prediction (McCollister & Sayler, 2010). Evaluation of information and sources helps students to learn appropriate procedures for finding and utilizing credible information, as well as helping students learn acceptable and appropriate ways to use discretion (McCollister & Sayler, 2010). These are skills that will help with reading comprehension and problem-solving skills, both of which play an important role in standardized assessments (McCollister & Sayler, 2010; Tsai, Hou, Lai, Liu, & Yang, 2013; VanTassel-Baska, Bracken, Feng, & Brown, 2009). These types of activities could be worked into the normal instructional time, with little additional time needed, simply by utilizing things such as online discussion boards, in-class discussions, or alternative modes of assessment in classroom settings (Snodgrass, 2011). It is also important that any changes to the curriculum be met with training about the new activities and how to utilize them to their full effect. The establishment of professional learning communities allows educators to think critically about the methods they are using to teach, and is a good starting point for ideas about inclusion of critical thinking skills in the classroom (Smith & Szymanski, 2013).

By utilizing activities to enhance critical thinking, students are better able to understand why something has occurred as opposed to just understanding what has occurred. This deeper

understanding allows the students to better analyze the circumstances surrounding the occurrence and differing viewpoints about the occurrence (Tsai et al., 2013). Bean (2011) suggested that cognitive dissonance is a pedagogical strategy that is effective in helping students develop critical thinking skills. Activities involving cognitive dissonance present students with information or scenarios that require them to challenge their own settled beliefs or assumptions (Bean, 2011). Bean (2011) also argued that effective instruction aimed at developing critical thinking involves presenting students with arguments as opposed to basic knowledge-based information. Having students explore opposing viewpoints on issues and articulate an understanding of both points of view involves cognitive dissonance and encourages critical thinking (Bean, 2011). Paul (1993) argued that students develop critical thinking skills more effectively when learning activities involve frequent dialogue or extended exchange between different individuals and points of view. He advocated teaching students using activities that require students to exchange different viewpoints and comparing and contrasting those viewpoints to identify their strengths and weaknesses (Paul, 1993).

Activities designed to prompt critical thinking ask students to go beyond restating prior knowledge by asking them to compare and/or contrast, evaluate, or apply knowledge (Fink, 2013). The Socratic pedagogical approach (or Socratic method) consists of a teacher wondering aloud about truth and meaning, while actively pursuing clarity, which involves students in the process of relying on prior knowledge for application, evaluating the idea that the teacher presents, or presenting various solutions to the problem at hand (Paul, 1993). Socratic teaching allows students to not only develop their thinking but also evaluate their thinking with logical reasoning (Paul, 1993). Pedagogical approaches to critical thinking instruction must actively involve students in activities that require them to go beyond basic content knowledge (Bean,

2011). Students must be involved in the process of interpretation, finding meaning or purpose, identifying questions associated with a particular problem, finding significance, exploration of alternative worldviews, providing evidence to support arguments, and determining validity and reliability (Paul, Fisher, & Nosich, 1993).

Creative Thinking

The American Association of Colleges and Universities (2007) defined creative thinking as having both the capacity to combine or synthesize existing ideas, images, or expertise in original ways and the experience of thinking, reacting, and working in an imaginative way characterized by a high degree of innovation, divergent thinking, and risk taking (AAC&U, 2007). This definition was developed in order to create the Creative Thinking VALUE Rubric (AAC&U, 2007). Creative thinking and creativity is unique among many of the 21st century skills in that there are a variety of ways to define it due to the myriad of theoretical perspectives that have emerged each with a unique scholarly approach to defining, analyzing, measuring, and understanding creativity and its various components (Kozbelt, Beghetto, & Runco, 2010; Moran, 2010).

Rhodes (1987), an early and prolific contributor to creativity research, suggested that any definition on creativity must relate to four major ideas: (a) the person who creates, (b) the cognitive process involved in the creation of ideas, (c) the environment in which creativity occurs, and (d) the product that results from the creative act (Batey & Furnham, 2006; Rhodes, 1987). In any case, most research on creative thinking intersects on a few common characteristics—production of work that is original or unexpected, high quality, and appropriate to the task at hand (Kaufman & Sternberg, 2010). Batey and Furnham (2006) argued that creativity, and creative thinking, are important qualities for both individuals and society as a

whole. The challenge faced by educators and employers is how to identify, recruit, and/or develop creative people (Batey & Furnham, 2006).

The VALUE Rubric for Creative Thinking involves five evaluation criteria: (a) Taking Risks, (b) Solving Problems, (c) Embracing Contradictions, (d) Innovative Thinking, and (e) Connecting, Synthesizing, Transforming. In order for students to achieve the full score of 5 for each of the evaluation criteria, they must accomplish the following:

1. *Taking Risks (May include personal risk (fear of embarrassment or rejection) or risk of failure in successfully completing assignment; i.e., going beyond original parameters of assignment, introducing new materials and forms, tackling controversial topics, advocating unpopular ideas or solutions):* Actively seeks out and follows through on untested and potentially risky directions or approaches to the assignment in the final project.
2. *Solving Problems:* Not only develops a logical, consistent plan to solve problem, but recognizes consequences of solution and can articulate reason for choosing solution.
3. *Embracing Contradictions:* Integrates alternate, divergent, or contradictory perspectives or ideas fully.
4. *Innovative Thinking (Novelty or uniqueness of an idea, claim, question, form, etc.):* Extends a novel or unique idea, question, format, or product to create new knowledge or knowledge that crosses boundaries.
5. *Connecting, Synthesizing, Transforming:* Transforms ideas or solutions into entirely new forms.

Teaching creative thinking. Arguably, the best known creativity training is a process-based program called Creative Problem Solving (CPS) developed by Sid Parnes in the 1950s

(Creative Education Foundation, 2016). CPS is essentially a problem-solving strategy applied to open-ended, ill-defined problems requiring novel solutions (Ulger, 2016). CPS is based on the assumption that anyone can be taught to apply skills associated with creativity through deliberate training, and it is designed to provide a flexible and natural problem-solving framework (Treffinger & Isakson, 2005; Ulger, 2016). CPS approaches all students and instruction with two basic assumptions: (a) everyone is creative in some way and (b) creative skills can be learned and enhanced (Creative Education Foundation, 2016).

Runco (2014) stated that openness to new experiences might be significant for creativity because he believed that everyone possesses the capacity to be creative whereas not everyone realizes that capacity because they are hindered by conventional thinking and experiences. Wang (2012) also reported that openness to new experiences is significant for the development of creative thinking. Kerr and McKay (2013) reported that openness is correlated with measurements of creativity because open-ended tasks allow creative or divergent thinking. Activities must be open-ended to encourage creativity of students, giving them rational control of deciding how they will develop a product or solve a problem instead of telling them what the product or solution should be (Isbell & Raines, 2012). Creative thinking tasks with opportunities for open-ended answers that include non-routine problems provide for creative problem solving and creative performance (Scott, Leritz, & Mumford, 2004). Instructors can only enhance creative thinking in students when they encourage students to seek new ideas and recognize novel approaches to a myriad of tasks (Feldhusen & Goh, 1995). Assignments that are developed with open-ended questions invite a diversity of responses involving divergent thinking (Runco, 2014). Scott et al. (2004) reported that creativity instruction is most effective when it involves a heuristic approach. A heuristic approach is any approach to problem solving,

learning, or discovery that employs a practical method not guaranteed to be optimal or perfect, but sufficient for the immediate goals as sometimes an optimal solution is impossible or impractical (Scott et al., 2004).

Ethical Reasoning

For the purposes of developing the Ethical Reasoning VALUE Rubric, The American Association of Colleges and Universities (2007) defined ethical reasoning skills as being able reason about right and wrong in human conduct. It requires students to be able to assess their own ethical values and the social context of problems, recognize ethical issues in a variety of settings, think about how different ethical perspectives might be applied to ethical dilemmas and consider the ramifications of alternative actions (AAC&U, 2007). Students' ethical self-identity evolves as they practice ethical decision-making skills and learn how to describe and analyze positions on ethical issues (AAC&U, 2007). According to Paul and Elder (2009), ethical reasoning skills include an individual's ability to generate purpose, raise questions, use information, use concepts, make inferences, make assumptions, generate implications, and develop a point of view.

Many researchers regard the terms "moral" and "ethical" as being synonymous with one another (Jarrett, 1991). Jarrett (1991) argued that the term *moral* is generally related to norms and codes of conduct where the term *ethics* is related to an individual's ability to make reflective judgements about moral issues. Alexander (2003) made a similar statement about the difference between morals and ethics in that morality is concerned with norms of correct conduct and ethics is the ability to think about these norms. Van der Ven (1998) argued that morality is the practice of moral actions and ethics is reflection on this morality. Wesleyan University's Ethics in Society Project defined ethical reasoning as the ability to reflect on moral issues in the abstract

and the ability to identify, assess, and develop ethical arguments from a variety of ethical positions (Gruen, 2016). The project's homepage goes on to say that ethical arguments and questions concern judgments of right and wrong, good and bad, justice and injustice, fairness and inequality, and general social responsibility (Gruen, 2016).

The VALUE Rubric for Ethical Reasoning involves four evaluation criteria: (a) Understanding Different Ethical Perspectives/Concepts, (b) Ethical Issue Recognition, (c) Application of Ethical Perspectives/Concepts, and (d) Evaluation of Different Ethical Perspectives/Concepts. In order for students to achieve the full score of 5 for each of the evaluation criteria, they must accomplish the following:

1. *Understanding Different Ethical Perspectives/Concepts:* Student names the theory or theories, can present the gist of said theory or theories, and accurately explains the details of the theory or theories used.
2. *Ethical Issue Recognition:* Student can recognize ethical issues when presented in a complex, multilayered (gray) context AND can recognize cross-relationships among the issues.
3. *Application of Ethical Perspectives/Concepts:* Student can independently apply ethical perspectives/concepts to an ethical question, accurately, and is able to consider full implications of the application.
4. *Evaluation of Different Ethical Perspectives/Concepts:* Student states a position and can state the objections to, assumptions and implications of, and can reasonably defend against the objections to assumptions and implications of different ethical perspectives/concepts, and the student's defense is adequate and effective.

Teaching ethical reasoning. Elder (1999) believed that for students to become skilled at ethical reasoning, they must understand what is intellectually required when reasoning through ethical questions. It is useful for students to engage in activities where they must identify the ethical principles relevant to any ethical situation. This helps students develop the intellectual skills which enable them to reasonably apply their ethical reasoning skills (Elder, 1999). Bebeau, Pimple, Muskavitch, Borden, and Smith (1995) reported that activities that are effective at helping students develop ethical reasoning skills must be designed in such a way where students are given an opportunity to reflect on their decisions and choices. Their research went on to say that students must understand that they can and do change their minds about what they ought to do in any particular situation and how that change of mind will affect outcomes and ethical consequences (Bebeau et al., 1995). According to Wilhelm (2008), using assignments that present students with cases or scenarios that involve moral dilemmas and require that students work through their ethical decision-making process are effective in the development of ethical reasoning skills. Warnell (2010) reported that effective instruction on ethics involves providing students a variety of theoretical concepts, allowing students to explore various frameworks and tools of decision-making, and providing students practical examples of application ethical reasoning. Willey, Mansfield, and Sherman (2012) presented research that suggests that students must be presented with multiple ethical reasoning activities throughout the semester to hone their ethical reasoning skills.

Information Literacy

Information literacy is the ability to know when there is a need for information, to be able to identify, locate, evaluate, and effectively and responsibly use and share that information for the problem at hand (AAC&U, 2007). The American Library Association's Presidential

Committee on Information Literacy has defined information literacy as the ability to “recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information” (American Library Association, 1989, ¶ 3). Information literacy is a skill that involves thinking critically about information from a variety of sources and being able to determine its relevance and reliability (Gomez & Gomez, 2007). While technology is not necessary to be informationally literate, technology has increased the need for individuals to develop information literacy skills (Gray, 2016). The reason for this is that there is an overload of information available for access in just a few seconds (Bundy, 2004). More information has been generated in the last 3 decades than in the previous 5000 years combined and new information continues to be created digitally every day exponentially (Bundy, 2004; Cukier, 2010).

Due in large part to already vast amounts of information and the fact that learners will constantly find new information, the argument is that learners must become information literate so they can turn that information into knowledge and apply it to their lives for whatever aspect they are using it (Cavanagh, 2012). It is crucial to the competitive advantage of individuals, enterprises, regions, and nations (Tyner, 2014; Weiner, 2015). From a conceptual perspective, information literacy provides individuals with the options and opportunities to develop the habits of mind and requisite skills to prepare them in becoming engaged lifelong learners and participants in the economic, social, political, and intellectual development of society (Tyner, 2014; Weiner, 2015).

The VALUE Rubric for Information Literacy involves four evaluation criteria: (a) Access the Needed Information, (b) Evaluate Information and its Sources Critically, (c) Use Information Effectively to Accomplish a Specific Purpose, and (d) Access and Use Information Ethically and

Legally. In order for students to achieve the full score of 5 for each of the evaluation criteria, they must accomplish the following:

1. *Access the Needed Information:* Accesses information using effective, well-designed search strategies and most appropriate information sources.
2. *Evaluate Information and its Sources Critically:* Thoroughly (systematically and methodically) analyze own and others' assumptions and carefully evaluate the relevance of contexts when presenting a position.
3. *Use Information Effectively to Accomplish a Specific Purpose:* Communicate, organize, and synthesize information from sources to fully achieve a specific purpose, with clarity and depth.
4. *Access and use Information Ethically and Legally:* Students use correctly all of the following information use strategies (use of citations and references; choice of paraphrasing, summarizing, or quoting; using information in ways that are true to original context; distinguishing between common knowledge and ideas requiring attribution) and demonstrate a full understanding of the ethical and legal restrictions on the use of published, confidential, and/or proprietary information.

Teaching information literacy. Information literacy instruction requires a shift in focus from teaching specific information to a set of critical thinking skills involving the use of information (Kaswowitz-Scheer & Pasqualoni, 2002). According to the Presidential Committee on Information Literacy (Association of College and Research Libraries, 1989), education needs a model of learning that is based on the information resources of the real world and learning that is active and integrated, not passive and fragmented. In 2000, the Association of College and Research Libraries (ACRL), a division of the American Library Association (ALA), published

information literacy standards for higher education (ACRL, 2000). These standards, which were approved by both the American Association for Higher Education and the Council of Independent Colleges, established the need to integrate information literacy into the curriculum of higher education which, due to their design, opens the door for much more student-centered teaching methods and inquiry learning (ACRL, 2000). The Information Literacy Standards by ACRL recommended that educators structure their classes in such a way that students are actively engaged in the process of framing significant questions and the research and inquiry to find answers and, finally, to use communication skills to convey their findings (ACRL, 2000). According to ACRL (2000), “Courses structured in such a way create student-centered learning environments where inquiry is the norm, problem solving becomes the focus, and thinking critically is part of the process. Such learning environments require information literacy competencies” (p. 5).

Kasowitz-Scheer and Pasqualoni (2002) supported the ACRL’s information literacy standard’s pedagogical approach by saying that best practice characteristics for information literacy instruction emphasize the importance of integrating information literacy throughout a student’s entire academic career with multiple methods of assessment. Prensky (2012) argued that students in a passive learning role receiving information and not actively constructing knowledge through an inquiry based collaborative learning experience equipped with information literacy skills was detrimental to their future. Acquisition of information literacy skills increases opportunities for students’ self-directed learning as they engage in using a wide variety of information courses to expand their knowledge, ask informed questions, and sharpen their critical thinking (ACRL, 2000).

Problem Solving

For the purposes of this study, problem solving is defined as the process of designing, evaluating, and implementing a strategy to answer an open-ended question or achieve a desired goal (AAC&U, 2007). This definition is used in the development of the AAC&U's development of the VALUE Rubric for problem solving (AAC&U, 2007). The National Council of Teachers of Mathematics (2000) defined problem solving as the process of engaging in a new task where the solution is unknown and, through the process of drawing upon prior knowledge, an individual finds a solution. Gabel (1998) defined problem-solving skills as the skills required to work through the details of a problem to reach a solution. Kar (2011) defined problem-solving skills as the ability to find the cause of a problem, understanding it, and establishing a solution to it. Clough (1997) pointed out that creativity, logic, and critical thinking are important skills closely associated with problem solving. Wilson, Fernandez, and Hadaway (1993) argued that cognitive skills, such as analytical reasoning, quantitative reasoning, and logical reasoning are essential for effective problem solving.

Gabel (1998) noted that problem solving in any area is a complex process just as much as it is a set of skills. One of the earliest researchers to describe the problem-solving process was George Polya in his 1945 volume entitled *How to Solve It: A System of Thinking Which Can Help You Solve Any Problem* (Polya, 1945). Polya (1945) outlined the process in four basic steps: (a) Understand the problem, (b) Make a plan, (c) Carry out the plan, (d) and Review your work to determine if it could have been better. However, this model has been criticized because some have argued it is too simplistic to apply to all problem-solving situations (Wilson, Fernandez, & Hadaway, 1993). The Organisation for Economic Co-operation and Development (OECD) described the problem-solving process as understanding, characterizing, and

representing the problem, solving the problem, then reflecting on the problem, and finally communicating the solution (OECD, 2004).

The VALUE Rubric for Problem Solving involves five evaluation criteria: (a) Identify Strategies, (b) Propose Solutions/Hypotheses, (c) Evaluate Potential Solutions, (d) Implement Solution, and (e) Evaluate Outcomes. In order for students to achieve the full score of 5 for each of the evaluation criteria, they must accomplish the following:

1. *Identify Strategies*: Identifies multiple approaches for solving the problem that apply within a specific context.
2. *Propose Solutions/Hypotheses*: Proposes one or more solutions/hypotheses that indicate a deep comprehension of the problem. Solution/hypotheses are sensitive to contextual factors as well as all of the following: ethical, logical, and cultural dimensions of the problem.
3. *Evaluate Potential Solutions*: Evaluation of solutions is deep and elegant (for example, contains thorough and insightful explanation) and includes, deeply and thoroughly, all of the following: considers history of problem, reviews logic/reasoning, examines feasibility of solution, and weighs impacts of solution.
4. *Implement Solution*: Implements the solution in a manner that addresses thoroughly and deeply multiple contextual factors of the problem.
5. *Evaluate Outcomes*: Reviews results relative to the problem defined with thorough, specific considerations of need for further work.

Teaching problem solving skills. John Dewey (1916) believed that a student's engagement with a problem evoked the student's natural curiosity and stimulated learning and aided in their development of critical thinking skills (Bean, 2011; Dewey, 1916). Ken Bain

(2005) reported that highly effective teachers confront students with “intriguing, beautiful, or important problems, authentic tasks that will challenge them to grapple with ideas, rethink their assumptions, and examine their mental models of reality” (p. 18). Instructors can promote the development of problem-solving skills by establishing a learning environment that provides practice applying the skill, encourages monitoring and reflection, grades the process rather than just the solution, utilizes formative assessment and feedback, and teaches behaviors that have been shown to promote successful application of the skill (Woods, 2000). Funke (1991) warned that learning activities need to be at an appropriate level that is challenging enough to promote learning, but achievable so students do not get frustrated or doubt their abilities.

Research by Jonassen and Hung (2008) defined various problem types and gives insight into choosing appropriate problem types for the level of student and the outcomes being assessed. For example, well-structured problems such as word (or story) problems are appropriate for introducing students to new concepts and measuring arithmetic abilities, whereas ill-structured problems (or problems that students face routinely in everyday life) are more appropriate for measuring a student’s ability to weigh alternatives and make comparative judgments among alternative solutions (Jonassen & Hung, 2008).

Learning activities that mimic situations that students will experience in everyday life are particularly effective in the development of problem-solving skills because many individuals develop their problem-solving skills by encountering and working through problems in everyday life and experience (Jonassen & Hung, 2008). Requiring students to actively participate in activities where they have to identify a problem, formulate questions, gather information, organize data, and communicate a solution to the problem are effective in the students’ development of problem solving skills (Jonassen & Hung, 2008). However, before students

engage in activities that require them to solve problems, they should have a command of the basic facts and principles (Herron & Greenbowe, 1986). According to Roehl, Reddy, and Shannon (2013), the flipped classroom method is useful in developing instruction for students to develop problem solving skills because they should come to class with a basic understanding of the content after watching lecture material outside of the classroom. Activities in the classroom can be dedicated to presenting students with a variety of problems or scenarios that they should work through using the information that they were exposed to outside of the classroom (Roehl et al., 2013).

Written Communication

The Association of American Colleges and Universities (2007) defined written communication as the development and expression of ideas in writing. Effective written communication abilities for the 21st century develop through iterative experiences across the curriculum and involve the following: (a) learning to work in many genres and styles, (b) working with many different writing technologies, and (c) and the ability to mix texts, data, and images (AAC&U, 2007). According to the website, *Management Study Guide* (2016), the phrase "written-communication skills" traditionally refers to an individual's ability to communicate a cohesive and logical message via writing that employs correct spelling, proper grammar, and proper punctuation. More broadly, Evers, Rush, and Berdrow (1998) defined communication skills as verbal, written, and listening skills that encourage effective interaction with a variety of individuals and groups to facilitate the gathering, integrating, and conveying of information. Savery (2015) defined communication skills as the ability to actively listen, to communicate in oral, written, and nonverbal forms.

Stovall and Stovall (2009) argued that effective communication skills are necessary for effective performance in modern work environments. Other researchers reported that in a global competitive market with its technological advancements, employees must be fully equipped with excellent verbal and written communication skills (Shafie & Nayan, 2010). Effective written communication skills involve an individual being able to use appropriate content and demonstrate that they have a mastery of the subject being discussed (Bean, 2011). Additionally, quality written communication involves an individual's ability to organize and present information in a way that maximizes a reader's understanding of the topic being written about (Murphree, 2015). Good writers must be able to combine personal experience, credible resources, and their mastery of relevant vocabulary to completely develop an idea through the written word (Haring-Smith, 1992). While writing in content areas outside of language courses has more focus on the content being discussed than the actual use of language and mechanics, effective communicators must be able to write with clarity, good use of vocabulary, and few or no errors (Murphree, 2015).

The VALUE Rubric for Written Communication involves four evaluation criteria: (a) Content Development, (b) Genre and Disciplinary Conventions, (c) Sources and Evidence, and (d) Control of Syntax and Mechanics. In order for students to achieve the full score of 5 for each of the evaluation criteria, they must accomplish the following:

1. *Content Development*: Uses appropriate, relevant, and compelling content to illustrate mastery of the subject, conveying the writer's understanding, and shaping the whole work.
2. *Genre and Disciplinary Conventions*: Demonstrates detailed attention to and successful execution of a wide range of conventions particular to a specific discipline

- and/or writing task(s) including organization, content, presentation, formatting, and stylistic choices.
3. *Sources and Evidence*: Demonstrates skillful use of high-quality, credible, relevant sources to develop ideas that are appropriate for the discipline and genre of the writing.
 4. *Control of Syntax and Mechanics*: Uses graceful language that skillfully communicates meaning to readers with clarity and fluency, and is virtually error-free.

Teaching writing communication skills. Writing instruction should include strategies for organizing information. Loban (1976) found that the difficulties experienced by writers were in relation to the number of schemes they were attempting to coordinate and not inherent in the linguistic devices that they were attempting to use. The coordination of ideas at increasingly complex levels underlies several features of effective writing: more tightly connected ideas, elaboration, defense arguments that anticipate counterarguments, subplots, and audience-centered prose (Bean, 2011). One of the essential goals of writing instruction is to develop writers' abilities to coordinate complex ideas and express them in an organized and clear manner (Rhodes & Finley, 2013). A key component of writing instruction is giving students frequent opportunities to practice writing (Bean, 2011; Murphree, 2015). Murphree (2015) reported that frequent writing allows students to become engaged with the content to be learned, think more critically about the content, and become more effective communicators (Murphree, 2015). Instructors must design and coordinate writing activities in such a way that encourages students to conceptualize writing as learning and a means of facilitating their education (Bean 2011; Murphree, 2014, 2015).

Because of technology, individuals are writing more now than at any other point in history (Baron, 2009). With so much writing being produced academically, different approaches to teaching effective written communication have taken on different forms depending on the content area (Lunsford & Ede, 2009). A generally accepted approach to teaching effective written communication skills focuses on structure, or the way that the content is laid out; style, or the way the work is written; and content, or what the student is actually writing about (Lunsford & Lunsford, 2008). It is important that instructors emphasize the importance of structure in teaching students how to write (Quam-Wickham, 2016). For formal writing, students must be able to clarify their thoughts and articulate the purpose of their paper, identify key facts and themes, present information in a logical manner, and use accepted rules for standard written English (Witte, 2007).

Asking students to engage in writing activities is not just communication, but it is asking them to engage in the process of doing critical and creative thinking and problem solving (Bean, 2011). Research has shown that the design of writing assignments is just as important, if not more important, than the overall number of writing assignments to promote engagement and deep learning (Anderson, Anson, Gonyea, & Paine, 2009; Bean, 2011). Effective writing assignments should include “interactive components” which is basically giving students the opportunity to brainstorm and create several drafts allowing them to practice and receive feedback (Anderson et al., 2009; Bean, 2011). Additionally, effective writing assignments clearly present the purpose of the assignment, the assignment’s learning goals, and the instructor’s expectations for successful performance (Anderson et al., 2009; Bean, 2011). Instructions for writing assignments should include the task that the students are to complete, the role or purpose of the assignment, the audience that the students are to address in their writing,

description of the assignment's format, the genre of the writing assignment, the schedule or timeline for the activity, and finally, a clear outline of the evaluation criteria for the assignment (Anderson et al., 2009; Bean, 2011). Short formative assessments in the form of writing assignments are useful for determining if students are learning the material that is being taught and gives the instructor insight into the students' writing styles and how they organize their thoughts (Angelo & Cross, 1993).

Summary

The literature suggested that employers want students who have obtained a specific skill set that involves critical thinking, problem solving, effective communication, and information literacy (Casner-Lotto & Barrington, 2006). However, the literature also suggested that students are simply to obtain these skills while in college (Arum & Roksa, 2011). Furthermore, with challenges such as reduced public funding, increased tuition and fees, high national student loan debt, questions of quality and usefulness of a 4-year college education, high unemployment, and public concern over accountability, colleges and universities are faced with difficult choices. Understandably, attention is being placed on employability and career opportunities for students. While many higher education institutions and workforce development stakeholders have shifted focus to the STEM and technical fields to train the future of the workforce, the liberal arts should not be forgotten as a key component of a well-rounded college education. Research from the liberal arts, humanities, and social sciences show that workforce desirable 21st century skills can be developed in a multitude of disciplines by changing the way instructors approach their instruction. While the available research is positive with regard to the flipped classroom as a pedagogical method, there is a lack of robust scientific studies that evaluate its effectiveness in achieving educational outcomes or in the development of soft skills (O'Flaherty & Phillips,

2015). Certainly, the flipped classroom has the potential to affect the way community college instructors teach if instructional leaders can overcome faculty resistance to change (Abbiss, 2015; Jacot, Noren, & Berge, 2014).

CHAPTER III

METHODOLOGY

Many of the technological advancements have already entered our educational system and a lot [sic] many will be coming in the future. This whole process will also lead to changing the role of teachers. Teachers have to reinvestigate their roles and responsibilities and need to become more aware about both the technical requirement as well as needs of learners. Otherwise the trend of increased role [sic] of technology will diminish their role and set them totally aside. (Sharma & Bali, 2014, p. 296)

As noted by the Alabama Community College System's (2004) suggested syllabus for history courses, the course objectives include critical thinking, problem solving, and written communication. This is evidence of the system's belief that history courses can be conducive for the development of workforce desirable skills if faculty members are willing to change their instructional approaches (Abbiss, 2013; ACCS, 2004; Russell, 2009; The Partnership for 21st Century Skills, 2010). Beyond just critical thinking, research suggested that history courses, and traditional liberal arts courses in a broader sense, are environments where students can effectively develop workforce desirable skills (Kuh, 2008). Critical thinking, problem solving, written communication, information literacy, creative thinking, and ethical reasoning are skills that were frequently mentioned in workforce literature as skills that are highly desirable by potential employers (Adelman et. al., 2014; Casner-Lotto & Barrington, 2006; Lemke, 2003). Many faculty members in the liberal arts indicate that they believe that by the time students finish a course, they should develop skills like critical thinking and problem solving (Angelo & Cross, 1993; Hart Research Associates, 2013). However, there are a few challenges that have been brought to light by the literature (Casner-Lotto & Barrington, 2006; Hart Research

Associates, 2013; Lemke, 2003): (a) students are not necessarily developing workforce desirable skills in their traditional liberal arts courses, (b) teaching methods in college and universities have changed very little, and (c) increased scrutiny and decreased funding has led to a re-evaluation of higher education, and more specifically community colleges, in terms of what skills students should have by the time they graduate or transfer. To remain relevant, traditional liberal arts courses in community colleges need to demonstrate more effectively how they help students prepare for future employment. By changing the teaching methods from traditional lecture instruction, or a passive learning environment, to flipped classroom instruction, or an active learning environment, research indicated that students could more effectively develop workforce desirable skills (Knowlton, 2000; Murphree, 2015).

Purpose of the Study

The purpose of this study was to determine if students could more effectively develop workforce desirable skills by changing the teaching methods in a United States history class at two different community colleges in the Alabama Community College System. Specifically, the study analyzed the effectiveness of the flipped classroom model in helping students develop the following skills: critical thinking, problem solving, effective communication, creativity and innovation, information literacy, and ethical reasoning skills.

Research Questions

The research questions for this study were

1. Is there a significant difference in a student's development of critical thinking skills between students taught history with the flipped classroom model and those taught with a traditional teacher-centered instructional approach?

2. Is there a significant difference in a student's development of creative thinking skills between students taught history with the flipped classroom model and those taught with a traditional teacher-centered instructional approach?

3. Is there a significant difference in a student's development of ethical reasoning skills between students taught history with the flipped classroom model and those taught with a traditional teacher-centered instructional approach?

4. Is there a significant difference in a student's development of information literacy skills between students taught history with the flipped classroom model and those taught with a traditional teacher-centered instructional approach?

5. Is there a significant difference in a student's development of problem-solving skills between students taught history with the flipped classroom model and those taught with a traditional teacher-centered instructional approach?

6. Is there a significant difference in a student's development of written communication skills between students taught history with the flipped classroom model and those taught with a traditional teacher-centered instructional approach?

Setting and Participants

This research study was conducted at two community colleges within the Alabama Community College System. According to The Alabama Community College System (2014), the system is made up of 22 community colleges, 3 technical colleges, and 1 military institute. The student body of the system represents 50% full time, 50% part-time, 60% first-time freshmen, 94% Alabama residents, 41% male, 59% female, 36% minority, 66% qualify for financial aid, and the average age is 25 (Alabama Community College System, 2014).

More specifically, the setting within the two institutions is the United States History II (HIS 202) classroom. One section of HIS 202 at each institution was used as the experimental group and one section at each institution served as the control group. Therefore, a total of four HIS 202 sections was observed. Each section had between 25 and 35 students. Overall, there were 122 students enrolled in the four observed sections. That being said, only 86 students were included in the study (students who did not submit both a pretest and a posttest were excluded from the study). United States history fulfills general education social science requirements for university transfer in the state of Alabama. The courses met for 75 minutes, 2 times per week.

Participants

This research study had three different classifications of participant: students, participating instructors (PI), and independent raters (IR). All of the participants were chosen by using a convenience sampling methodology. Approval to conduct research with the participating instructors and the students was obtained from each of the institutions (see Appendix B for IRB approval documentation). The two participating instructors were chosen because they were teaching two face-to-face sections of HIS 202 at their respective institutions. Both of the participating instructors were employed as full-time history instructors at their respective institutions. Also, both of the participating instructors had similar educational backgrounds. They both earned their master's degree in history and completed doctoral level coursework in history at a large public university.

The student participants for this study were those who had registered for the HIS 202 sections belonging to the participating instructors. Random student sampling was not possible due to the convenience sampling of the two participating instructors. Table 3 below compares the institutional student profiles of the two institutions being observed in this study. The

institutions are similar in terms of their overall student profiles. The biggest differences between the two were with regard to the number of students receiving financial aid and the full-time/part-time student numbers.

Table 3

Fall 2014 Student Profiles of Observed Institutions

	Institution 1	Institution 2
Total Enrollment	8,518	5,289
Receiving Financial Aid	4,451 (52%)	3,448 (65%)
White/Non-Hispanic	5,905 (69%)	3,693 (70%)
African American/Non-Hispanic	1,751 (21%)	1,053 (20%)
Other Races	862 (10%)	543 (10%)
Male	3,293 (39%)	2,167 (41%)
Female	5,225 (61%)	3,121 (59%)
Full-Time	2,965 (35%)	2,751 (52%)
Part-Time	5,553 (65%)	2,538 (48%)
Alabama Residents	8,156 (96%)	4,892 (92%)

Note. Data from The Alabama Commission on Higher Education (2015)

The third group of participants in this study were the independent raters. The independent raters evaluated the pretests and posttests of the students. There were two independent raters participating in this study. Both independent raters were chosen by convenience sampling and were also full-time history instructors within the Alabama Community College System located at different institutions from the participating instructors. While convenience sampling was used to select the participating instructors and independent raters, every effort was made to select instructors who had similar teaching and educational backgrounds. All of the instructors who participated in this study (both PIs and IRs) obtained graduate degrees from the same university. Additionally, all of the instructors had similar research interests in the early portion of American history with a particular emphasis on politics and foreign policy.

All of the classes had similar enrollment sizes. However, the challenge was having both a pretest and a posttest for each of the students who participated in the study. To prepare the participants for the study to take place, the principal investigator conducted extensive training with both of the PIs and IRs. A major component of this training was to ensure what the students were to be evaluated on. For each of the target skills (critical thinking, creative thinking, ethical reasoning, information literacy, problem solving, and written communication), the PIs and IRs were engaged in activities where they developed mock lessons that corresponded with the VALUE Rubrics for each skill. The purpose of this process was to develop the PIs' and IRs' understanding of the specific expectations of each rubric and how these skills can be incorporated into history classes and how learning activities can be evaluated using the VALUE Rubrics. The PIs were to use this training and development as a way to guide students' completion of the formative assessments. Prior to instruction taking place, the PIs successfully incorporated all of the content learning objectives, skill learning objectives, pretest and posttest, and formative assessments into the course planning. With regard to the video creation, a major component of the flipped classroom, the instructors recorded the videos outside of class and made the videos available in the learning management system for students in the experimental group. The PIs also took class time prior to instruction taking place to ensure that the participating students understood the instructional process and learning expectations during the observed instructional unit for this study. The students also signed informed consent forms (see Appendix B for IRB approval documentation). There was a great deal of communication between the principal investigator, PIs, IRs, and participating students to ensure that the instruction and research would go smoothly and as planned in order to answer the research questions.

Instrumentation

This study analyzed the effectiveness of the flipped classroom model in helping students develop 21st century/workforce desirable skills. To evaluate this development, the study employed the use of Valid Assessment of Learning in Undergraduate Education (VALUE) Rubrics designed by the Association of American Colleges and Universities (Rhodes, 2010). Pretest and posttest assignments were evaluated using the VALUE rubrics for the following skills: critical thinking, creative thinking, ethical reasoning, information literacy, problem solving, and written communication. The pretests and posttests consisted of five essay questions each. Each question corresponded with a specific skill except for written communication. Because all five questions required students their answers in an essay format, the entire assessment was used to evaluate written communication. The pretest was based on the content that the students had just finished learning. In the case of this study, because the observed unit focused on the Great Depression, the New Deal, and World War II, the pretest was based on content from the end of the Gilded Age through the 1920s. The purpose of this study was to focus on the 21st century skills and not content. As a result, the IRs evaluated the students' answers based on the criteria in the VALUE rubrics. The posttest was virtually identical to the pretest in terms of format and structure. While the content changed, the questions assessed all of the same observed skills to be evaluated by the VALUE rubrics.

Each of the IRs scored both the pretests and posttests using the VALUE rubrics. The IRs were trained specifically to focus on evaluating the students' answers solely on rubric criteria and not on content. Because of the significant amount of reading required by the IRs, it took longer than anticipated to get the completed rubrics returned for evaluation. To determine the differences between the control and experimental groups, the mean score of both of the IRs'

scores from the rubrics for each of the observed skills (both pretest and posttest) was calculated. After the overall mean score was calculated for each of the target skills from the pretests and posttests, the difference between the pretest and posttest mean scores was calculated to determine the gain score (the difference between test scores obtained from a group). The mean gain scores were compared to determine if there were statistical differences in learning the target skills between the experimental and control groups. This design was consistent with the pretest/posttest quasi-experimental research design requirements (Campbell & Stanley, 1963).

VALUE Rubrics

The Association of American Colleges and University's (AAC&U) Liberal Education and America's Promise (LEAP) initiative established the Valid Assessment of Learning in Undergraduate Education (VALUE) project. The result of this project was to create a set of rubrics designed to be used at any institution by any academic field (Rhodes, 2010). There is a rubric that corresponds to each of LEAP's 16 essential learning outcomes that were developed from data collected in surveys and interviews administered to 305 employers whose companies have at least 25 employees (Rhodes, 2010). The skills or essential learning outcomes for the value project are inquiry and analysis, critical thinking, creative thinking, written communication, oral communication, quantitative literacy, information literacy, teamwork, problem solving, civic knowledge and engagement, intercultural knowledge and competence, ethical reasoning, lifelong learning, and integrative learning. The rubrics were released for use in 2009 (Rhodes, 2010).

The VALUE rubrics that correspond to the workforce desirable skills being observed in this study were used to evaluate the statistical difference between the development of workforce skills from the pretest to the posttest. The workforce desirable skills that were observed in this

study were critical thinking, problem solving, written communication, information literacy, creative thinking, and ethical reasoning. None of the VALUE rubrics used for this study were altered from their original form. See Appendix C to see each of the VALUE rubrics used in this study.

While the AAC&U gives permission to both faculty and institutions to change the rubrics to meet their specific needs (AAC&U, 2015), for the purposes of this study, the original rubrics were used. This increased the validity and reliability of this study because the validity and reliability of the rubrics themselves were established by using the rubrics in their original form. The rubrics being used in this study can be found in Appendix C.

Validity and Reliability of the VALUE Rubrics

Rhodes and Finley (2013) conducted a study to determine the reliability of the VALUE rubrics. Using a multi-rater kappa statistical test, a significant level of agreement among the faculty who participated in the study was found (Finley, 2012). In a doctoral dissertation (Rodriguez, 2012), VALUE rubrics were used to analyze the connection between student use of library resources and their instructors' expectations of learning. Rodriguez (2012) found that validity and reliability of the rubrics were consistent with Finley's (2012) study.

In a later study, Rhodes and Finley (2013) further indicated that the VALUE rubrics hold a high degree of face and content validity. Between June 2010 and June 2012, more than 17,000 people from over 4,000 institutions worldwide accessed the rubrics on the AAC&U's website. Additionally, the rubrics were developed by multiple teams of higher education experts; there is a high degree of confidence that each rubric effectively evaluates the target learning outcome (Rhodes & Finley, 2013). A common method for establishing reliability for rubrics is through inter-coder/inter-rater scoring. In the fall of 2012, the AAC&U conducted a national inter-rater

reliability study, developing preliminary reliability scores for the VALUE rubrics. While a traditional calibration training session did not occur due to geographic constraints on the participating faculty, a high degree of reliability was still reported. The faculty scorers were found to have perfect agreement on scores one-third of the time (32%), on average. When a rule of approximate agreement was used, the average agreement among scorers increased to 57% and 80%, depending on how approximate the categories were. Perhaps most useful in establishing the reliability of the rubrics is that there were low standard deviations across the scores for all of the rubrics despite the faculty scorers coming from various teaching disciplines (Rhodes & Finley, 2013).

The Pretest and Posttest Assessments

The pretest and posttest assessments to be evaluated to determine skill development for this research study were designed by the principle investigator using King's (1995) model for designing questions to most effectively develop critical thinking skills. Using this model, it was possible to promote the students' use of various skills by wording the question stem so that the task involves analysis, inference, evaluation, comparison and contrast, or other higher-level cognitive processes (King, 1995). Exam questions must be designed to emphasize the skills students are developing through the active learning process within the classroom (King, 1995). Furthermore, King's (1995) model was chosen because it is compatible with the Knowlton's (2000) model for active learning that was used as the theoretical framework of this study's research design. That compatibility centered around the concept of constructivism (King, 1995; Knowlton, 2000; Vygotsky, 1978). Table 4 summarizes the pretest and posttest questions that were utilized in this study and the skill that they corresponded to.

Table 4

Pretest and Posttest Questions Developed for Current Study

Skill	Pretest	Posttest
Critical Thinking	Evaluate the presidential leadership of Theodore Roosevelt, William Howard Taft, and Woodrow Wilson in terms of their effectiveness in obtaining passage of reform measures. In your opinion, which one of the three progressive presidents was most successful in achieving his goals?	Evaluate the presidential leadership of Franklin D. Roosevelt in terms of his effectiveness in dealing with the Great Depression. In your opinion, which one of Roosevelt's initiatives were most successful in offering relief from the Depression?
Creative Thinking	In your own words, describe the "Progressive Era." After writing your description, produce a political cartoon that depicts the ideas presented in your description.	In your own words, describe the "The New Deal." After writing your description, produce a political cartoon that depicts the ideas presented in your description.
Ethical Reasoning	What were some of the major problems that the United States faced during the "Progressive Era?" Choose one of the problems that you listed and present an argument supporting the government's action to solve that problem. Also, choose one of the problems that you listed and construct an argument against the government's action. Be sure to include supporting details in your arguments.	What were some of the major problems that the United States faced on the home-front during World War II? Choose one of the problems that you listed and construct an argument supporting the government's action to solve that problem. Also, choose one of the problems that you listed and present an argument against the government's action. Be sure to include supporting details in your arguments.

Table 4 (con't)

Skill	Pretest	Posttest
Information Literacy	Use the internet to find 1 item of research pertaining to World War I. Write a brief description of the item that you chose. Also, provide a citation for the item as well (use whatever citation method you're most comfortable with). Finally, critique your source. Is it reliable? Is it peer reviewed? Would you recommend others to use this source?	Use the internet to find 1 item of research pertaining to World War II. Write a brief description of the item that you chose. Also, provide a citation for the item as well (use whatever citation method you're most comfortable with). Finally, critique your source. Is it reliable? Is it peer reviewed? Would you recommend others to use this source?
Problem Solving	Evaluate Wilson's Fourteen Points, his negotiations at the Versailles Treaty talks, and the national debate over treaty ratification and the League of Nations. What could Wilson have done differently to achieve a different outcome? What could have happened differently at the Treaty of Versailles to prevent World War II?	Evaluate the decision to employ nuclear weapons against Japan and assess later controversies over the decision. What could Truman have done differently to achieve a different outcome? Could an end to the war have been achieved by avoiding the use of nuclear weapons? Be sure to provide evidence to support your positions.
Written Communication	Evaluate all student answers together.	Evaluate all student answers together.

King (1995) reported that when students are asked to explain concepts, apply knowledge to new situations, create or design a model associated with the material being learned, or defend their position in an argument or debate, students construct new knowledge and develop critical thinking skills (King, 1995). The pretest and posttest forms for this study can be found in Appendix D. Table 5, below, organizes King's (1995) model for higher level thinking skills and the information necessary to aid instructors with developing critical thinking questions.

Table 5

King's (1995) Model for Designing Questions That Encourage Students to Develop Higher Order Thinking Skills

Thinking Skills	Purpose	Sample Action Prompts
Applying	Apply knowledge to new situations	implement, carry out, use, apply, show, solve, hypothesize
Analyzing	Break down or examine information	compare, organize, deconstruct
Evaluating	Judge or decide according to a set of criteria	check, critique, judge, conclude, explain
Creating	Combine elements into a new pattern	design, construct, plan, produce

Note. From King (1995), *Inquiring Minds Do Want to Know: Using Questioning to Teach Critical Thinking. Teaching of Psychology*, 22.

The pretest and posttest assessments for this research study were designed to evaluate the students' use and development of workforce desirable skills. Both of the assessments included five essay questions each pertaining to the following skills: critical thinking, creative thinking, ethical reasoning, information literacy, and problem solving. A VALUE rubric that corresponded to each of these skills was used to evaluate the students' answers. A sixth skill, written communication, was also evaluated. For this skill, the entire assessment was evaluated using the written communication VALUE rubric. The pretest's content came from the subject matter taught before the unit being observed in this study. The posttest's content was based on the unit being taught during the study's period of observation. While the historical content on both of the assessments was different, to increase the ability of the principle investigator to compare the assessments, the questions were constructed in exactly the same way, using the same language.

Research Design

A quasi-experimental design was chosen to conduct this research. This design was appropriate for this study for a multitude of reasons. First, because of the use of convenience sampling in terms of the participating instructors, there was no way to create a true random sample. Second, while every effort was made to choose history classrooms that were as similar as possible, the groups were not equivalent. Therefore, this study employed a nonequivalent group design. A third characteristic of quasi-experimental group research designs was the use of a pretest and posttest to compare the control and experimental groups (Campbell & Stanley, 1963; Thyer, 2012).

There were two main advantages to this type of research design. One advantage was that because pre-selection and randomization of groups would have been very difficult, a quasi-experimental design can be very useful in generating results for general trends. Second, without extensive pre-screening and randomization needing to be undertaken for a traditional experimental design, the time and resources needed to conduct this study were greatly reduced (Thyer, 2012). There were also disadvantages to this type of research design as well. The most outstanding disadvantage was that without true randomization, statistical analysis was not as accurate as it would have been in an equivalent group design. For example, a common quasi-experimental study is to analyze the effects of different educational programs on two groups of participants to determine if one program is more effective than the other (very similar to what this study attempted to do). Because of the lack of true randomization, the researcher had no way to control other factors that may have affected the results. One group of participants may have been slightly more intelligent or motivated. Without some form of pre-testing or random

selection, the two groups simply were not equal (Thyer, 2012). The non-equivalent design is one of the limitations of this research.

In the case of this study, the groups were similar, in that they were students who were taking an HIS 202 course at community colleges with similar size and demographic profiles. As a result, generalizations can be made statistically. Again, this study evaluated the effectiveness of the flipped classroom model with students developing workforce desirable skills in a community college history course. Because the instructors and history classes were chosen by convenience sampling, there was no way of controlling for all of the confounding variables experienced by each student and his or her unique learning style or by each instructor and his or her unique teaching styles. While every attempt was made to maintain homogeneity across experimental and control groups and to eliminate confounding variables as they arise, it was impossible to conduct a true experimental design (Leedy & Ormrod, 2010; Thyer, 2012).

Why Choose History?

The subjects were students enrolled in United States History II (HIS 202) courses in two different Alabama public, 2-year, community colleges within the Alabama Community College System, chosen by convenience sampling. History was selected for this study because according to the Data Access and Exchange Reporting System (DAX) for the Alabama Community College System (2015), there were a total of 15,022 registrations for history statewide for the Fall 2015 semester, making it the largest enrolled social science course among 26 of institutions in the ACCS (Alabama Community College System, 2015) (see Table 6).

Another reason why history was chosen for this study is that the application of historical thinking skills is conducive for the development of desirable workforce skills. As stated earlier, the suggested syllabus for history courses within the Alabama Community College Systems

includes objectives that include critical thinking, problem solving, and written communication which is evidence of the system’s belief that history courses can be conducive for the development of workforce desirable skills. (ACCS, 2004). Furthermore, historians and researchers alike have argued that students need training to develop foundational factual, chronological, and causal content knowledge and history-specific ways of thinking (Bain, 2005; Brooks et al., 2014; Timmins et al., 2005). Discussions of more effective history instruction consistently address critical thinking and problem-inquiry approaches that reflect real-world concerns and interests (Erekson, 2011).

Table 6

The Three Highest Enrolled Social Science Courses Within the Alabama Community College System

College	History		Psychology		Sociology	
	Reg.	Sec.	Reg.	Sec.	Reg.	Sec.
Alabama Southern	277	11	179	8	16	1
Bevill	578	25	692	30	116	9
Bishop	454	15	333	14	174	7
Calhoun	2249	79	1631	53	452	15
Central Alabama	418	17	308	12	57	2
Chattahoochee	312	15	285	11	71	3
Drake	31	2	85	5	0	0
Enterprise	422	15	253	8	30	1
Faulkner	1256	38	935	26	238	7
Gadsden	659	29	897	34	179	8
Jefferson Davis	159	8	262	13	0	0
Jefferson State	1496	53	1581	49	252	11
L. B. Wallace	359	16	292	11	50	2
Lawson	417	21	673	36	246	12
Marion Military	226	10	66	3	45	2
Northeast	506	22	467	13	55	2
Northwest - Shoals	696	27	698	23	179	7
Shelton	806	29	763	24	250	10
Snead	707	26	618	18	158	4
Southern Union	1140	42	913	30	247	9
Trenholm	0	0	112	7	0	0

Table 6 (con't)

College	History		Psychology		Sociology	
	Reg.	Sec.	Reg.	Sec.	Reg.	Sec.
Wallace Dothan	732	27	848	29	68	2
Wallace Hanceville	828	27	1048	31	196	4
Wallace Selma	294	16	210	11	55	3
Total	15022	570	14149	499	3134	121

Note. Total registrations and sections for courses beginning in HIS, PSY, or SOC within the ACCS. *Note.* Reg. = total number of registrations; Sec. = total number of sections.

Establishing Homogeneity

This study observed courses taught by two different instructors teaching HIS 202 at two different institutions. Each instructor was teaching two face-to-face sections of HIS 202 during the Spring 2016 semester with at least 25 students enrolled. To ensure that the experimental and control groups were matched as closely as possible, the inclusion criteria for the instructors of these courses were as follows: (a) instructors must be teaching two sections of the same course that match as closely as possible in terms of student demographic factors; (b) instructors must hold at least a Master's degree in the subject being taught; (c) instructors must agree to implement a flipped classroom instructional model in the class representing the experimental group; (d) in order to create homogeneity between the experimental and control groups, instructors must agree to administer the same number of assessments in both sections (i.e. workforce skills pretest, several formative assessments related to the content and designed for skill development, and a workforce skills posttest; and (e) use a web-based open source U.S. History textbook. Another element adding to the homogeneity of this study is that both of the participating instructors had the same training with regard to their history graduate work. Both participating instructors underwent training to implement the flipped classroom so that their instruction was as similar as possible.

Ethical Considerations

The student participants enrolled in the classes of the participating instructor signed a written consent form agreeing to participate in the study. If the students were under the age of 18 and willing to participate in the study, they had a parent or guardian sign the written consent form. Students who chose not to participate in the study completed the same activities as the participating students. The difference was that any evaluation of their work was not included in the data analysis of this study. The assessments, both formative and summative, used for this research study were graded separately by the instructor to determine grade values for the course. The VALUE rubric evaluations were conducted anonymously and did not impact the students' grades in the course.

Research Process and Timeline

The research processes for this study largely took place in three different phases. Phase 1 largely involved the instructional planning procedures (identifying the student learning outcomes, model for the flipped classroom implementation, relevant assessments to be used to evaluate student learning), and obtaining approval from the Institutional Review Board (IRB) to conduct the study (see Appendix B to review the IRB materials for this study). Phase 2 involved training the PIs and IRs to participate in the study and the instructional planning for the study's execution. Phase 3 began with the principal investigator obtaining informed consent forms from all of the study's participants (see Appendix B to review the approved informed consent forms). Phase 3 also involved the research process beginning with pretest, continuing through the instructional unit, and ending with the posttest. The final phase, phase 4, consisted of the IRs evaluating the students' pretests and posttests using the VALUE Rubrics to determine the

students' use of the following skills: critical thinking, creative thinking, ethical reasoning, information literacy, problem solving, and written communication.

Phase 1 (August-November, 2015)

Phase 1 involved the instructional design for the study. Before the development of the pedagogical strategies, it was necessary to identify the learning objectives that would combine both content and the activities necessary for students to develop the target skills: critical thinking, creative thinking, ethical reasoning, information literacy, problem solving, and written communication. Central to the argument of this research study, many of the activities that are associated with “doing history” are quite conducive to the development of the target skills (Bean, 2011; Elder et al., 2012; Lesh, 2011). The ability to evaluate primary documents and significant historical events involve cognitive abilities and skills that go well beyond basic factual knowledge (Bain, 2005; Conley, 2007). Often called “historical thinking,” students evaluate evidence, develop comparative and causal analyses, interpret the historical record, and construct sound historical arguments and perspectives (Elder et al., 2012). The use of historical thinking skills through the processes of evaluation, analysis, interpretation, construction, and the development of arguments are important in helping students develop critical thinking, problem solving, creative thinking, and ethical reasoning (Lesh, 2011). Ultimately, through engaging in activities that involve historical thinking skills, students use and develop a variety of higher order skills (Bean, 2011; Elder et al., 2012; Lesh, 2011).

While this study's purpose is to observe and measure the students' use and mastery of general 21st century skills that can be applied in the workforce, it is necessary to identify learning and content objectives that are conducive to the development of general 21st century skills. With the foundation of objectives and activities that involve historical thinking skills, it

was possible to evaluate existing learning objectives for U.S. history from several sources to accommodate the specific circumstances of this particular study. In order to meet the parameters of a quasi-experimental design, it was important to control the instructional process for both PIs. This is to ensure that the instruction for all of the classes were designed around the same learning objectives and content. Because both PIs taught at institutions within the Alabama Community College System (ACCS), the instructional design for this study began with the ACCS approved course objectives (ACCS, 2004) for the second half of United States History (HIS 202):

1. To teach the student basic information which is essential to a good foundation in American history and which every educated person should know.
2. To teach the student to evaluate and organize material and to cultivate creative and critical thinking.
3. To show the relevance of history to the present and promote perspective in understanding contemporary problems.
4. To develop a lasting interest in history and to acquire an appreciation for historical writing.

The ACCS objectives served as a starting point in that they are the accepted learning objectives for U.S. History for both of the participating colleges. Additionally, they include several of the observed skills from this study: critical thinking, creative thinking, information literacy, problem solving, and written communication. The only observed skill from the study that was not directly included in the ACCS objectives is ethical reasoning. Because the ACCS objectives are somewhat limited in providing direction for the types of activities that students should engage in, this study also employed The American History Association's (AHA) 2013 History Discipline Core Competencies and Learning Outcomes. This set of outcomes was

selected for this study because they are peer-reviewed and were developed with the collaboration of history faculty at both 2-year and 4-year institutions across the country. Developed through the AHA Tuning Project, a coordinated nationwide faculty-led effort to find common ground on what students in history courses or majors should know and be able to do upon completion, this set of outcomes reflected the goals and expectations of this research project (AHA, 2013). Furthermore, these objectives were compatible with this study because they were created with the philosophical and pedagogical grounding that the discipline of history creates better thinkers because students must engage in the collection of evidence, complex use of information, ability to make well-reasoned historical arguments, and ability to communicate arguments and ideas effectively (AHA, 2013). Additionally, among the reasons that the AHA felt that such a set of competencies and objectives must be created is a reason that is central to this research study—students should take history because historical knowledge and inquiry is critical in the creation of an educated workforce and citizenry (AHA, 2013). Table 7 below shows the AHA’s 2013 History Discipline Core Competencies and Learning Outcomes.

Table 7

AHA History Tuning Project: 2013 History Discipline Core

Core Competencies (Numbers)	Learning Outcomes (Bullets)
1. Engage in historical inquiry, research, and analysis.	<ul style="list-style-type: none"> • Develop a disciplined, skeptical stance and outlook on the world that demands evidence and sophisticated use of information. • Understand the dynamics of change over time. • Explore the complexity of the human experience, across time and space. • Evaluate a variety of historical sources for their credibility, position, and perspective. • Read and contextualize materials from the past with appropriate precision and detail.

Table 7 (con't)

Core Competencies (Numbers)	Learning Outcomes (Bullets)
2. Practice historical empathy.	<ul style="list-style-type: none"> • Value the study of the past for its contribution to lifelong learning and critical habits of mind that are essential for effective and engaged citizenship. • Develop a body of historical knowledge with range and depth. • Recognize the ongoing provisional nature of knowledge. • Interpret the past in context; contextualize the past on its own terms. • Explore multiple historical and theoretical viewpoints that provide perspective on the past. • Recognize where they are in history.
3. Understand the complex nature of the historical record.	<ul style="list-style-type: none"> • Distinguish between primary and secondary materials and decide when to use each. • Choose among multiple tools, methods, and perspectives to investigate and interpret materials from the past. • Recognize the value of conflicting narratives and evidence.
4. Generate significant, open-ended questions about the past and devise research strategies to answer them.	<ul style="list-style-type: none"> • Seek a variety of sources that provide evidence to support an argument about the past. • Develop a methodological practice of gathering, sifting, analyzing, ordering, synthesizing, and interpreting evidence. • Identify and summarize other scholars' historical arguments.
5. Craft historical narrative and argument.	<ul style="list-style-type: none"> • Generate a historical argument that is reasoned and based on historical evidence selected, arranged, and analyzed. • Write effective narrative that describes and analyzes the past for its use in the present. • Understand that the ethics and practice of history mean recognizing and building on other scholars' work, peer review, and citation. • Defend a position publicly and revise this position when new evidence requires it.

Table 7 (con't)

Core Competencies (Numbers)	Learning Outcomes (Bullets)
6. Practice historical thinking as central to engaged citizenship.	<ul style="list-style-type: none"> • Engage a diversity of viewpoints in a civil and constructive fashion. • Work cooperatively with others to develop positions that reflect deliberation and differing perspectives. • Apply historical knowledge and analysis to contribute to contemporary social dialogue.

Note. Hyde, A. (2013, September). *AHA History Tuning Project: 2013 History Discipline Core*. Retrieved January 9, 2016, from <https://www.historians.org/teaching-and-learning/tuning-the-history-discipline/2013-history-discipline-core>

The AHA’s History Discipline Core Competencies and Learning Outcomes (Table 7) require that students engage in activities that develop higher order cognitive skills. Through the process of engaging in activities correlated with the objectives, students developed the 21st century skills being specifically observed in this study.

The content objectives were developed from the textbook that was used for the study. In order to control the content that students were being exposed to, it was important that they all use the same text for the duration of the observed instructional unit. Because each PIs had adopted different texts for their respective U.S. history courses, an open source textbook was chosen for use in this study as it would be free for the students to use. The study used the open source book *U.S. History* created by OpenStax, a nonprofit organization based at Rice University dedicated to providing quality, peer-reviewed educational resources to students. The textbook was made available to the students in the form of a free “.pdf” file that was hosted in the learning management system.

This textbook was designed to meet the scope and sequence requirements of most introductory history courses. According to Calder (2006), most college textbooks for U.S. history are fairly uniform in their chronological organization. Consistent with Calder’s (2006)

research, the open source textbook used for this study was organized in a familiar chronological order. The textbook used in this study was also approved by both PIs as well. Table 8 below shows the content objectives from the textbook used in the study.

Table 8

Content Objectives from U.S. History by OpenStax

Major Topic & Subtopics	Content Objectives
The Great Depression, 1929-1932	
The Stock Market Crash of 1929	<ol style="list-style-type: none"> 1. Identify the causes of the stock market crash of 1929 2. Assess the underlying weaknesses in the economy that resulted in America’s spiraling from prosperity to depression so quickly 3. Explain how a stock market crash might contribute to a nationwide economic disaster
President Hoover’s Response	<ol style="list-style-type: none"> 1. Explain Herbert Hoover’s responses to the Great Depression and how they reflected his political philosophy 2. Identify the local, city, and state efforts to combat the Great Depression 3. Analyze the frustration and anger that a majority of Americans directed at Herbert Hoover
The Depths of the Great Depression	<ol style="list-style-type: none"> 1. Identify the challenges that everyday Americans faced as a result of the Great Depression and analyze the government’s initial unwillingness to provide assistance 2. Explain the particular challenges that African Americans faced during the crisis 3. Identify the unique challenges that farmers in the Great Plains faced during this period
Assessing the Hoover Years on the Eve of the New Deal	<ol style="list-style-type: none"> 1. Identify the successes and failures of Herbert Hoover’s presidency 2. Determine the fairness and accuracy of assessments of Hoover’s presidency
Franklin Roosevelt and the New Deal, 1932-1941	
The Rise of Franklin Roosevelt	<ol style="list-style-type: none"> 1. Describe the events of the 1932 presidential election and identify the characteristics that made Franklin Roosevelt a desirable candidate 2. Explain why Congress amended the U.S. Constitution to reduce the period of time between presidential elections and inaugurations

Table 8 (con't)

Major Topic & Subtopics	Content Objectives
The First New Deal	<ol style="list-style-type: none"> 1. Identify the key pieces of legislation included in Roosevelt's "First New Deal" 2. Assess the strengths, weaknesses, and general effectiveness of the First New Deal 3. Explain Roosevelt's overall vision for addressing the structural problems in the U.S. economy
The Second New Deal	<ol style="list-style-type: none"> 1. Identify key pieces of legislation from the Second New Deal 2. Assess the entire New Deal, especially in terms of its impact on women, African Americans, and Native Americans
Fighting the Good Fight in World War II, 1941-1945	
The Origins of War: Europe, Asia, and the United States	<ol style="list-style-type: none"> 1. Explain the factors in Europe that gave rise to Fascism and Nazism 2. Discuss the events in Europe and Asia that led to the start of the war 3. Identify the early steps taken by President Franklin D. Roosevelt to increase American aid to nations fighting totalitarianism while maintaining neutrality
The Home Front	<ol style="list-style-type: none"> 1. Describe the steps taken by the United States to prepare for war 2. Describe how the war changed employment patterns in the United States 3. Discuss the contributions of civilians on the home front, especially women, to the war effort 4. Analyze how the war affected race relations in the United States
Victory in the European Theater	<ol style="list-style-type: none"> 1. Identify the major battles of the European theater 2. Analyze the goals and results of the major wartime summit meetings
The Pacific Theater and the Atomic Bomb	<ol style="list-style-type: none"> 1. Discuss the strategy employed against the Japanese and some of the significant battles of the Pacific campaign 2. Describe the effects of the atomic bombs on Hiroshima and Nagasaki 3. Analyze the decision to drop atomic bombs on Japan

Note. Corbett, P. S., Janssen, V., & Lund, J. M., et. al. (2014). U.S. History. Houston, TX: OpenStax College. Retrieved January 9, 2016 from: <https://openstaxcollege.org/textbooks/us-history>

Once the learning objectives for the study had been identified, next it was necessary to develop the pedagogical methods for the experimental groups and control groups. The experimental groups would be exposed to the flipped classroom and the control groups would be exposed to direct instruction or lecture. Bishop and Verleger (2013) reported that a successful flipped classroom model involved technology-based instruction outside of the classroom in order to prepare for interactive and student-centered activities within the classroom. The goal is for students to spend their time in class collaborating with other students actively applying what they learned at home adding an active-learning component to the class (Kreutzer, 2009).

To further inform the development of the flipped classroom model for this study, Knowlton's (2000) theoretical framework for a student-centered pedagogy in the online classroom was used. While the framework was developed for online courses, it can be effectively applied to traditional classrooms as well. For the purposes of this study, the flipped classroom pedagogy implemented in the experimental groups employed Knowlton's (2000) framework in the following ways: (a) Collaboration is essential to promote learning, (b) Students must be at the center of the classroom, (c) The instructor's role is to frame the course by supplementing student interaction with resources and opportunities to achieve the objectives, (d) Provide students the opportunity to evaluate the various learning materials provided by the instructor and draw significant conclusions, (e) The instructor must evaluate the students' work and provide meaningful feedback, and (f) Technology is only a tool to deliver content and learning materials and should not be stressful to the students or central to the overall process.

Designed using research from Bishop and Verleger (2013), Knowlton (2000), and Kreutzer (2009), Figure 5 shows the flipped classroom model that was used in the experimental groups for this study.

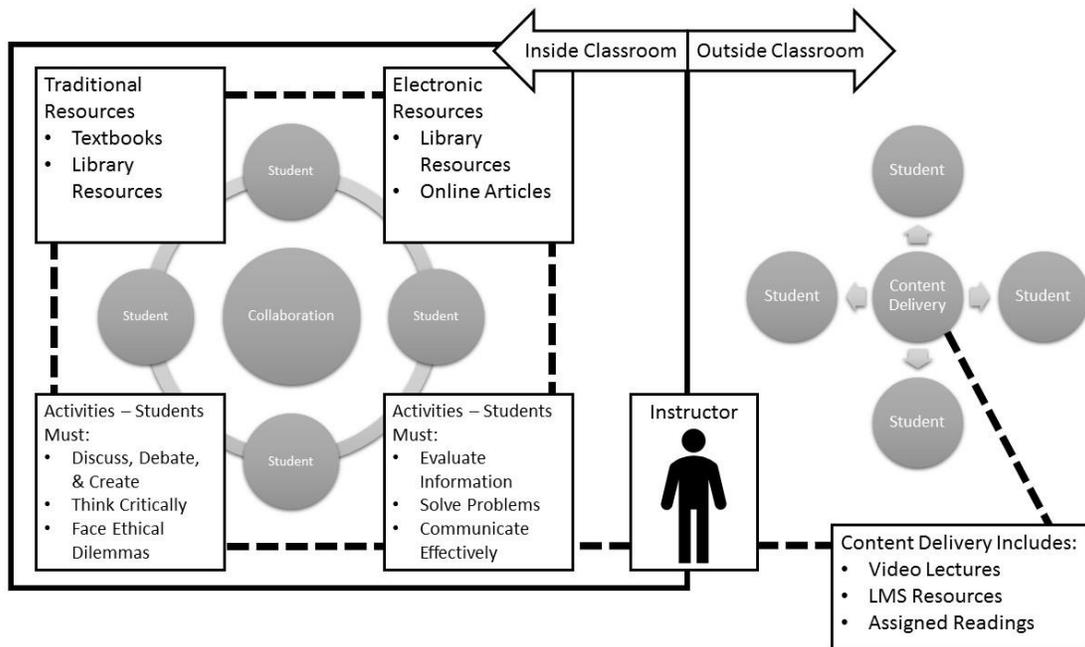


Figure 5. Flipped classroom model based on Bishop and Verleger (2013), Knowlton (2000), and Kreutzer (2009).

In this model, the instructor delivers the content electronically through the learning management system. The content is in the form of instructor-made videos. In this study, the PIs created their own video lectures. Using Bergmann and Sams (2012a) criteria for effective instructional videos, all of the videos created for this study were no longer than 15 minutes, used presentation software (i.e. PowerPoint or Prezi), be specifically made for the purposes of use in a flipped classroom model (in other words, not recorded while lecturing in class), and embedded into the learning management system for student access. Additionally, the lectures developed for the videos had to follow the expectations of an effective lecture by Lattuca and Stark (2009). Teachers can make their lectures more effective by ensuring that they are expressive, clearly organized, providing up-to-date information, summarizing widely scattered material, helping students to build connections between prior knowledge and the material, and adapted to a wide variety of student backgrounds and interests (Lattuca & Stark, 2009). Furthermore, a good

lecture is relatively short and presents a coherent set of ideas that help students organize the material that they are learning (Lattuca & Stark, 2009).

Both of the PIs used the software “Screen-Cast-O-Matic” to create their instructional videos for the experimental groups and hosted the videos on an unlisted YouTube channel. The expectation was that the students would watch the instructional videos at home to prepare for the collaborative portion of the class. The videos were embedded into a folder in the learning management system for easy access for students. By the end of the study, both PIs had created 17 instructional videos for their experimental groups. The shortest video was around 11 minutes long and the longest video was around 16 minutes long.

A major component of the flipped classroom model is the ability to use class time to engage in activities that reinforce the material that students learn from the videos. In this study, the PIs were provided with all of the activities before the instruction began. The activities used in this study to reinforce the material served as formative assessments. Formative assessments are informal assessment procedures conducted by teachers during the teaching and learning process in order to modify instruction and create opportunities for students aimed at improved learning (Angelo & Cross, 1993; Crooks, 2001). Formative assessments are intended to be low-stakes and are designed to provide instructors with information on how well the students mastered the content, but they also give instructors an opportunity to provide valuable feedback to the students (Angelo & Cross, 1993). The purpose of the formative assessments in this study was to ensure that the students were all completing the same tasks, give students opportunities to reflect on the material that they were learning, receive feedback from the instructor on how well they were mastering the content, and to serve as study materials in preparation for the posttest. The formative assessments also guided the in-class group tasks for the experimental group.

The activities, or formative assessments, used in this study came from several sources. A workbook entitled *Historical Thinking Skills: A Workbook for U.S. History* (HTS) (Irish, 2015) provides a multitude of assessments to help students develop a wide range of critical thinking skills. HTS was originally designed to assist students prepare for the Advanced Placement (AP) exam in American History. In addition to HTS, the Library of Congress offers history teachers a wealth of open-source resources that can be used to supplement almost any content objective in U.S history. One activity in particular, the primary source analysis tool, was used to guide students in evaluating primary documents. The evaluation of primary documents is not only an important historical skill, it is also useful in helping students develop critical thinking and creative thinking skills (Lesh, 2011). A formative assessment chosen for the development of ethical reasoning and problem-solving skills was *What Would You Do? A Discussion About the Ethics of War* (The National World War II Museum, 2010). This activity is an open-source activity sponsored by The National World War II Museum. Finally, Angelo and Cross's (1993) *Classroom Assessment Techniques: A Handbook for College Teachers* was used to develop formative assessments as well. This handbook is a research-based collection of classroom assessments specifically designed for college instruction. All of the formative assessments used in this study were chosen because they correlated with the learning outcomes for the observed instructional unit and required that students engage in historical thinking skills in order to complete the tasks. In the experimental group, the students worked collaboratively to complete each of the formative assessments.

In contrast to the experimental groups, the control groups engaged in what would be considered more traditional history instruction. Downey and Levstik (1998) reported that traditional history instruction includes an overreliance on textbooks, a dominance of teacher

lecture recitation, and that weekly quizzes and individual assignments are interspersed with films. Murphree (2015) reported that general education history courses in college and universities have traditionally depended on a lecture-exam model to convey information and evaluate students' understanding of content. In keeping consistent with the lectures received by experimental groups, the PIs also incorporated the qualities of a good lecture advanced by Lattuca and Stark (2009) to design their direct instruction for the control groups. According to Lattuca and Stark (2009), a good lecture presents a coherent set of ideas that help students organize the material that they are learning. Teachers can make their lectures more effective by ensuring that they are expressive, clearly organized, providing up-to-date information, summarizing widely scattered material, helping students to build connections between prior knowledge and the material, and adapted to a wide variety of student backgrounds and interests (Lattuca & Stark, 2009). Besides the in-class vs. video delivery, the difference between the lectures for the experimental groups and control groups was that the control group's lectures were delivered in one full class (1 hour, 15 minutes) time frame as opposed to short, 15 minute chunks on video. While Lattuca and Stark (2009) argued that a traditional lecture that lasts the entire class period is simply too long for the attention span of today's students no matter what their age, the control group was exposed to this traditional length of lecture as it is still quite common in history classes across the country. The actual content of the lectures for both groups were identical. For example, if it traditionally took the PIs 1 hour to teach a topic in an in-class lecture, they broke down the same lecture into four separate videos of 15 minutes each. This was to ensure that both the control and experimental groups were receiving the same lecture material.

Because the control groups spent their entire in-class time engaged in a more teacher-centered lecture learning experience, they did not engage in collaboration with other students. A lack of collaborative learning in history survey courses is the norm for traditional history instruction. However, to ensure that both the control and experimental groups were exposed to the exact same instruction delivered through different pedagogies, the control groups also engaged in the same set of formative assessments. The difference here was that the control groups completed the formative assessments individually outside of the classroom. In other words, the content delivery and learning activities were literally “flipped.” Students in the experimental groups received content outside of class and engaging in learning activities in the classroom. This was contrasted by the students in the control groups receiving content in the classroom and engaging in the learning activities outside of the classroom. The key component that the control group lacked was the opportunity to collaborate and discuss the material with their classmates. This is arguably one of the most significant differences between the flipped classroom model which involves an active-learning component vs. a traditional lecture based instructional model which involves a passive-learning experience. With regard to the formative assessments, both the control and experimental groups completed the same activities and received feedback from the instructor upon turning them in.

Figure 6 below, designed by Bergmann and Sams (2012a), shows the difference between the traditional classroom (control groups) and the flipped classroom (experimental group) and is an accurate representation of this study.

Traditional Classroom		Flipped Classroom	
Activity	Time	Activity	Time
Warm-up activity	5 min.	Warm-up activity	5 min.
Go over previous night's homework	20 min.	Q&A time on video	10 min.
Lecture new content	30–45 min.	Guided and independent practice and/or lab activity	75 min.
Guided and independent practice and/or lab activity	20–35 min.		

Note. Comparison of Class Time in Traditional versus Flipped Classrooms. Reprinted from *Flip Your Classroom: Reach Every Student in Every Class Every Day* (p. 15), by J. Bergmann and A. Sams. Copyright 2012 by the International Society for Technology in Education.

Figure 6. Comparison of class time in traditional versus flipped classrooms

The last component of phase 1 was to obtain permission to conduct the study from the Institutional Review Board (IRB). The IRB protocol was initially approved to conduct research on February 17, 2016. The protocol for this research study was given approval according to 45 Code of Federal Regulations (CFR) part 46.101(b)(1) which stated,

(1) Research conducted in established or commonly accepted educational settings, involving normal educational practices, such as (i) research on regular and special education instructional strategies, or (ii) research on the effectiveness of or the comparison among instructional techniques, curricula, or classroom management methods.

This research study was conducted in an established education setting and involved the examination of the effectiveness and comparison of instructional techniques. For more information about the IRB approval for this research project, see Appendix B. The protocol was renewed on January 11, 2017.

Phase 2 (January and February, 2016)

Once the learning objectives for the study were identified in phase 1, phase 2 involved training the PIs and IRs to participate in the study. The training for the instructors involved in

the study was based on research advanced by Bandiera et al. (2005), Sorcinelli & Austin (2006), and Elser and Chauvin (1998). First, it was necessary to develop the skills of the PIs so that they could successfully execute the pedagogical procedures outlined in this study. The training procedures used for in this study was developed based on the following principles:

1. *Principle 1:* Successful faculty development programs are interactive and include opportunities for practice (Bandiera et al., 2005).
2. *Principle 2:* Successful faculty development activities encourage faculty participants to collaborate intimately on the professional development task at hand (Sorcinelli & Austin, 2006).
3. *Principle 3:* Successful faculty development activities create faculty buy-in through demonstrating that the overall aim of the development is to improve quality of instruction and increase the likelihood of student success (Elser & Chauvin, 1998).

Overall, there were four professional development meetings conducted between the principal investigator and the PIs. These meetings took place in January and February of 2016. Table 9 below outlines the meetings and their general topics, the development activities that took place, and which one of the three principles above the activities correlated with.

Table 9

Dates and Topics of Development Activities to Prepare Participating Instructors for Flipped Classroom Implementation

Meetings and Topics	Development Activities	Development Principles
Meeting 1 January 9, 2016	• Introduction to the Study—Identification of the problem, purpose, and significance of the study.	3
	• Overview of the Definition of Terms—Discussion of how these terms relate to the courses as they are currently taught.	3

Table 9 (con't)

Meetings and Topics	Development Activities	Development Principles
Meeting 2 January 16, 2016	<ul style="list-style-type: none"> • Overview of the Role of Participating Instructor—Expectations and responsibilities to the students and the research project. 	3
	<ul style="list-style-type: none"> • Introduction to the Learning Objectives for the Study—Discussion of the learning objectives that are already present in the PIs courses. 	2, 3
	<ul style="list-style-type: none"> • Introduction to the Content Objectives and Textbook for the Study—Evaluated the textbook together and made comparisons to their adopted textbooks and discussed if the books contained adequate content to conduct the study. 	2, 3
	<ul style="list-style-type: none"> • Development of the Online Course Component in the LMS—Collaborated on developing a common LMS course that both instructors would use in their respective LMS environments (both colleges used Blackboard Learn). 	2, 3
	<ul style="list-style-type: none"> • Overview of the VALUE Rubrics—Review the VALUE Rubrics and discuss. The PIs worked collaboratively to develop one mock activity to be evaluated with each of the VALUE Rubrics. 	1, 2
	<ul style="list-style-type: none"> • Introduction to the Pretest and Posttest—Discuss the content that has just been taught by each instructor and evaluate the pretest and posttest and the way that students may answer each question. 	2, 3
Meeting 3 January 29, 2016	<ul style="list-style-type: none"> • Introduction to Video Creation for the Flipped Classroom—Discuss best practices of video creation and review examples of instructional videos that incorporate best practices. 	3
	<ul style="list-style-type: none"> • Training on Video Creation Software—The PIs received hands-on training in the use of Screen-Cast-O-Matic, uploading videos to YouTube, and embedding videos into Blackboard Learn. The PIs created one video to be used in the actual Flipped Classroom study to practice using the software, uploading the videos, and embedding them in Blackboard. 	1, 3

Table 9 (con't)

Meetings and Topics	Development Activities	Development Principles
Meeting 4 February 19, 2016	<ul style="list-style-type: none"> • Introduction to the Formative Assessments—Discuss each of the formative assessments to be used in the study and how they relate to skills development. The PIs worked collaboratively to complete one of the formative assessment and worked independently to complete a second formative assessment. This activity served to better develop their understanding of how to incorporate the formative assessments into the actual classes. 	1, 2, 3
	<ul style="list-style-type: none"> • Develop Timeline for Instructional Unit—The PIs had approximately 3 weeks to plan lectures and record instructional videos. Discuss and determine a timeline for instruction of the unit to be observed for the study. 	2, 3
	<ul style="list-style-type: none"> • Faculty Development for Active Learning Strategies—Using Fink’s (2013) suggested activities for active learning, the PIs engaged in a variety of activities where they learned how to incorporate active learning into their classes. 	1, 2, 3
	<ul style="list-style-type: none"> • Final Evaluation of Materials and Procedures for the Research Study—Work collaboratively to ensure that instruction between both PIs is as similar as possible and discuss each of the formative assessments and how they related to the content to be taught and how they were to be used in the experimental and control groups. 	2, 3

Note. The development principles were developed from research advanced by Bandiera et al. (2005), Sorcinelli and Austin (2006), and Elser and Chauvin (1998).

The PIs came to the study with the historical content knowledge, ability to use a learning management system, knowledge of how to create history lectures, knowledge of how to present lectures with Microsoft PowerPoint, and how to use formative and summative assessments. The specific new skills that the PIs would need in order to successfully execute the study was creating instructional videos and teaching with active learning strategies. Using research on faculty development and adult learning by Bandiera et al. (2005), Sorcinelli and Austin (2006), and Elser and Chauvin (1998) to underpin the faculty development to prepare the PIs to

participate in this study, training for the new skills took place during meetings 3 and 4. The actual training is based on Fink's (2013) activities for the promotion of active learning. This method of instruction was chosen because it was not only effective for training activities, but it was also the foundation for the activities used for incorporating active learning into the experimental groups.

Fink (2013) described three modes of learning that are essential to a significant active learning experience—information and ideas, experiences, and reflecting. Effective learning activities should be constructed using all three of these modes. The “information and ideas” is the content to be learned. This can come from a textbook, articles, websites, lectures, etc. The “experiences” refers to any learning activity in which the learners actually engage in the activity or information that we want them to learn. Finally, the “reflecting” is the process of finding meaning in the material being taught. For “experiencing,” Fink (2013) categorized them as either “Doing” or “Observing.” Doing experiences are where the learners actually do whatever it is that they are trying to learn. Observing experiences are where the learning observes a demonstration of whatever is being learned. The experiences can either be “Direct” or “Indirect.” Direct experiences are those where the learner engages in a real action in an authentic setting. Indirect experiences are employed when the instructor is unable to recreate the actual situational context of whatever is being learned and must rely on a simulation or role playing action for example. Table 10 below outlines the specific learning activities the PIs engaged in to prepare to teach using the flipped classroom. The figure is modified from Fink's (2013, p. 120) original figure identifying specific learning activities.

Table 10

Training Activities for the PIs to Promote the Skills of Instructional Video Creation and Teaching With Active Learning for Flipped Classroom Implementation

Faculty Development Topic	Information and Ideas	Experiences	Reflection	Principles for Training
Instructional Videos & Flipped Classroom (Meeting 3 – 2 Hours)	<ul style="list-style-type: none"> • Article: <i>The flipped classroom: A survey of the research</i> by Bishop & Verleger (2013) • Book: <i>Flip Your Classroom: Reach Every Student in Every Class Every Day</i> by Bergmann & Sams (2012) 	<ul style="list-style-type: none"> • Direct Observation Experience: Creation of an instructional video using ScreenCast-O-Matic software. • Direct Doing Experience: PIs will create their own instructional video. 	<ul style="list-style-type: none"> • Discussion of best practices for video creation. • PIs engage in a SWOT analysis on the videos to be created for this study. • Discussion of the pros and cons of the flipped classroom. 	<ol style="list-style-type: none"> 1.) Opportunities for Practice 2.) Collaboration 3.) Creation of Buy-In
Active Learning (Meeting 4 – 2 Hours)	<ul style="list-style-type: none"> • Book: <i>Creating Significant Learning Experiences</i> by Fink (2013) • Book: <i>Why Won't You Just Tell Us The Answer</i> by Lesh (2011) 	<ul style="list-style-type: none"> • Direct Doing Experience: PIs will work collaboratively to complete each type of formative assessment utilized in this study. • Indirect Doing Experience: PIs create sample lesson plans that employ active learning activities. • Indirect Observation Experience: PIs watch two short videos that demonstrate model active learning in a classroom setting. 	<ul style="list-style-type: none"> • Discussion of the pros and cons of active learning. • Discussion of how to incorporate active learning beyond this study. • PIs engage in a SWOT analysis on active learning activities. 	<ol style="list-style-type: none"> 1.) Opportunities for Practice 2.) Collaboration 3.) Creation of Buy-In

Note. Figure 7 Training activities for the PIs to promote the skills of instructional video creation and teaching with active learning for flipped classroom implementation was adapted from Exhibit 4.1 Activities That Promote Active Learning in *Creating Significant Learning Experiences* (p. 120) by Fink (2013). The principles for training were developed from research advanced by Bandiera et al. (2005), Sorcinelli and Austin (2006), and Elser and Chauvin (1998).

During the same time frame (January and February, 2016) the IRs were also engaged in development to participate in the study. Since the role of the IRs was quite different from that of the PIs, the various development activities were different. The primary responsibility of the IRs was to evaluate the students' answers on the pretests and posttests using the VALUE Rubrics. The principal investigator felt that it was important for the IRs to participate in the same introductory activities as the PIs (i.e., introduction to the study, overview of the roles and definitions, etc.). However, it was not necessary for them to engage in the same activities centered around the actual classroom instruction. Table 11 below outlines the meetings and their general topics, the development activities that took place, and which one of the three principles above the activities correlated with.

Table 11

Dates and Topics of Development Activities to Prepare Independent Raters for Evaluation of the Pretests and Posttests

Meetings and Topics	Development Activities	Development Principles
Meeting 1 January 9, 2016	• Introduction to the Study—Identification of the problem, purpose, and significance of the study.	3
	• Overview of the Definition of Terms—Discussion of how these terms relate to the courses as they are currently taught.	3
	• Overview of the Role of Independent Rater—Discussion of the expectations and responsibilities.	3
Meeting 2 January 16, 2016	• Overview of the VALUE Rubrics—Review the VALUE Rubrics and discuss. The IRs worked collaboratively to develop one mock activity to be evaluated with each of the VALUE Rubrics.	1, 2
	• Introduction to the Pretest and Posttest—Discuss the content that has just been taught by each of the participating instructors and evaluate the pretest and posttest and the way that students may answer each question.	2, 3

Table 11 (con't)

Meetings and Topics	Development Activities	Development Principles
Meeting 3 March 19, 2016	<ul style="list-style-type: none"> • Begin Evaluation of Pretests—The IRs received a brief overview of the VALUE Rubrics again. The IRs worked collaboratively to evaluate the first 3 pretests for practice and clarification. 	1, 2, 3
	<ul style="list-style-type: none"> • Develop a Timeline for Pretest/Posttest Evaluation—The IRs worked collaboratively to develop a timeline to evaluate and return the scored rubrics to the principal investigator. 	2

Note. The development principles were developed from research a by Bandiera et al. (2005), Sorcinelli and Austin (2006), and Elser and Chauvin (1998).

It was over the course of phase 2 (January and February, 2016) where the PIs developed a plan for instruction. It was important for the PIs to work collaboratively to plan instruction so that the groups were as similar as possible. To facilitate the instructional planning, Fink's (2013) model of "integrated course design" was used. Developed by Fink (2013), the integrated course design model is a holistic approach to designing college classes. This model was chosen because of the specific focus on learner-centered instruction. A key component of the flipped classroom is creating an active-learning environment in the classroom. As such, Fink's (2013) integrated course design and the flipped classroom model are compatible. To illustrate this compatibility, Fink (2013) said that

Students will always need ways to acquire information and ideas relevant to the subject of the course, and there will always be value in lectures and secondary sources as a basis for students' study of a given topic. But teachers can facilitate the whole course design process if they can make two changes with this component of active learning. If they can find ways to move students' initial exposure to the content outside-of-class learning activities, that will free up in-class time for rich learning experiences (p. 137).

Fink's (2013) basic integrated course design is made up of the following components: (a) analyze the situational factors, (b) formulate the learning goals, (c) design the feedback and assessment procedures, and (d) select the teaching and learning activities. This model is

designed primarily for the development of an entire class. For the purposes of this study, the PIs are only designing instruction for a single instructional unit. Because of this, the PIs only employed an abbreviated version of Fink’s (2013) model. Table 12 below illustrates the integrated course design employed by the PIs in this study.

Table 12

Integrated Course Design by PIs—Based on Fink’s (2013) Model

Component	Considerations
Situational Factors	<ul style="list-style-type: none"> • Specific Context of the Teaching/Learning Situation: <ul style="list-style-type: none"> ○ Each class has at least 25 students. ○ The classes meet two times per week for 1.25 hours. ○ The classes are face-to-face courses. ○ All of the classes meet in traditional classrooms equipped with a computer and projector. ○ Blackboard Learn is the learning management system for all of the students involved. ○ The experimental groups will be exposed to the flipped classroom model of instruction. ○ The control groups will be exposed to a traditional lecture model of instruction. ○ There are no necessary accommodations to be made for any of the students involved in the study. • Nature of the Subject: <ul style="list-style-type: none"> ○ Students have enrolled in a HIS 202 (U.S. History II) course. This study will observe one instructional unit that spans the following eras: The Great Depression, The New Deal, and World War II. • General Context of the Learning Situation: <ul style="list-style-type: none"> ○ Students are expected to develop the 21stst century skills of critical thinking, creative thinking, ethical reasoning, information literacy, problem solving, and written communication more effectively with the flipped classroom model than with a traditional lecture model.
Learning Goals (Summarized into Three Broad Learning Goals)	<ul style="list-style-type: none"> • Goal 1: Students will develop the following 21st century skills: critical thinking, creative thinking, ethical reasoning, information literacy, problem solving, and written communication.

Table 12 (con't)

Component	Considerations
Feedback and Assessment	<ul style="list-style-type: none"> • Goal 2: Students will develop 21st century skills through engaging in activities that employ the AHA's 2013 History Discipline Core Competencies (see table 7). • Goal 3: Students will develop 21st century skills and historical thinking skills through engaging in learning activities that are designed around the historical concepts of The Great Depression, The New Deal, and World War II. To be effective, these content specific learning activities will be grounded in the AHA's 2013 History Discipline Core Competencies • The feedback and assessment to be employed in this study is centered around a set of formative assessments that both the experimental groups and control groups will complete. • In order to facilitate the development of the 21st century skills, the PIs will employ Fink's (2013) model for high quality feedback: <ul style="list-style-type: none"> ○ <i>Frequent</i>: Give feedback daily, weekly, or as frequently as possible. ○ <i>Immediate</i>: Get the feedback to students as soon as possible. ○ <i>Discriminating</i>: Make clear what the difference is between poor, acceptable, and exceptional work. ○ <i>Loving</i>: Be empathetic in the way you deliver your feedback.
Teaching and Learning Activities	<ul style="list-style-type: none"> • Experimental Groups <ul style="list-style-type: none"> ○ Outside Class <ul style="list-style-type: none"> ▪ Video Lectures ▪ Electronic Resources in LMS ○ Inside Class <ul style="list-style-type: none"> ▪ Collaboration on Formative Assessments ▪ Active Learning Activities ▪ Using Content Learned from Video Lectures • Control Groups <ul style="list-style-type: none"> ○ Outside Class <ul style="list-style-type: none"> ▪ Complete Formative Assessments Individually ▪ Electronic Resources in LMS ○ Inside Class <ul style="list-style-type: none"> ▪ Lecture ▪ Class Discussion

Note. Adapted from Fink's (2013) Integrated Course Design Process

Essentially, the experimental groups watched video lectures outside of the classroom and engaged in active learning activities in the classroom to complete a series of formative assessments. The control groups received the lecture material in the classroom and completed the same series of formative assessments outside of the classroom. The information below further develops the teaching and learning activities employed by the PIs in this study:

- **Lecture Material**—The PIs collaborated to create lecture outlines that would be used to teach all of the content to be covered in this study. The PIs also attached an instructional timeline to each topic. The control groups received the information in class from a 1-hour lecture. The experimental groups received the exact same lecture material broken into four 15 minute videos viewed in the LMS by students while outside of class.
- **Formative Assessments**—The PIs employed a series of formative assessments that accompanied the lecture material. The formative assessments served a number of functions. First, they served to ensure that the students in both the control and experimental groups were completing the same activities that reinforced the target skills. Second, for the experimental groups, they served as the guide for the active learning activities. Third, the feedback that students received from the instructor helped reinforce learning [see Fink’s (2013) model for high quality feedback in Table 12]. Finally, each of the formative assessments engaged students in processes like analysis, synthesis, problem solving, research, written communication, and evaluation that promoted the skills targeted in this study. The formative assessments came from three sources: (a) *Historical Thinking Skills: A Workbook for U.S. History* (HTS) by Irish (2015), (b) the Primary Source Analysis Tool from The Library of Congress’s (2016) educator

resources, and (c) the “What Would You Do?” WWII Ethical Reasoning Activity from the National World War II Museum (2010) educator resources.

- **Active Learning Activities**—Active learning is a key component of a flipped classroom. The students are to engage in active learning activities that require them to apply the knowledge they gained from watching the lecture material outside of the classroom. The active learning activities employed in the experimental groups were based on Fink’s (2013) “Activities That Promote Active Learning.” Fink described three modes of learning that are essential to a significant active learning experience—information and ideas, experiences, and reflecting. Effective learning activities should be constructed using all three of these modes. The “information and ideas” is the content to be learned. This can come from a textbook, articles, websites, lectures, etc. The “experiences” refers to any learning activity in which the learners actually engage in the activity or information that we want them to learn. Finally, the “reflecting” is the process of finding meaning in the material being taught. Fink’s (2013) model separated activities into “Direct” and “Indirect” activities. Direct activities are those where the learner engages in a real action in an authentic setting. Indirect activities are employed when the instructor is unable to recreate the actual situational context of whatever is being learned and must rely on a simulation or role playing action for example. With regard to “experiences” specifically, they can be categorized as “Doing” and “Observing.” “Doing” refers to experiences where the learners actually do whatever it is that they are trying to learn. “Observing” experiences are where the learning observes a demonstration of whatever is being learned.

Phase 3 (March and April, 2016)

Phase 3 began the instructional process of the study. In this phase, the principal investigator obtained the informed consent forms from all of the study's participants and the PIs prepared the calendar for instruction. Between March 7 and 11, 2016, the principal investigator visited each of the classes involved in the study and provided the students with a brief orientation to their role in the study. Once all of the informed consent forms had been collected, copies were made and kept on file with the principal investigator and the PIs. The PIs were able to use the forms to determine the students who would be participating in the study and those who would not be. For students who chose not to participate, they would still be involved in the same instructional activities as the students who were also participating. Also, students not participating also completed all of the same assessments, including the pretest and posttest, as this was a part of the classes' instruction and grading for the semester. The pretests and posttests of the students not participating were not provided to the principal investigator or IRs. It is also important to note here that the identities of all of the students, regardless of their participation, were kept completely confidential. The PIs developed a number coding system so that they would be aware of the students' identities for grading purposes.

The pretests were administered during the week of March 14-18, 2016. Students were allowed to take the pretests home and concentrate on writing the best possible answers for each of the essay questions. Students were allowed to use their notes from the previous instructional unit and were encouraged to type their answers (with the exception of the question related to creative thinking as students had to draw a political cartoon). Students had the entire week to complete the pretest and had to turn it in electronically at the end of the week. The rationale for allowing the students to take the pretest home was so that they could construct the best possible

answers allowing the IRs to focus specifically on the use of skills (critical thinking, creative thinking, ethical reasoning, information literacy, problem solving, and written communication) as opposed to content. To ensure student accountability on focusing on content as well, the PIs made quality of content part of the grade for the pretest. However, for the purposes of this study, we were focused on skill development and the results of the scoring from the VALUE Rubrics.

Instruction for the observed unit began during the same week. Tables 13 and 14 below use Fink's (2013) *Worksheet for Designing a Course* (p. 264) for course design. Figure 7 below uses Fink's (2013) *Activities that Promote Active Learning* to present the active learning information that accompanies the experimental group instruction (or Table 13). The columns represent the learning goals, assessment activities, and learning activities for the course. The "learning goals" include the content that was taught and the skills targeted for development. The "assessment activities" are the formative assessments that were used to evaluate whether or not the students were learning the material. Finally, the "learning activities" were the teaching methods used to teach the content and skills. In the assessment activities column, "HTS" stands for *Historical Thinking Skills: A Workbook for U.S. History* (Irish, 2015). After HTS, you will notice a series of letters and numbers that represent the actual activity from the work book. The other formative assessments include the Primary Source Analysis Tool from The Library of Congress's (2016) educator resources, and the "What Would You Do?" WWII Ethical Reasoning Activity from the National World War II Museum (2010) educator resources. All of the other assessment activity resource materials (i.e., photographs or primary documents) come from The Library of Congress's (2016) educator resources.

Table 13

Fink's Worksheet for Course Design for the Experimental Groups

Learning Goals	Assessment Activities	Learning Activities
<ul style="list-style-type: none"> • Stock Market Crash of 1929 • Creative Thinking • Written Communication 	<ul style="list-style-type: none"> • HTS TP18 • Writing Dialogue – Between Hoover and Roosevelt 	<ul style="list-style-type: none"> • Video lectures to be watched before class. • In-Class Active Learning Activities
<ul style="list-style-type: none"> • President Hoover's Response • The Depths of the Great Depression • Critical Thinking • Written Communication 	<ul style="list-style-type: none"> • Primary Source Analysis Tool – Dust Bowl Photos, Roosevelt's 1933 Inauguration, and Letters to Eleanor Roosevelt 	<ul style="list-style-type: none"> • Video lectures to be watched before class. • In-Class Active Learning Activities
<ul style="list-style-type: none"> • Assessing the Hoover Years • Rise of Franklin Roosevelt • Problem Solving • Written Communication 	<ul style="list-style-type: none"> • HTS CA24, IN34, and IN35 • Identify 6 New Deal Programs Problem Solving Activity 	<ul style="list-style-type: none"> • Video lectures to be watched before class. • In-Class Active Learning Activities
<ul style="list-style-type: none"> • The First New Deal • The Second New Deal • Information Literacy • Written Communication 	<ul style="list-style-type: none"> • HTS DP15 and AR23 • Information Literacy Activity 	<ul style="list-style-type: none"> • Video lectures to be watched before class. • In-Class Active Learning Activities
<ul style="list-style-type: none"> • The Origins of War • The Home Front • Ethical Reasoning • Written Communication 	<ul style="list-style-type: none"> • HTS CA25 and AR24 • "What Would You Do?" WWII Ethical Reasoning Activity 	<ul style="list-style-type: none"> • Video lectures to be watched before class. • In-Class Active Learning Activities
<ul style="list-style-type: none"> • Victory in the European Theater • The Pacific Theater • Critical Thinking • Written Communication 	<ul style="list-style-type: none"> • HTS CR9 • Japanese Internment Primary Document Analysis • Japanese Internment Focused Listing Activity 	<ul style="list-style-type: none"> • Video lectures to be watched before class. • In-Class Active Learning Activities

Table 14

Activities Used to Promote Active Learning in Experimental Groups

Formative Assessment Type	Information and Ideas	Experiencing	Reflecting
<p>Activities from the <i>Historical Thinking Skills (HTS) Workbook</i> (Irish, 2015)</p>	<p>Indirect:</p> <ul style="list-style-type: none"> • Textbook • Lectures 	<p>Indirect Doing: Students will work collaboratively in groups of 4 to complete the HTS activities. After the completion of the worksheet, students will conduct a role play, debate, visual presentation created in class, or conduct a short case study on the material.</p> <p>Indirect Observing: Students will be exposed to film where they observe actual video footage from the historical period.</p>	<p>Direct:</p> <ul style="list-style-type: none"> • In-class discussions and debriefs on the day’s activity. • Feedback from instructor on formative assessments.
<p>CAT Activities from Angelo & Cross (1993)</p>	<p>Indirect:</p> <ul style="list-style-type: none"> • Textbook • Lectures <p>Direct:</p> <ul style="list-style-type: none"> • Primary Sources: Articles, Letters, and Photographs 	<p>Indirect Doing: Students will work collaboratively in groups of 2 to 4 (depending on CAT) to complete a Classroom Assessment Technique (CAT). These activities ask students to interact with the material in a number of ways (i.e., simulation, reflection, problem solving, etc.) Students are responsible for sharing the final product created by the groups.</p>	<p>Direct:</p> <ul style="list-style-type: none"> • In-class discussions and debriefs on the day’s activity. • Feedback from instructor on formative assessments.
		<p>Indirect Observing: Students will be exposed to film where they observe actual video footage from the historical period.</p>	

Table 14 (con't)

Formative Assessment Type	Information and Ideas	Experiencing	Reflecting
Primary Source Tools from The Library of Congress	Indirect: <ul style="list-style-type: none"> • Textbook • Lectures Direct: <ul style="list-style-type: none"> • Primary Sources— photographs, speech transcripts, and letters. 	<p>Indirect Doing: Students will work collaboratively in groups of 4 to complete the Primary Source Tool activities. After the completion of the activity, students will conduct a, visual presentation created in class.</p> <p>Indirect Observing: Students will be exposed to film where they observe actual video footage from the historical period.</p>	Direct: <ul style="list-style-type: none"> • In-class discussions and debriefs on the day’s activity. • Feedback from instructor on formative assessments.
Ethics of World War II Activity	Indirect: <ul style="list-style-type: none"> • Textbook • Lectures • What Would You Do? Information Direct: <ul style="list-style-type: none"> • Primary Sources— photographs 	<p>Indirect Doing: For this activity, students will work collaboratively to develop debates that highlight the ethical and moral dilemmas of World War II and war in general. Student groups will debate with one another to present the various arguments drawn from the activity.</p>	Direct: <ul style="list-style-type: none"> • In-class discussions and debriefs on the day’s activity. • Feedback from instructor on formative assessments.

Note. Table 13 *Activities Used to Promote Active Learning in Experimental Groups* was adapted from *Exhibit 4.1 Activities That Promote Active Learning in Creating Significant Learning Experiences* (p. 120) by Fink (2013).

A key component of the success of the flipped classroom is the active learning activities that take place in the classroom after students have watched the lecture material at home. While all of the students for this study were required to complete the same assessment activities, the experimental group was exposed to an active learning component. Table 15 below, designed based on Fink’s (2013) “Activities That Promote Active Learning” that was discussed earlier, shows a summary of the active learning activities that were employed in the experimental groups.

Table 15

Fink's Worksheet for Course Design for the Control Groups

Learning Goals	Assessment Activities	Learning Activities
<ul style="list-style-type: none"> • Stock Market Crash of 1929 • Creative Thinking • Written Communication 	<ul style="list-style-type: none"> • HTS TP18 • Writing Dialogue—Between Hoover and Roosevelt 	<ul style="list-style-type: none"> • Direct Instruction in class • Formative Student Assessments as Homework
<ul style="list-style-type: none"> • President Hoover's Response • The Depths of the Great Depression • Critical Thinking • Written Communication 	<ul style="list-style-type: none"> • Primary Source Analysis Tool—Dust Bowl Photos, Roosevelt's 1933 Inauguration, and Letters to Eleanor Roosevelt 	<ul style="list-style-type: none"> • Direct Instruction in class. • Formative Student Assessments as Homework
<ul style="list-style-type: none"> • Assessing the Hoover Years • Rise of Franklin Roosevelt • Problem Solving • Written Communication 	<ul style="list-style-type: none"> • HTS CA24, IN34, and IN35 • Identify 6 New Deal Programs Problem Solving Activity 	<ul style="list-style-type: none"> • Direct Instruction in class • Formative Student Assessments as Homework
<ul style="list-style-type: none"> • The First New Deal • The Second New Deal • Information Literacy • Written Communication 	<ul style="list-style-type: none"> • HTS DP15 and AR23 • Information Literacy Activity 	<ul style="list-style-type: none"> • Direct Instruction in class • Formative Student Assessments as Homework
<ul style="list-style-type: none"> • The Origins of War • The Home Front • Ethical Reasoning • Written Communication 	<ul style="list-style-type: none"> • HTS CA25 and AR24 • "What Would You Do?" WWII Ethical Reasoning Activity 	<ul style="list-style-type: none"> • Direct Instruction in class • Formative Student Assessments as Homework
<ul style="list-style-type: none"> • Victory in the European Theater • The Pacific Theater • Critical Thinking • Written Communication 	<ul style="list-style-type: none"> • HTS CR9 • Japanese Internment Primary Document Analysis • Japanese Internment Focused Listing Activity 	<ul style="list-style-type: none"> • Direct Instruction in class • Formative Student Assessments as Homework

It is necessary to address several other issues concerning the classroom instruction. For the experimental groups, it was necessary to divide the students into groups for each class meeting. To deal with any potential absences, the students were grouped differently for each class. The groups were formed by counting the students off at the beginning of class. Because each class employed stand-alone formative assessments and active learning activities, it was not

necessary to keep them in the same groups for the duration of the project. While the students were working collaboratively to complete the formative assessments or engaging in other active learning activities, the PIs were responsible for moving around the room to check the progress of the students, to offer assistance, and to keep students on task. Of course, for the control groups, the PIs spent the in-class time lecturing. For the formative assessments, the PIs returned the graded activities with comments by the next class meeting. Frequent feedback is considered to be a crucial component of student success for Fink's (2013) model of formative assessment. Finally, the evaluation of the formative assessments served as the instructor's way of determining whether or not students watched the lectures outside of class or paid attention to the lectures in class. For future studies, it might be useful to use a video hosting software solution that allows tracking to evaluate the students' viewing habits of the video lectures.

Phase 4 (May, 2016)

The posttests for the study were administered during the week of April 18-22, 2016. Like the pretest, students were allowed to take the posttests home and concentrate on writing the best possible answers for each of the essay questions. Students were allowed to use any notes taken and/or any feedback on formative assessments that they had received over the course of the instructional unit. Students were again encouraged to type their answers (with the exception of the question related to creative thinking as students had to draw a political cartoon). Students had the entire week to complete the posttest and had to turn it in electronically at the end of the week. Again, the rationale for allowing the students to take the posttest at home was so that they could construct the best possible answers allowing the IRs to focus specifically on the use of skills. The PIs again made quality of content part of the grade for the posttest.

The answers from the students were given to the principal investigator on April 29, 2016. The students' names had been removed with only numerical codes to identify the students. Effort was made by the PIs to ensure that there was a pretest and posttest for each student. However, there were a few instances where a student did not complete one or the other. For the purposes of this research, only students who had completed both the pretest and posttest were included in the statistical analysis. The answer documents were delivered to the IRs on May 1, 2016 for evaluation. The principal investigator also supplied the IRs with all of the rubrics that would be necessary to evaluate all of the students' answers. The evaluation process took longer than expected. The IRs were given 2 full weeks to complete the evaluations of the student work (May 1-May 15, 2016). However, the final set of evaluated answer documents and rubrics were not returned until May 26, 2016. It was at this point that the statistical analysis began.

Data Collection

The research study examined the differences in workforce skill development between the students in the experimental (flipped instruction) and control (traditional teacher-centered instruction) course sections. Before instruction of the observed unit began, a pretest essay was assigned. Each of the pretests for students who turned in an informed consent agreement was scored using the VALUE rubrics by independent raters. After the observed instructional unit had been completed, a posttest was assigned. Only the posttests submitted by students who also submitted pretests were scored for the purposes of this study. The overall mean scores for each of the rubrics obtained from the independent raters for both the pretest and posttest was calculated and compared to determine statistical differences between the two groups.

Data Analysis

As previously noted, all pretest and posttest assessments were assessed using VALUE Rubrics for the following skills: critical thinking, problem solving, written communication, creative thinking, information literacy, and ethical reasoning. Table 16 shows the six VALUE rubrics used in this study, the number of evaluation criteria, levels of evaluation, and the rubric range scores.

Table 16

VALUE Rubrics and Scoring Information

VALUE Rubric	Number of Evaluation Criteria	Levels of Evaluation for Each Criterion	Rubric Range of Scores
Critical Thinking	5	Levels 0-5	0-25
Creative Thinking	5	Levels 0-5	0-25
Ethical Reasoning	4	Levels 0-5	0-20
Information Literacy	4	Levels 0-5	0-20
Problem Solving	5	Levels 0-5	0-25
Written Communication	4	Levels 0-5	0-20

The mean of the total rubric scores was obtained for both of the independent raters for the pretest and posttest assignments from the experimental and control groups. In order to have one overall mean total rubric score for each test and each group, the mean of the two raters' overall mean total rubric score was calculated. To calculate the gain score, the difference between the overall mean total rubric scores from pretest to posttest was obtained. The pretest and posttest gain scores were analyzed to determine statistical differences between the two groups. Using the SPSS statistics software package, the gain scores were compared using independent samples *t*-tests in order to determine if there were any statistically significant differences between the two groups. To determine the reliability between the two raters, the total mean rubric scores were compared for each rater using a Pearson Correlation.

Limitations

While quasi-experimental nonequivalent group research designs are frequently used and were acceptable for research being conducted in this study, the inability to control for group differences was a limitation. Because these types of studies lack true randomization, statistical tests are not as accurate as they would be with random samples. Every effort was made to create equivalency between the groups; the potential for outside influences between the groups is still a possibility. Additionally, while the instruction between the two groups was formalized as much as possible, this study observed two different instructors at two different institutions.

Summary

This chapter described the procedures for obtaining the research sample and selecting the instrument. It also reported the overall research design and quasi-experimental procedures, as well as the method of data analysis. This study observed two instructors within the Alabama Community College System who teach two United States History II courses. For the instructional units being observed, one class served as an experimental group and the other served as the control group. Specifically, the study was designed to determine the effect on skill development by changing the pedagogical methods from traditional lecture to a flipped classroom model. The students' skill development was evaluated by a pretest/posttest model to determine statistical differences between the two groups.

CHAPTER IV

RESULTS

Learning in the 21st century includes digital literacy (skills associated with searching, evaluating, using, modifying and creating digital artifacts) and reasoning literacy (critical thinking skills) among the other basic skills to be developed in primary and secondary education that need to be enhanced through formative assessment for learning. (Spector et al., 2016, p.)

The purpose of this study was to analyze the effectiveness of the flipped classroom model at helping students develop workforce desirable skills in community college history classes. The study focused on the following six skills: critical thinking, creative thinking, ethical reasoning, information literacy, problem solving, and written communication. In light of the increased scrutiny being placed on institutions of higher learning to demonstrate accountability by government, parents, students, accrediting bodies, potential funding sources, and potential employers, this information may contribute to a better understanding of how history courses (and arguably other liberal arts disciplines) can contribute to student preparation for the workforce. Finally, this study adds to the body of research on the flipped classroom. Six research questions guided this study:

1. Is there a significant difference in a student's development of critical thinking skills between students taught history with the flipped classroom model and those taught with a traditional teacher-centered instructional approach?
2. Is there a significant difference in a student's development of creative thinking skills between students taught history with the flipped classroom model and those taught with a traditional teacher-centered instructional approach?

3. Is there a significant difference in a student's development of ethical reasoning skills between students taught history with the flipped classroom model and those taught with a traditional teacher-centered instructional approach?

4. Is there a significant difference in a student's development of information literacy skills between students taught history with the flipped classroom model and those taught with a traditional teacher-centered instructional approach?

5. Is there a significant difference in a student's development of problem-solving skills between students taught history with the flipped classroom model and those taught with a traditional teacher-centered instructional approach?

6. Is there a significant difference in a student's development of written communication skills between students taught history with the flipped classroom model and those taught with a traditional teacher-centered instructional approach?

The study took place in the history classes of two different instructors at two different institutions within the Alabama Community College system. Using a quasi-experimental research design, each instructor used one of the U.S. History II courses as an experimental group and the other as a control group. Each of the instructors taught the same unit and used the flipped classroom pedagogical model with the experimental groups. In the control groups, the instructors taught using teacher-centered direct instruction. All of the students completed the same formative assessments and a pretest and posttest that were evaluated with the use of rubrics created by the American Association of Colleges and Universities (AACU) designed for the purpose of evaluating soft skill development. Between the experimental and control groups, there were a total of 122 students that participated. However, in order for students to be included in this study, they must have submitted both the pretest and posttest. For any student with a

missing pretest or posttest assessment, they were treated as missing for the statistical analysis. A total of 86 students were counted for the study. There were 36 students in the experimental groups ($n = 36$) and 50 students in the control groups ($n = 50$). It is important to note that because the sample sizes are different between the experimental and control groups, with each of the independent samples t -tests conducted, the Welch's unequal variances t -test is what was analyzed and reported. A summary of the total pretest and posttest scores are presented in Table 17.

Data Analysis

Research Question 1

*Is there a significant difference in a student's development of **critical thinking skills** between students taught history with the flipped classroom model and those taught with a traditional teacher-centered instructional approach?* The first research question investigated the difference in pretest and posttest scores between the experimental and control groups with regard to critical thinking. An independent-samples t -test was conducted on the gain scores to determine whether the improvement in critical thinking from pretest to posttest was greater for the experimental group than it was for the control group. There was a significant difference in the M critical thinking gain scores between the experimental group and the control group; $t(82.161) = 1.999$, $p = .04995\%$, $CI = 0.011-4.634$. The results suggest there was a significant difference in the development of critical thinking between students who received the flipped classroom instruction and those who did not. The mean scores for critical thinking can be seen in Table 18.

Table 17

Gain Scores from Pretest to Posttest

Skill	Group	n	Pretest		Posttest		Gain Scores	
			M	SD	M	SD	M	SD
Critical Thinking	EXP	36	11.470	5.011	18.130	3.381	6.650	4.883
	CON	50	11.080	5.486	15.410	5.018	4.330	5.866
Creative Thinking	EXP	36	7.750	6.929	15.070	4.290	7.320	6.595
	CON	50	8.090	5.610	11.960	5.528	3.870	6.470
Ethical Reasoning	EXP	36	9.440	4.682	14.750	3.020	5.310	4.979
	CON	50	9.000	4.183	12.090	3.879	3.090	3.850
Information Literacy	EXP	36	7.780	3.731	13.810	2.970	6.030	4.032
	CON	50	8.130	3.640	11.330	3.643	3.200	3.683
Problem Solving	EXP	36	9.000	3.832	14.930	4.464	5.930	2.991
	CON	50	9.310	3.877	13.370	4.498	4.060	3.098
Written Communication	EXP	36	7.970	4.564	13.470	2.876	5.500	5.188
	CON	50	8.110	4.530	11.060	4.191	2.950	4.616

Table 18

Mean Scores from Pretest to Posttest for Critical Thinking

Group	n	Pretest		Posttest		Gain Score		<i>t</i> -test
		M	SD	M	SD	M	SD	
Experimental	36	11.470	5.011	18.130	3.381	6.650	4.883	1.99*
Control	50	11.080	5.486	15.410	5.018	4.330	5.866	

*** $p < .001$, ** $p < .01$, * $p < .05$, $n = 86$

Table 19 shows a summary of the pretest and posttest scores for each component of the Critical Thinking VALUE rubric. This shows that there was an increase from pretest to posttest for both the experimental group and control group on all of the rubric's components. It is important to note that the improvement for the experimental group was greater than the control group for each of the rubric's components.

Pearson's correlation was used to analyze the relationship between the two raters. A Pearson's correlation was run to assess the relationship between the critical thinking pretest and posttest scores between the two independent raters. There was a large positive correlation between the two raters' pretest scores which was statistically significant, $r = .632, p < .001$. There was also a large positive correlation between the two raters' posttest scores which was statistically significant, $r = .645, p < .001$.

Research Question 2

*Is there a significant difference in a student's development of **creative thinking skills** between students taught history with the flipped classroom model and those taught with a traditional teacher-centered instructional approach?* The second research question investigated the difference in pretest and posttest scores between the experimental and control groups with regard to creative thinking. An independent-samples *t*-test was conducted on the gain scores to determine whether the improvement in creative thinking from pretest to posttest was greater for the experimental group than it was for the control group. There was a significant difference in the M creative thinking gain scores between the experimental and the control group; $t(74.694) = 2.42, p = .01895\%, CI = 0.615-6.284$. The results suggest there was a significant difference in the development of creative thinking between students who received the flipped classroom instruction and those that did not. The M scores for critical thinking can be seen in Table 20.

Table 19

Pretest and Posttest Scores for Each Component of the Critical Thinking VALUE Rubric

Rubric Sub-Topic	Group	n	Pretest				Posttest			
			Rater #1		Rater #2		Rater #1		Rater #2	
			M	SD	M	SD	M	SD	M	SD
Explanation of Issues	EXP	36	2.470	0.845	2.580	1.339	3.560	0.652	3.830	0.878
	CON	50	2.340	1.062	2.560	1.358	2.940	0.998	3.460	1.129
Evidence	EXP	36	2.190	0.889	2.190	1.305	3.530	0.810	3.810	0.920
	CON	50	2.040	0.989	2.360	1.382	2.840	1.057	3.260	1.192
Influence of Context	EXP	36	2.390	0.871	1.890	1.489	3.470	0.654	3.750	0.996
	CON	50	2.240	1.098	2.160	1.462	2.880	0.982	3.120	1.256
Student's Position	EXP	36	2.390	0.838	2.000	1.265	3.500	0.655	3.640	1.046
	CON	50	2.160	1.037	1.980	1.436	2.940	0.956	3.040	1.293
Conclusions and Related Outcomes	EXP	36	2.280	0.882	2.190	1.327	3.470	0.654	3.690	1.064
	CON	50	2.180	1.101	2.140	1.525	2.920	0.944	3.200	1.278
TOTAL	EXP	36	11.720	3.983	10.860	6.262	17.580	3.111	18.690	4.768
	CON	50	10.960	5.115	11.140	6.890	14.500	4.841	16.080	5.941

Table 20

Gain Scores from Pretest to Posttest for Creative Thinking

Group	n	Pretest		Posttest		Gain Score		t-test
		M	SD	M	SD	M	SD	
Experimental	36	7.750	6.929	15.070	4.290	7.320	6.595	2.42*
Control	50	8.090	5.610	11.960	5.528	3.870	6.470	

*** $p < .001$, ** $p < .01$, * $p < .05$, $n = 86$

Table 21 shows a summary of the pretest and posttest scores for each component of the Creative Thinking VALUE rubric. This shows that there was an increase from pretest to posttest for both the experimental group and control group on all of the rubric's components. It is important to note that the improvement for the experimental group was greater than the control group for each of the rubric's components.

Pearson's correlation was used to analyze the relationship between the two raters. A Pearson's correlation was run to assess the relationship between the creative thinking pretest and posttest scores between the two independent raters. There was a large positive correlation between the two raters' pretest scores which was statistically significant, $r = .599, p < .001$. There was also a large positive correlation between the two raters' posttest scores which was statistically significant, $r = .549, p < .001$.

Research Question 3

*Is there a significant difference in a student's development of **ethical reasoning skills** between students taught history with the flipped classroom model and those taught with a traditional teacher-centered instructional approach?* The third research question investigated the difference in pretest and posttest scores between the experimental and control groups with regard to ethical reasoning. An independent-samples *t*-test was conducted on the gain scores to determine whether the improvement in critical thinking from pretest to posttest was greater for the experimental group than it was for the control group. There was a significant difference in the M ethical reasoning gain scores between the experimental group and the control group; $t(63.251) = 2.327, p = .02295\%, CI = 0.322-4.109$. The results suggest there was a significant difference in the development of ethical reasoning between students who received the flipped

Table 21

Pretest and Posttest Scores for Each Component of the Creative Thinking VALUE Rubric

Rubric Sub-Topic	Group	n	Pretest				Posttest			
			Rater #1		Rater #2		Rater #1		Rater #2	
			M	SD	M	SD	M	SD	M	SD
Taking Risks	EXP	36	1.670	1.195	1.500	1.483	2.690	0.951	3.280	1.256
	CON	50	1.780	1.234	1.580	1.357	2.300	1.147	2.600	1.414
Solving Problems	EXP	36	1.610	1.248	1.560	1.157	2.720	0.849	3.330	1.309
	CON	50	1.780	1.234	1.620	1.292	2.280	1.126	2.480	1.389
Embracing Contradictions	EXP	36	1.640	1.246	1.110	1.260	2.810	0.889	3.280	1.279
Innovative Thinking	CON	50	1.720	1.230	1.380	1.398	2.340	1.099	2.480	1.403
	EXP	36	1.560	1.107	1.280	1.210	2.780	0.832	3.250	1.296
Connecting, Synthesizing, Transforming	CON	50	1.700	1.266	1.520	1.313	2.280	1.161	2.460	1.417
	EXP	36	1.560	1.157	1.080	1.228	2.780	0.832	3.220	1.267
TOTAL	CON	50	1.680	1.253	1.420	1.326	2.260	1.103	2.440	1.431
	EXP	36	8.060	5.884	6.390	5.977	13.780	4.189	16.360	6.339
	CON	50	8.580	5.990	7.520	6.510	11.420	5.570	12.440	7.120

classroom instruction than those who did not. The M scores for ethical reasoning can be seen in Table 22.

Table 22

Gain Scores From Pretest to Posttest for Ethical Reasoning

Group	n	Pretest		Posttest		Gain Score		
		M	SD	M	SD	M	SD	t-test
Experimental	36	9.440	4.682	14.750	3.020	5.310	4.979	2.327*
Control	50	9.000	4.183	12.090	3.879	3.090	3.850	

*** $p < .001$, ** $p < .01$, * $p < .05$, $n = 86$

Table 23 shows a summary of the pretest and posttest scores for each component of the Ethical Reasoning VALUE rubric. This shows that there was an increase from pretest to posttest for both the experimental group and control group on all of the rubric's components. It is important to note that the improvement for the experimental group was greater than the control group for each of the rubric's components.

Pearson's correlation was used to analyze the relationship between the two raters. A Pearson's correlation was run to assess the relationship between the ethical reasoning pretest and posttest scores between the two independent raters. There was a large positive correlation between the two raters' pretest scores which was statistically significant, $r = .627$, $p = .000$. There was also a large positive correlation between the two raters' posttest scores which was statistically significant, $r = .614$, $p = .000$.

Research Question 4

*Is there a significant difference in a student's development of **information literacy skills** between students taught history with the flipped classroom model and those taught with a traditional teacher-centered instructional approach?* The fourth research question investigated the difference in pretest and posttest scores between the experimental and control groups with

Table 23

Pretest and Posttest Scores for Each Component of the Ethical Reasoning VALUE Rubric

Rubric Sub-Topic	Group	n	Pretest				Posttest			
			Rater #1		Rater #2		Rater #1		Rater #2	
			M	SD	M	SD	M	SD	M	SD
Understanding	EXP	36	2.250	0.937	2.500	1.483	3.560	0.695	3.890	1.008
Different Ethical Perspectives/Concepts	CON	50	2.220	0.864	2.700	1.460	2.860	0.881	3.440	1.181
Ethical Issue Recognition	EXP	36	2.170	0.845	2.420	1.519	3.530	0.774	3.780	1.124
	CON	50	2.160	1.017	2.200	1.400	2.700	0.886	3.220	1.389
Application of Ethical Perspectives/Concepts	EXP	36	2.110	0.979	2.140	1.624	3.560	0.652	3.830	1.134
	CON	50	2.140	1.030	2.220	1.542	2.800	0.857	3.220	1.433
Evaluation of Different Ethical Perspectives/Concepts	EXP	36	2.080	0.967	2.220	1.436	3.560	0.695	3.810	1.037
	CON	50	2.140	1.030	2.220	1.475	2.760	0.938	3.180	1.410
TOTAL	EXP	36	8.610	3.515	9.220	5.723	14.190	2.584	15.440	4.437
	CON	50	8.740	3.979	9.340	5.601	11.140	3.356	13.080	5.291

regard to information literacy. An independent-samples *t*-test was conducted on the gain scores to determine whether the improvement in information literacy skills from pretest to posttest was greater for the experimental group than it was for the control group. There was a significant difference in the M information literacy gain scores between the experimental group and the control group; $t(71.298) = 3.376$, $p = .00195\%$, $CI = 1.162-4.493$. The results suggest there was a significant difference in the development of information literacy skills between students who received the flipped classroom instruction than those who did not. The M scores for information literacy can be seen in Table 24.

Table 24

Gain Scores From Pretest to Posttest for Information Literacy

Group	n	Pretest		Posttest		Gain Score		
		M	SD	M	SD	M	SD	<i>t</i> -test
Experimental	36	7.780	3.731	13.810	2.970	6.030	4.032	3.376***
Control	50	8.130	3.640	11.330	3.643	3.200	3.683	

*** $p < .001$, ** $p < .01$, * $p < .05$, $n = 86$

Table 25 shows a summary of the pretest and posttest scores for each component of the Information Literacy VALUE rubric. This shows that there was an increase from pretest to posttest for both the experimental group and control group on all of the rubric's components. It is important to note that the improvement for the experimental group was greater than the control group for each of the rubric's components.

Pearson's correlation was used to analyze the relationship between the two raters. A Pearson's correlation was run to assess the relationship between the information literacy pretest and posttest scores between the two independent raters. There was a moderate positive correlation between the two raters' pretest scores which was statistically significant, $r = .368$, $p = .001$. There was a large positive correlation between the two raters' posttest scores which was statistically significant, $r = .627$, $p < .001$.

Table 25

Pretest and Posttest Scores for Each Component of the Information Literacy VALUE Rubric

Rubric Sub-Topic	Group	n	Pretest				Posttest			
			Rater #1		Rater #2		Rater #1		Rater #2	
			M	SD	M	SD	M	SD	M	SD
Access the Needed Information	EXP	36	2.110	0.979	2.220	1.290	3.470	0.696	3.500	1.082
	CON	50	2.140	1.178	2.300	1.249	2.920	0.853	3.160	1.251
Evaluate Information and its Sources Critically	EXP	36	1.970	1.055	1.500	1.254	3.440	0.809	3.390	1.153
	CON	50	1.920	0.986	1.820	1.304	2.680	0.935	2.700	1.374
Use Information Effectively to Accomplish a Specific Purpose	EXP	36	1.970	1.000	1.720	1.111	3.360	0.683	3.470	1.000
	CON	50	1.980	1.020	2.100	1.298	2.740	0.899	2.760	1.349
Access and Use Information Ethically and Legally	EXP	36	1.830	0.971	1.890	1.304	3.420	0.732	3.560	0.939
	CON	50	1.940	0.998	2.060	1.219	2.760	0.916	2.940	1.202
TOTAL	EXP	36	7.940	3.876	7.330	4.517	13.470	2.613	13.750	4.010
	CON	50	7.960	3.995	8.280	4.642	11.160	3.530	11.560	4.841

Research Question 5

*Is there a significant difference in a student's development of **problem-solving skills** between students taught history with the flipped classroom model and those taught with a traditional teacher-centered instructional approach?* The fifth research question investigated the difference in pretest and posttest scores between the experimental and control groups with regard to problem solving. An independent-samples *t*-test was conducted on the gain scores to determine whether the improvement in problem solving skills from pretest to posttest was greater for the experimental group than it was for the control group. There was a significant difference in the M problem solving gain scores between the experimental group and the control group; $t(77.1) = 2.802$, $p = 0.00695\%$, $CI = 0.543-3.198$. The results suggest there was a significant difference in the development of problem solving between students who received the flipped classroom instruction than those who did not. The M scores for problem solving can be seen in Table 26.

Table 26

Gain Scores From Pretest to Posttest for Problem Solving

Group	n	Pretest		Posttest		Gain Score		<i>t</i> -test
		M	SD	M	SD	M	SD	
Experimental	36	9.000	3.832	14.930	4.464	5.930	2.991	2.802**
Control	50	9.310	3.877	13.370	4.498	4.060	3.098	

*** $p < .001$, ** $p < .01$, * $p < .05$, $n = 86$

Table 27 shows a summary of the pretest and posttest scores for each component of the Problem Solving VALUE rubric. This shows that there was an increase from pretest to posttest for both the experimental group and control group on all of the rubric's components. It is important to note that the improvement for the experimental group was greater than the control group for each of the rubric's components.

Table 27

Pretest and Posttest Scores for Each Component of the Problem Solving VALUE Rubric

Rubric Sub-Topic	Group	n	Pretest				Posttest			
			Rater #1		Rater #2		Rater #1		Rater #2	
			M	SD	M	SD	M	SD	M	SD
Identify Strategies	EXP	36	2.220	0.866	2.190	1.348	3.580	0.732	3.940	0.924
	CON	50	2.100	1.129	2.420	1.553	2.820	0.896	3.460	1.388
Propose Solutions/Hypotheses	EXP	36	2.110	0.854	2.000	1.309	3.580	0.806	3.860	0.990
	CON	50	2.100	0.953	2.240	1.437	2.640	0.942	3.380	1.398
Evaluate Potential Solutions	EXP	36	2.060	0.924	1.860	1.150	3.560	0.735	3.670	1.095
	CON	50	2.120	0.961	2.000	1.498	2.680	0.891	3.140	1.471
Implement Solution	EXP	36	1.970	0.941	1.970	1.253	3.500	0.655	3.690	1.037
	CON	50	2.000	0.926	2.280	1.471	2.720	0.904	3.240	1.437
Evaluate Outcomes	EXP	36	2.000	1.042	1.810	1.142	3.500	0.697	3.640	1.099
	CON	50	2.020	1.020	1.960	1.470	2.780	0.910	3.180	1.466
TOTAL	EXP	36	10.360	4.396	9.810	5.830	17.560	3.629	18.830	4.902
	CON	50	10.340	4.762	10.860	7.225	13.480	4.239	16.380	6.998

Pearson's correlation was used to analyze the relationship between the two raters. A Pearson's correlation was run to assess the relationship between the problem-solving pretest and posttest scores between the two independent raters. There was a large positive correlation between the two raters' pretest scores which was statistically significant, $r = .512$, $p < .00$. There was also a large positive correlation between the two raters' posttest scores which was statistically significant, $r = .540$, $p < .001$.

Research Question 6

*Is there a significant difference in a student's development of **written communication skills** between students taught history with the flipped classroom model and those taught with a traditional teacher-centered instructional approach?* The sixth research question investigated the difference in pretest and posttest scores between the experimental and control groups with regard to written communication. An independent-samples *t*-test was conducted on the gain scores to determine whether the improvement in written communication skills from pretest to posttest was greater for the experimental group than it was for the control group. There was a significant difference in the M written communication gain scores between the experimental group and the control group; $t(70.023) = 2.399$, $p = .01995\%$, $CI = 0.436-4.664$. The results suggest there was a significant difference in the development of written communication between students who received the flipped classroom instruction than those who did not. The M scores for written communication can be seen in Table 28.

Table 29 shows a summary of the pretest and posttest scores for each component of the Written Communication VALUE rubric. This shows that there was an increase from pretest to posttest for both the experimental group and control group on all of the rubric's components. It

Table 28

Gain Scores From Pretest to Posttest for Written Communication

Group	n	Pretest		Posttest		Gain Score		<i>t</i> -test
		M	SD	M	SD	M	SD	
Experimental	36	7.970	4.564	13.470	2.876	5.500	5.188	2.399*
Control	50	8.110	4.530	11.060	4.191	2.950	4.616	

*** $p < .001$, ** $p < .01$, * $p < .05$, $n = 86$

Table 29

Pretest and Posttest Scores for Each Component of the Written Communication VALUE Rubric

Rubric Sub-Topic	Group	n	Pretest				Posttest			
			Rater #1		Rater #2		Rater #1		Rater #2	
			M	SD	M	SD	M	SD	M	SD
Content	EXP	36	2.330	1.095	1.610	1.400	3.310	0.525	3.420	0.996
Development	CON	50	2.220	1.130	2.040	1.590	2.680	0.935	2.920	1.455
Genre/Disciplinary	EXP	36	2.080	0.937	1.720	1.301	3.390	0.688	3.470	1.000
Conventions	CON	50	2.040	1.087	2.080	1.589	2.540	0.930	2.940	1.476
Sources and Evidence	EXP	36	2.060	0.893	1.560	1.132	3.280	0.701	3.360	1.199
	CON	50	2.000	1.069	1.740	1.352	2.620	0.967	2.840	1.517
CON of Syntax and Mechanics	EXP	36	2.080	0.967	1.640	1.334	3.280	0.701	3.440	1.081
	CON	50	2.060	1.096	2.040	1.577	2.620	0.945	2.960	1.470
TOTAL	EXP	36	8.530	3.730	6.440	4.723	13.250	2.442	13.810	4.084
	CON	50	8.320	4.278	7.880	5.833	10.380	3.625	11.680	6.062

is important to note that the improvement for the experimental group was greater than the control group for each of the rubric's components.

Pearson's correlation was used to analyze the relationship between the two raters. A Pearson's correlation was run to assess the relationship between the creative thinking pretest and posttest scores between the two independent raters. There was a large positive correlation between the two raters' pretest scores which was statistically significant, $r = .540$, $p < .001$. There was also a large positive correlation between the two raters' posttest scores which was statistically significant, $r = .591$, $p < .001$.

Summary

This study used statistical analysis to determine if students were more likely to develop workforce desirable skills (critical thinking, creative thinking, ethical reasoning, information literacy, and written communication) in courses where instructors used the flipped classroom as the primary instructional method as opposed to traditional teacher-centered instruction. The VALUE rubrics designed by the American Association of Colleges & Universities were used to evaluate the pretest and posttest assessments for each of the observed skills. After comparing the M scores on the pretest and posttest between the experimental groups (those exposed to the flipped classroom) and the control groups (those who received teacher-centered instruction), the results showed that there was an increase in all six of the observed skills for both groups. While there was an increase for both groups for all six of the observed skills, the increase in the experimental groups was higher than that of the control groups. Independent samples *t*-tests showed that the increase for the experimental groups over the control groups was statistically significant ($p < .05$) for all six observed skills.

CHAPTER V

DISCUSSION

The need for an annual increase in the proportion of Americans with college degrees or postsecondary certificates has become a dominant theme in this century, driven by changing workforce needs, increasing engagement in the global economy, the growth and dissemination of knowledge through technology, the replacement of many routine or repetitive tasks through technological developments, and the needs of a democratic society. (Maki, 2015, p. 12)

This study was conducted to determine if changing the way instructors teach history will have an impact on the development of workforce desirable skills such as critical thinking, creative thinking, ethical reasoning, information literacy, problem solving, and written communication. More specifically, this study focused on the flipped classroom pedagogical method and examined its effectiveness in helping students develop the target skills. Instructors teaching the second half of United States history at two different community colleges of similar size and demographics participated in the study. Each instructor designated one of their courses as an experimental group, where students were exposed to the flipped classroom, and a control group, where students were exposed to a traditional teacher-centered direct instruction. Using independent samples *t*-tests to compare the mean gain scores from the pretest to posttest for each of the target skills (critical thinking, creative thinking, ethical reasoning, information literacy, problem solving, and written communication), the findings indicate that the experimental group's mean gain scores were higher at a statistically significant level for all six skills. Therefore, the flipped classroom appears to create a favorable environment to aid students in gaining 21st century skills which are desirable for future employment. That being said, both the

experimental group and control group showed improvement for all six skills from pretest to posttest.

Study Overview

The purpose of this study was to analyze the effectiveness of the flipped classroom model at helping students develop workforce desirable skills in community college history classes. The study focused on the following six 21st century skills: critical thinking, creative thinking, ethical reasoning, information literacy, problem solving, and written communication. The study took place in the history classes of two different instructors at two different institutions within the Alabama Community College system. Using a quasi-experimental research design, each instructor used one of his U.S. History II courses as an experimental group and the other as a control group. Each of the instructors taught the same unit and used the flipped classroom pedagogical model with the experimental groups. In the control groups, the instructors taught using teacher-centered direct instruction. All of the students completed a pretest, the same formative assessments over the course of the instructional unit, and a posttest. The pretests and posttests were evaluated using the VALUE rubrics (one for each of the target skills) created by the American Association of Colleges and Universities (AAC&U). Between the experimental and control groups, a total of 122 students participated. However, in order for students to be included in this study, they must have submitted both a pretest and a posttest. Any student with a missing pretest or posttest assessment, was treated as missing for the statistical analysis. A total of 86 students were counted for the study. There were 36 students in the experimental groups ($n = 36$) and 50 students in the control groups ($n = 50$).

Theoretical Framework

The theoretical framework used for this study was Knowlton's (2000) theoretical framework for student-centered pedagogy in the online classroom. While Knowlton's framework was designed with an online classroom in mind, the framework was compatible with the goals of this particular study. The framework was designed with the concept of a student-centered classroom in mind. Knowlton (2000) made several arguments that were not only relevant for a flipped classroom model, but relevant for this study. The framework was designed around the following premises:

1. Technology is only a tool: "Technology should become seamless so that professors and students can focus on course content" (p. 11).
2. Students are the center of the classroom: "Students are the center of the classroom model. They should interact with each other in an effort to understand course content" (p. 11).
3. Collaboration is essential to promote learning: "Only by working together can individual students reach their own highest potential" (p. 12).
4. The faculty role is to frame the course, supplement student interaction by providing resources and opportunities, and evaluate student work: "Students determine the direction of the course through their active engagement with course materials, professors must react to the direction that students provide" (p. 13).
5. With so much information available to students, they must learn how to evaluate that material: "The World Wide Web results in an astronomical amount of material that can be examined. The material cannot be neatly packaged by a professor and handed to students. Students must 'go get it'" (p. 10).

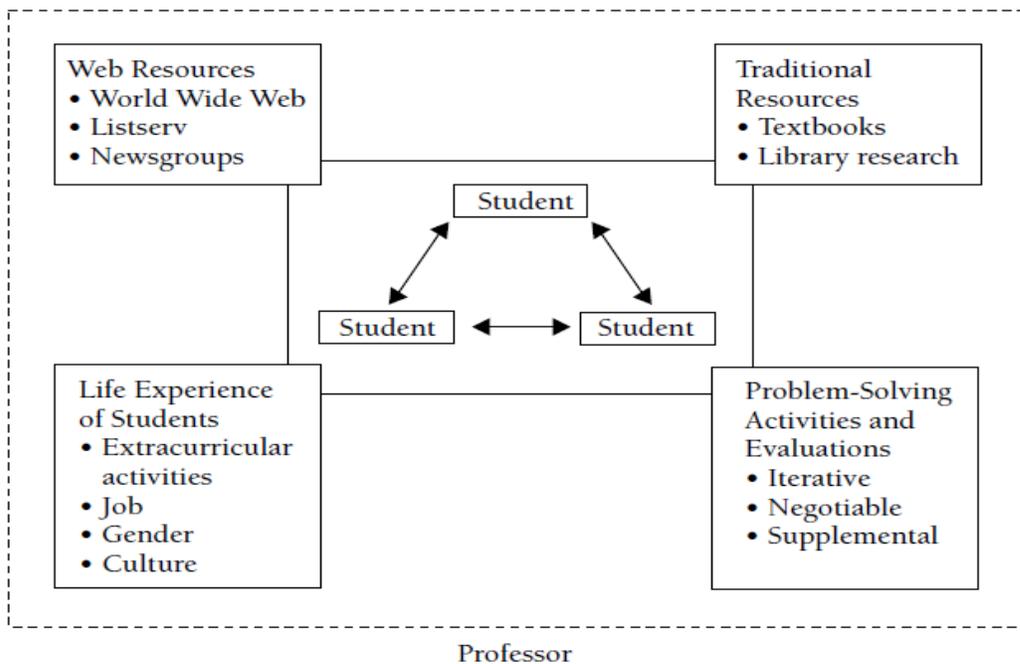
With regard to the development of this study, Knowlton's (2000) framework grounded several elements of development. First, the idea that "technology is only a tool," is an important concept to the flipped classroom model (Bishop & Verleger, 2013). The flipped classroom, as it was defined for this study, required that instructors provide technology-based instruction that students receive while they are outside of the classroom (Bishop & Verleger, 2013). It was important that this technology was seamless and easily accessible to students while outside of the classroom, otherwise the model would not have been effective (Bergmann & Sams, 2012a). Second, Knowlton's (2000) assertion that "students are the center of the classroom" was also important in the development of instruction for this study. In the experimental groups where students were taught using the flipped classroom model, students were at the center of the classroom in that they worked collaboratively while accomplishing the goal for the class that day. The instructors framed and facilitated the students' learning by guiding them with various resources, both in class and online, Socratic questioning, problem-solving opportunities, and helping students connect the video lectures with the formative assessment to be completed for the day. The third component, "collaboration is essential to promote learning," was accomplished by having students work together to accomplish most of the tasks presented during the in-class instruction for the experimental groups.

A fourth component of Knowlton's (2000) framework that informed this study was that in the experimental groups, "the faculty role is to frame the course, supplement student interaction by providing resources and opportunities, and evaluate student work." The instructors framed the course for students through the creation of the video lectures to guide in-class activities; provided assistance to students as they made connections to the content and the skills to be acquired; provided clear goals, objectives, and learning outcomes; and arguably most important, provided

feedback and encouragement to students in order to maximize student learning. The fifth and final component of the framework, “with so much information available to students, they must learn how to evaluate that material,” was largely accomplished through the information literacy activities that students worked collaboratively to complete. Information literacy was one of the key skills being observed in this study and it is a critical skill any time students are using the internet to compile resources to accomplish a learning goal (Bundy, 2004; Cukier, 2010).

Implementation of Knowlton’s (2000) framework (see Figure 7) requires that the instructor create a student-centered classroom through opportunities for active learning, establish clear objectives, and allow students an opportunity to collaborate. In both experimental groups, the participating instructors succeeded in executing Knowlton’s (2000) classroom model as evidenced by the results of the study. Through their writing, the students in the experimental groups were more likely to effectively demonstrate the skills being analyzed by this study. A pedagogical approach based on Knowlton’s (2000) framework demonstrates that active learning is an important component of success in a flipped classroom (Baepler et al., 2014; Freeman et al., 2014). Students must be actively involved in critical thinking and problem-solving activities during in-class time for the flipped model to be a true success (Noonoo, 2012). Active learning is a major component to ensure that the classroom moves from a teacher-centered environment to a student-centered environment (Bergmann & Sams, 2012a; Knowlton, 2000). Students must take an active role in the learning process if teachers hope to develop key skills such as critical thinking, effective communication, teamwork, and other 21st century skills (Toto & Nguyen, 2009).

In Knowlton’s (2000) framework, the student is at the center of the classroom with the instructor (or professor) on the periphery. That being said, the instructor’s role has not been



Note. The Online Classroom. Reprinted from Knowlton, D.S. (2000). A theoretical framework for the online classroom: A defense and delineation of a student-centered pedagogy. *New Directions for Teaching & Learning*, 2000(84), 5-14. Copyright 2000 by Jossey-Bass. Permission for usage obtained by Jossey-Bass on October 7, 2015. Agreement included in appendices.

Figure 7. Knowlton's (2000) Framework for the Online Classroom.

diminished in importance; it has changed to allow students an opportunity to be independent in their learning experiences while still having the instructor frame the course and supplement student interactions by providing resources and learning opportunities. In this study, the instructor-made videos and the in-class formative assessments served as resources to frame the course and guide the interactions that students had as they interacted with the material. The results of the current study suggest that Knowlton's framework is an effective theoretical approach for the flipped classroom model. Knowlton defined a meaningful learning experience as one where the knowledge learned has value to the learner (Knowlton, 2000). More specifically, it is knowledge that can be used in everyday or career application and which the learner incorporates into their thinking, feeling, or doing (Fink, 2013; Knowlton, 2000). For all

six workforce desirable skills analyzed by this study (critical thinking, creative thinking, ethical reasoning, information literacy, problem solving, and written communication), the students exposed to the student-centered classroom and flipped learning showed significant gains over the students who were exposed to the teacher-centered approach to instruction.

Major Findings of the Study

This study analyzed the effectiveness of the flipped classroom model in facilitating the development of 21st century or workforce desirable skills. The specific skills analyzed were critical thinking, creative thinking, ethical reasoning, information literacy, problem solving, and written communication. The data were obtained from a comparison of pretest and posttest scores from ratings from the Association of American Colleges & Universities VALUE Rubrics (2007) for each of the target skills. The maximum student score for each rubric was critical thinking = 25.00, creative thinking = 25.00, ethical reasoning = 20.00, information literacy = 20.00, problem solving = 25.00, and written communication = 20.00. Mean scores for each skill for both the control and experimental groups were compared and a mean gain score was calculated by subtracting the pretest score from the posttest score. Table 27 below summarizes the data that were collected. As the results show, the gain scores for each of the target skills in the experimental group was significantly higher than the gain scores for the control group. However, for both the experimental and control groups, student scores improved from the pretest to posttest. As a result, there were other factors contributing to student success than the flipped classroom model alone.

Is it Really ‘All About That Flip?’

According to Bergmann and Sams (2012a), the flipped classroom method is favorable for the development of skills such as critical thinking and information literacy because students

Table 30

Gain Scores From Pretest to Posttest for all Observed Skills

Skill	Group	n	Pretest		Posttest		Gain Scores		<i>t</i> -test
			M	SD	M	SD	M	SD	
Critical Thinking	EXP	36	11.470	5.011	18.130	3.381	6.650	4.883	1.99*
	CON	50	11.080	5.486	15.410	5.018	4.330	5.866	
Creative Thinking	EXP	36	7.750	6.929	15.070	4.290	7.320	6.595	2.42*
	CON	50	8.090	5.610	11.960	5.528	3.870	6.470	
Ethical Reasoning	EXP	36	9.440	4.682	14.750	3.020	5.310	4.979	2.33*
	CON	50	9.000	4.183	12.090	3.879	3.090	3.850	
Information Literacy	EXP	36	7.780	3.731	13.810	2.970	6.030	4.032	3.38***
	CON	50	8.130	3.640	11.330	3.643	3.200	3.683	
Problem Solving	EXP	36	9.000	3.832	14.930	4.464	5.930	2.991	2.80**
	CON	50	9.310	3.877	13.370	4.498	4.060	3.098	
Written Communication	EXP	36	7.970	4.564	13.470	2.876	5.500	5.188	2.40*
	CON	50	8.110	4.530	11.060	4.191	2.950	4.616	

*** $p < .001$, ** $p < .01$, * $p < .05$, $n = 86$

spend in-class time actively engaging in knowledge construction through focused interactions with peers and teachers. They go on to say that through interaction, class time involves collaborative learning activities, brain-storming activities, hand-on activities, and almost instant feedback from teachers and peers (Bergmann & Sams, 2012a). Fraga and Harmon (2015) presented research that showed that flipped learning can be successful at increasing performance as measured by improved examination results, improved pretest or posttest scores, or improved overall course grades. Murphree (2015) reported that the flipped classroom model produced higher scores on posttests with regard to general content knowledge as compared to students who were in a traditional lecture/exam model of history instruction. This study appears to be consistent with these findings in that students who were exposed to the flipped classroom mode scored higher on the posttest than students who were not exposed to it. These findings suggest that the flipped classroom model creates a favorable environment for students to develop 21st century skills. However, it must be noted that because students in the control group also showed improvement from pretest to posttest, there were other factors that contributed to student success that are worth reporting. It is important to note that the difference between the experimental group and control group with regard to the lecture and formative assessments is that the experimental group watched the lectures at home and worked collaboratively in groups to complete the formative assessments in class with the assistance of the instructor while the control group was exposed to lecture in class and completed formative assessments at home individually. Both groups were exposed to the same lectures and formative assessments, just presented in different ways.

The results of higher performance on the posttest for the experimental group suggest that the flipped classroom model as it was designed for this study helped students develop each of the

target skills (critical thinking, creative thinking, ethical reasoning, information literacy, and written communication). However, since the control group also showed improvement on critical thinking from the pretest to the posttest, aspects of the instruction beyond the flipped classroom method were effective at helping students develop critical thinking skills as well. A commonality between both the experimental and control groups that could have been a factor in the control group's improved performance was the formative assessments. Both groups completed the same formative assessments as a way of controlling the instruction between the two groups.

Research tells us that formative assessment plays a critical role in learning environments because it allows the instructor to provide feedback at each stage of the teaching and learning process (Bloom, 1969). Formative assessments are informal assessment procedures conducted by teachers during the teaching and learning process in order to modify instruction and create opportunities for students aimed at improved learning (Angelo & Cross, 1993; Crooks, 2001). Formative assessments are intended to be low-stakes and are rarely graded with the primary goal of providing instructors with information on what, how much, and how well students are learning (Angelo & Cross, 1993). Using formative assessment works to improve student learning because students have an opportunity to demonstrate what they have learned without the fear of it affecting their grade in a negative way (Angelo & Cross, 1993). The key to making sure formative assessment works, however, is the feedback that instructors give back to students with regard to their performance on the formative assessments (Angelo & Cross, 1993). The feedback guides the students on what they still need to learn and it guides the instructor on the direction and pace of the instruction (Angelo & Cross, 1993). With regard to the current study, completion of the formative assessments and receiving feedback from the participating

instructors, even if the assessments were completed at home outside of the collaborative, flipped-classroom environment, had a positive effect on student learning.

Research Question 1

Is there a significant difference in a student's development of critical thinking skills between students taught history with the flipped classroom model and those taught with a traditional teacher-centered instructional approach?

The results from this study indicate that yes, there was a significant difference in a student's development of critical thinking skills between students taught history with the flipped classroom model and those taught with a traditional teacher-centered instructional approach. For the pretest, the experimental group had a mean score of 11.470 (n=36) versus 11.080 (n=50) for the control group on critical thinking. On the posttest, the experimental group scored 18.130 (n=36) as compared to a mean score of 15.410 (n=50) for the control group. As such, the experimental groups' mean gain score was 2.32 points higher than the control groups' mean gain score. According to the independent samples *t*-test, this was statistically significant ($t = 1.99, p < 0.5$).

Research from McCollister and Saylor (2010) suggested that critical thinking can be infused into lessons throughout all disciplines by utilizing in-depth questioning, having students track patterns in information, forcing them to look at the information as a process instead of simply information to be memorized, and having them evaluate various types of information. Furthermore, Snodgrass (2011) reported that various types of activities designed to develop critical thinking skills could be worked into the normal instructional time, with little or no additional time needed, simply by delivering knowledge-level content electronically (Snodgrass, 2011).

On both the pretests and posttests, students were asked to evaluate presidential leadership and the effectiveness of their initiatives. To prepare students to do this, they were presented with formative assessments that asked them to analyze primary sources based on information that they gained from lectures. Students were also asked to complete various formative assessments that required them to recall information from the lectures and apply that information in various ways. One example of a formative assessment that students completed was a “Primary Source Assessment Tool” created by the Library of Congress where students were asked to observe, reflect, and question details of Franklin D. Roosevelt’s 1933 Inauguration Speech and photos from the Dust Bowl era.

Research Question 2

Is there a significant difference in a student’s development of creative thinking skills between students taught history with the flipped classroom model and those taught with a traditional teacher-centered instructional approach?

The results from this study indicate that yes, there was a significant difference in a student’s development of creative thinking skills between students taught history with the flipped classroom model and those taught with a traditional teacher-centered instructional approach. For the pretest, the experimental group had a mean score of 7.750 (n=36) versus 8.090 (n=50) for the control group on critical thinking. On the posttest, the experimental group scored 15.070 (n=36) as compared to a mean score of 11.960 (n=50) for the control group. As such, the experimental groups’ mean gain score was 3.45 points higher than the control groups’ mean gain scores. According to the independent samples *t*-test, this was statistically significant ($t = 2.42, p < 0.5$).

According to the Creative Education Foundation (2016), which supports the Creative Problem Solving (CPS) model developed by Sid Parnes in the 1950s, any activity or instruction

designed to enhance an individual's creative thinking skills must balance divergent thinking (solving problems with many possible solutions) and convergent thinking (solving problems with a single, correct answer). Effective activities designed to help students develop creative thinking skills state challenges and/or problems as open-ended questions with multiple possibilities, are free of judgment or suggestion of judgment, and are generally positive in allowing students to explore opportunities to develop novel solutions to the problems or challenges (Creative Education Foundation, 2016).

On both the pretests and posttests, students were asked to synthesize what they knew about periods in American history and produce a political cartoon that depicts their synthesis. The formulation of a synthesized description of a historical period and the creation of a political cartoon is consistent with the Creative Education Foundation's (2016) research on the development of critical thinking through presenting students with open-ended situations allowing multiple possibilities and allowing students to explore a novel solution for the test question.

To prepare students to do this, they were presented with formative assessments that asked them to write a fictional dialogue between Presidents Herbert Hoover and Franklin Roosevelt on their plans for program development, administrative policies, and solutions for the Great Depression. The fictional dialogue had to include information that the students learned from the lecture on each president's actual policies. When the students finished creating the dialogue, they had to create a political cartoon that depicted the conversation between the two men.

Research Question 3

Is there a significant difference in a student's development of ethical reasoning skills between students taught history with the flipped classroom model and those taught with a traditional teacher-centered instructional approach?

The results from this study indicate that yes, there was a significant difference in a student's development of ethical reasoning skills between students taught history with the flipped classroom model and those taught with a traditional teacher-centered instructional approach. For the pretest, the experimental group had a mean score of 9.440 (n=36) versus 9.000 (n=50) for the control group on critical thinking. On the posttest, the experimental group scored 14.750 (n=36) as compared to a mean score of 12.090 (n=50) for the control group. As such, the experimental groups' mean gain score was 1.129 points higher than the control groups' mean gain scores. According to the independent samples *t*-test, this was statistically significant ($t = 2.327, p < 0.5$).

Elder (1999) believed that for students to become skilled at ethical reasoning, they must understand what is intellectually required when reasoning through ethical questions. It is useful for students to engage in activities where they must identify the ethical principles relevant to any ethical situation. This helps students develop the intellectual skills which enable them to reasonably apply their ethical reasoning skills (Elder, 1999). Bebeau et al. (1995) reported that activities that are effective at helping students develop ethical reasoning skills must be designed in such a way that students are given an opportunity to reflect on their decisions and choices. Their research went on to say that students must understand that they can and do change their minds about what they ought to do in any particular situation and how that change of mind will affect outcomes and ethical consequences (Bebeau et al., 1995). According to Wilhelm (2008), using assignments that present students with cases or scenarios that involve moral dilemmas and require that students work through their ethical decision-making process are effective in the development of ethical reasoning skills.

On both the pretests and posttests, students were asked to evaluate the government's actions from both a supportive and opposing standpoint. This activity is consistent with the

research in that students are presented with scenarios that require them to present arguments that involve an ethical point of view. Additionally, this activity allows students to make a decision and reflect on those decisions supported by actual historical events and evidence.

Students prepared for this activity by completing an activity that was created by The National World War II Museum (2010) entitled *What Would You Do?: A Discussion About the Ethics of War*. This activity was treated as a formative assessment to support instruction and drive the discussion about Japanese internment during World War II. In this activity, students are presented with a number of scenarios where they are to take the role of President of the United States, Chief of Intelligence of OSS, or British Intelligence Agency (MI-6). Each of the scenarios require students to explore ethical decisions that would have a significant impact on various groups of people. Through this activity, students were able to debate ethical questions and present well-reasoned arguments for the decisions that they made.

Research Question 4

Is there a significant difference in a student's development of information literacy skills between students taught history with the flipped classroom model and those taught with a traditional teacher-centered instructional approach?

The results from this study indicate that yes, there was a significant difference in a student's development of information literacy skills between students taught history with the flipped classroom model and those taught with a traditional teacher-centered instructional approach. For the pretest, the experimental group had a mean score of 7.780 (n=36) versus 8.130 (n=50) for the control group on critical thinking. On the posttest, the experimental group scored 13.810 (n=36) as compared to a mean score of 11.330 (n=50) for the control group. As such, the experimental groups mean gain score was 2.83 points higher than the control groups' mean gain

scores. According to the independent samples *t*-test, this was statistically significant ($t = 3.376$, $p < 0.5$).

The Information Literacy Standards by Association of College and Research Libraries recommended that educators structure their classes in such a way that students are actively engaged in the process of framing significant questions and the research and inquiry to find answers and, finally, to use communication skills to convey their findings (ACRL, 2000). Courses structured in such a way tend to be student-centered and require students to have information literacy skills as there is an ongoing process of inquiry, problem solving, and critical thinking (ACRL, 2000). Kasowitz-Scheer and Pasqualoni (2002) supported the ACRL's information literacy standard's pedagogical approach by saying that best practice characteristics for information literacy instruction emphasize the importance of integrating information literacy throughout a student's entire academic career with multiple methods of assessment. Prensky (2012) argued that students in a passive learning role receiving information and not actively constructing knowledge through an inquiry based collaborative learning experience equipped with information literacy skills was detrimental to their future. Acquisition of information literacy skills increases opportunities for students' self-directed learning as they engage in using a wide variety of information courses to expand their knowledge, ask informed questions, and sharpen their critical thinking (ACRL, 2000).

On both the pretests and posttests, students were asked to use online resources to find an article of research pertaining to a historical period. Additionally, they were asked to evaluate that resource for its credibility and reliability. This activity is consistent with the research in that it created a situation where student's solution must be self-directed and they were forced to think critically and ask questions about research that they found online. Students had to use effective

written communication skills to communicate their findings and articulate their ideas about the research that they completed.

Students were prepared for this activity by completing an information literacy activity. For this activity, students received a library instruction from a college librarian on the use of the college's library resources. After the library instruction, students were asked to evaluate two different quotes that served as contrasting personal interpretations of the New Deal. After the evaluation of the two quotes, students were asked to find research articles that support each individual's interpretation of the New Deal.

Research Question 5

Is there a significant difference in a student's development of problem-solving skills between students taught history with the flipped classroom model and those taught with a traditional teacher-centered instructional approach?

The results from this study indicate that yes, there was a significant difference in a student's development of problem-solving skills between students taught history with the flipped classroom model and those taught with a traditional teacher-centered instructional approach. For the pretest, the experimental group had a mean score of 9.000 (n=36) versus 9.310 (n=50) for the control group on critical thinking. On the posttest, the experimental group scored 14.930 (n=36) as compared to a mean score of 13.370 (n=50) for the control group. As such, the experimental groups mean gain score was 1.87 points higher than the control groups' mean gain scores.

According to the independent samples *t*-test, this was statistically significant ($t = 2.802, p < 0.5$).

Ken Bain (2005) reported that highly effective teachers confront students with “intriguing, beautiful, or important problems, authentic tasks that will challenge them to grapple with ideas, rethink their assumptions, and examine their mental models of reality” (p. 18).

Instructors can promote the development of problem-solving skills by establishing a learning environment that provides practice applying the skill, encourages monitoring and reflection, grades the process rather than just the solution, utilizes formative assessment and feedback, and teaches behaviors that have been shown to promote successful application of the skill (Woods, 2000). Requiring students to actively participate in activities where they have to identify a problem, formulate questions, gather information, organize data, and communicate a solution to the problem are effective in the students' development of problem-solving skills (Jonassen & Hung, 2008).

In both the pretest and posttest, students were asked to evaluate controversial decisions that were made by the President of the United States. In their evaluations, they were to consider different decisions that the presidents could have made and the consequences of those decisions. Finally, they are faced with identifying problems associated with the decisions that were actually made and any alternative decisions that could have been made. This activity is consistent with the research because students were asked to engage in activities where they were faced with problems to be solved. Students were also engaged in the process of formulating questions, gathering information, organizing data, and communicating solutions to these problems. To prepare students for this activity, students were asked to engage in activities where they had to evaluate six different New Deal programs. In their evaluations, they had to identify the problem the program was designed to address, determine whether the program was the best course of action, and present alternative programs or solutions for the specific problem.

Research Question 6

Is there a significant difference in a student's development of written communication skills between students taught history with the flipped classroom model and those taught with a traditional teacher-centered instructional approach?

The results from this study indicate that yes, there was a significant difference in a student's development of written communication skills between students taught history with the flipped classroom model and those taught with a traditional teacher-centered instructional approach. For the pretest, the experimental group had a mean score of 7.970 (n=36) versus 8.110 (n=50) for the control group on critical thinking. On the posttest, the experimental group scored 13.470 (n=36) as compared to a mean score of 11.060 (n=50) for the control group. As such, the experimental groups mean gain score was 2.55 points higher than the control groups' mean gain scores. According to the independent samples *t*-test, this was statistically significant ($t = 2.399$, $p < 0.5$).

The evaluation of the written communication skills was slightly different than the other skills observed by the study. The independent raters were asked to evaluate all of the students' answers together for the pretest and then the posttest using the Written Communication VALUE Rubric. Because the pretests and posttests presented the students with discussion/essay questions, the entirety of a student's submitted answers was conducive to evaluating their written communication skills.

Research tells us that writing instruction should include strategies for organizing information (Bean, 2011). Loban (1976) found that the difficulties experienced by writers were in relation to the number of schemes they were attempting to coordinate and not inherent in the linguistic devices that they were attempting to use. The coordination of ideas at increasingly

complex levels underlies several features of effective writing: more tightly connected ideas, elaboration, defense arguments that anticipate counterarguments, subplots, and audience-centered prose (Bean, 2011). One of the essential goals of writing instruction is to develop writers' abilities to coordinate complex ideas and express them in an organized and clear manner (Rhodes & Finley, 2013). A key component of writing instruction is giving students frequent opportunities to practice writing (Bean, 2011; Murphree, 2015). Murphree (2015) reported that frequent writing allows students to become engaged with the content to be learned, think more critically about the content, and become more effective communicators.

This study remained consistent with the research on developing students' written communication skills. Students were allowed to practice their written communication skills on each of the formative assessments. All of the assessments required students to coordinate their ideas and articulate them in an organized manner. Additionally, many of the formative assessments involved graphic organizers that allowed students the opportunity to organize their thoughts and ideas logically. Finally, because students were basically required to complete formative assessments for each day of instruction, they were given frequent opportunities to practice their written communication skills.

It's all About Those Formative Assessments, Too

Based on the results of this study, the flipped classroom model is effective at increasing student learning. The student-centered nature of the flipped classroom increases student engagement in the classroom, provides more guided instruction from the teacher, and allows them multiple opportunities review the lecture material as it is posted electronically. However, the use of strategically selected formative assessments combined with frequent instructor feedback is also particularly effective at increasing student learning. This supports the notion

that formative assessment plays a critical role in learning environments because it allows the instructor to provide feedback at each stage of the teaching and learning process (Angelo & Cross, 1993; Bloom, 1969). In the case of this study, in the experimental groups, formative assessments were combined with collaboration and active-learning opportunities which created an environment conducive for increased student learning.

Limitations

The present study has limited generalizability. The study was conducted using two different Alabama Community College instructors teaching two classes each. Additionally, because of the use of a convenience sample, the students were not selected randomly and participation in the study was voluntary. As a result, the possibility exists that students involved in this study may be atypical of other students enrolled at the respective community colleges and/or the Alabama Community College system as a whole. The study also has limited generalizability because the research was conducted using only one instructional unit in one-half of the American history survey courses. Finally, generalizability is problematic because of the relatively small sample sizes employed in this study.

Another limitation to this study is that, because two different instructors had to be employed in order to accomplish the goal of the instructor needing multiple sections of the same course, the instructors are different in a variety of ways. While every effort was made to find two instructors that were as similar as possible, controlling for differences was still difficult. Both instructors received their degrees in history at the same institution and had a similar approach to teaching history with regard to teaching philosophy and historical training. However, the fact remains that they were two different instructors which, at the end of the day, also reduces the ability to generalize this study.

Conclusions

The results of the study indicate that the flipped classroom model is an effective pedagogical approach. Students appear to learn more both in terms of general content and skills development. That being said, it appears that the success of the flipped classroom is contingent upon the types and frequency of activities that students are required to complete, the skills that are employed in the completion of those activities, the quality of feedback that students receive from the instructor, and the level of active-learning incorporated into classroom instruction. Because the skill development for the control group also increased from the pretest to posttest, it is reasonable to think that the formative assessments completed by the students combined with feedback from the instructor made a positive contribution to student learning.

In terms of 21st century skills development in the history classroom, the flipped classroom model appears to be promising. However, it also appears that varied instruction, active-learning, collaboration, formative assessment, and frequent opportunities to express ideas and thought through classroom discussion and written communication, are valuable instructional techniques to aid in students' development of 21st skills. The results of this study suggest that changing pedagogical techniques that further engage students beyond simple lecture and exams ultimately has a positive impact on student learning from a multitude of perspectives. That is not to say that the lecture does not play a role in the future of history (or general college) instruction; the results of this study support the notion that faculty need to do more than lecture to maximize student learning.

Implications for Liberal Arts Education

The results of this study show promise that the critical workforce skills, as outlined by the various 21st century skills frameworks discussed in this study, can actually be taught and

conveyed through the humanities and social sciences. Combined with a rethinking of instructional methods, current and evolving instructional technologies, and collaborative learning, students in social science and humanities classes can develop a multitude of workforce desirable skills (American Academy of Arts and Sciences, 2013). The social sciences and humanities involve a great deal of literature for students to explore and analyze (Gallavan & Kottler, 2012; Kent, 2012). The social sciences can require students to research, analyze, synthesize and discuss a wide selection of information and ideas that are applicable to any career they choose to pursue (Gallavan & Kottler, 2012; Kent, 2012).

More specifically, history courses are environments where students can learn to think critically, problem solve, and communicate effectively (Bower et al., 1999; Lesh, 2011; Mandell & Malone, 2007). Through rethinking the way that college history survey courses are taught, students can develop soft skills that will make them more marketable in the workforce (Reed & Kromrey, 2001). If students are required to engage in activities where they role play, collaborate, solve problems, apply data, and communicate extensively in a number of ways, history courses can be ideal environments for the development of soft skills (Bower et al., 1999; Greenhill, 2009; Kyllonen, 2013; Lesh, 2011; Mandell & Malone, 2007; Reed & Kromrey, 2001).

Recommendations for Future Research

It is recommended that future research expand the scope of this study. This can be done in a variety of ways. First of all, this study can be replicated in a number of other history courses both at community colleges and other institutions of higher education. Additionally, the sample size and length of the instructional period being observed can be expanded to collect valuable data. Second, while this study focused on history, much of the research can be applied to other

disciplines as well. It would make a valuable contribution to the overall body of research for both the flipped classroom pedagogy and skills development research if other liberal arts and/or general education courses conducted a study similar to this one.

Contribution of the Study

This study has made a contribution to the body of research on the effectiveness of the flipped classroom instructional model at increasing student learning. The results of this study suggest that changing the way instructors teach in history courses can have a significant impact on students developing desirable workforce skills. This information is useful for colleges and universities as faculty and administrators make decisions with regard to the teaching and learning process. In light of the increased scrutiny being placed on institutions of higher learning to demonstrate accountability to government, parents, students, accrediting bodies, potential funding sources, and potential employers, this information has suggested that history courses (and arguably other liberal arts disciplines) can significantly contribute to student preparation for the workforce.

Summary

On Tuesday, November 8, 2016, Donald J. Trump was chosen by the American people to be the 45th President of the United States. Since the November 8th election, there has been a national discussion about fake news and the role it might have played in causing confusion during the election (Chappell, 2016). In response to sharp criticism for the perceived contribution it played in spreading fake news, Facebook announced that it would introduce automatic measures to detect and filter out false media reports (Chappell, 2016). Why would software to do this even be necessary? The inability to critically evaluate information is emblematic of a lack of information literacy skills, first and foremost, but other 21st century skills as well.

The 2016 election brought about a great deal of discussion about civic understanding, what it means to be a civic-minded citizen, how we receive and evaluate news, and finally, how we think and communicate with one another (American Democracy Project, 2016). When we think about a discipline where students learn civic understanding, what is often the first course that comes to mind? There are a great deal of people that would say U.S. history. History provides the skills for students to study the past, become members of a literate citizenry, engage in individual analysis, and develop reasoned arguments (Morrell & Rogers, 2006). Courses in history can give rise to students who are critical thinkers, problem solvers, and are informationally and civically literate (Scholes, 1995). Research shows us that history courses, if taught well, can have a significant impact student learning (Leinhardt, 1988; Monte-Sano, 2008; Murphree, 2015; Newman, 1990; VanSledright, 1997).

However, with a great deal of research showing us the value of history education, the devaluation of it has been going on for some time. Goodlad's (1984) comprehensive study on schooling found that students consistently ranked social studies as less important than mathematics, English, or vocational education. Fast forward 31 years later to October 2015 where Jeb Bush, former Governor of Florida and a candidate running for President of the United States said, "When a student shows up [to college], they ought to say, 'Hey, that psych major deal, that philosophy major thing, that's great, it's important to have liberal arts . . . but realize, you're going to be working a Chick-fil-A'" (Nahmias, 2015). At the same event, Marco Rubio, U.S. Senator from Florida also running for President, said, "We need more welders and less philosophers. Welders make more money than philosophers" (Nahmias, 2015). To further illustrate the devaluation of the humanities, and history education, the media has been reporting

that the new Trump administration has suggested that the National Endowment of the Humanities should be eliminated (Bump, 2017).

Critical thinking, creative thinking, ethical reasoning, information literacy, problem solving, and written communication are all skills that are important for the future of America's workforce and her citizenry. The results of this study suggest that the development of those skills can occur in general education history survey courses. Furthermore, with the use of pedagogy that encourages active learning and student centeredness, like the flipped classroom, disciplines that have largely been dominated by straight lecture and exam teaching methods can help students develop the 21st century skills that they need to be successful when they enter the workforce.

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APPENDIX A
PERMISSIONS

**JOHN WILEY AND SONS LICENSE
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Oct 07, 2015

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Title of your thesis / dissertation	Flipping the Classroom in Community Colleges: Rethinking Social Science Instruction to Develop Workforce Desirable Skills
Expected completion date	Aug 2016
Expected size (number of pages)	165
Requestor Location	James Griffey 155 S Hawk Dr RAINBOW CITY, AL 35906 United States Attn: James D Griffey
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APPENDIX B
IRB MATERIALS

Office for Research
Institutional Review Board for the
Protection of Human Subjects



February 17, 2016

James Derrick Griffey
ELPTS
College of Education
The University of Alabama
Box 870302

Re: IRB # EX-16-CM-022 "Flipping the Classroom in Community Colleges:
Rethinking History Instruction to Develop Workforce Desirable Skills"

Dear Mr. Griffey:

The University of Alabama Institutional Review Board has granted approval
for your proposed research.

Your protocol has been given exempt approval according to 45 CFR part
46.101(b)(1) as outlined below:

*(1) Research conducted in established or commonly accepted educational settings, involving
normal educational practices, such as (i) research on regular and special education
instructional strategies, or (ii) research on the effectiveness of or the comparison among
instructional techniques, curricula, or classroom management methods.*

Your application will expire on February 16, 2017. If your research will
continue beyond this date, complete the relevant portions of Continuing
Review and Closure Form. If you wish to modify the application, complete
the Modification of an Approved Protocol Form. When the study closes,
complete the appropriate portions of FORM: Continuing Review and
Closure.

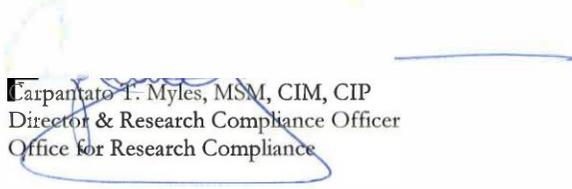
Should you need to submit any further correspondence regarding this
proposal, please include the assigned IRB application number.

Good luck with your research.

Sincerely,



358 Rose Administration Building
Box 870127
Tuscaloosa, Alabama 35487-0127
(205) 348-8461
FAX (205) 348-7189
TOLL FREE (877) 820-3066


Carpentato F. Myles, MSM, CIM, CIP
Director & Research Compliance Officer
Office for Research Compliance

January 11, 2017

James Derrick Griffey
ELPTS
College of Education
The University of Alabama
Box 870302

Re: IRB # EX-16-CM-022-R1 "Flipping the Classroom in Community Colleges: Rethinking History Instruction to Develop Workforce Desirable Skills"

Dear Mr. Griffey:

The University of Alabama Institutional Review Board has granted approval for your renewal application. Your renewal application has been given exempt approval according to 45 CFR part 46.101(b)(1) as outlined below:

(1) Research conducted in established or commonly accepted educational settings, involving normal educational practices, such as (i) research on regular and special education instructional strategies, or (ii) research on the effectiveness of or the comparison among instructional techniques, curricula, or classroom management methods.

Your application will expire on January 10, 2018. If your research will continue beyond this date, complete the relevant portions of Continuing Review and Closure Form. If you wish to modify the application, complete the Modification of an Approved Protocol Form. When the study closes, complete the appropriate portions of FORM: Continuing Review and Closure.

Should you need to submit any further correspondence regarding this proposal, please include the assigned IRB application number.

Good luck with your research.

Sincerely,

Carpantato T. Myles, MSM, CIM, CIP
Director & Research Compliance Officer
Office for Research Compliance

FLIPPING THE CLASSROOM IN COMMUNITY COLLEGES: RETHINKING HISTORY
INSTRUCTION TO DEVELOP WORKFORCE DESIREABLE SKILLS

James Derrick Griffey, Researcher
Dr. Vivian H. Wright, Faculty Advisor

Consent Form for Participating Instructors

Dear Academic Instructor:

As part of the requirements for the completion of my doctorate degree at The University of Alabama, I am conducting a research study to determine if students can more effectively develop workforce desirable skills such as critical thinking, creative thinking, ethical reasoning, information literacy, problem solving, and written communication by changing traditional teaching methods in a community college United States history class. Specifically, the study will analyze the effectiveness of the flipped classroom pedagogical model at helping students develop the workforce desirable skills. In order to accomplish this research, I need your assistance. I truly appreciate your willingness to teach a unit in your class using the flipped classroom pedagogy.

This semester, you are teaching two face-to-face sections of United States history II (HIS 202). I am asking that you designate one of your classes as an experimental group and the other as a control group. For the experimental group, you will teach a full unit using the flipped classroom. For the control group, you will teach the same unit simultaneously using your traditional instructional method. You will administer a pretest and posttest that will be evaluated by an independent rater using a series of rubrics to observe the development of the workforce desirable skills. Your students' identities will not be revealed to the independent raters. I will provide all of the materials you will need to participate in this study. Also, I will provide professional development to you with the implementation of the flipped classroom. If at any time you would like to withdraw from the study, you may ask to do so. Participation in this study is voluntary and you are free to decline the use of any instructional materials provided by the researcher. Participation will require approximately 4 weeks of your time.

Data for this research study will be obtained from the comparison of the pretest and posttest rubric scores. Your name, your students' names, nor any distinguishing characteristics will appear with the pretests and posttests to be evaluated. There are no foreseeable risks to those involved in this study. Also, there are no direct benefits to the participants of this study.

The results of this research study will be reported in the form of a doctoral dissertation at The University of Alabama in Tuscaloosa. Research such as this is important and needed to help make decisions regarding successful teaching methodologies in community college history classes. The benefits to society are that the results will be added to the information bank for further study.

UNIVERSITY OF ALABAMA IRB
CONSENT FORM APPROVED: 2-17-16
EXPIRATION DATE: 2-16-17

For any questions about this interview contact me at dgriffey@gadsdenstate.edu or call me at (256) 504-6521. You may also contact my faculty advisor, Dr. Vivian Wright, at vwright@bamaed.ua.edu or call her at (205) 348-1401. If you have questions about your rights as a person taking part in a research study, make suggestions or file complaints and concerns, you may call Ms. Tanta Myles, the Research Compliance Officer of the University at (205)-348-8461 or toll-free at 1-877-820-3066. You may also ask questions, make suggestions, or file complaints and concerns through the IRB Outreach Website at http://osp.ua.edu/site/PRCO_Welcome.html. You may email us at participantoutreach@bama.ua.edu.

You have read and understand the consent form. You agree to participate in this research study. Upon signing below, you will receive a copy of the consent form.

_____	_____	_____
Name of Participant	Signature	Date
James Derrick Griffey		
_____	_____	_____
Name of Person Obtaining Consent	Signature of Person Obtaining Consent	Date

UNIVERSITY OF ALABAMA IRB
 CONSENT FORM APPROVED: 2-17-16
 EXPIRATION DATE: 2-16-17

FLIPPING THE CLASSROOM IN COMMUNITY COLLEGES: RETHINKING HISTORY
INSTRUCTION TO DEVELOP WORKFORCE DESIREABLE SKILLS

James Derrick Griffey, Researcher
Dr. Vivian H. Wright, Faculty Advisor

Consent Form for Independent Raters

Dear Academic Instructor:

As part of the requirements for the completion of my doctorate degree at The University of Alabama, I am conducting a research study to determine if students can more effectively develop workforce desirable skills such as critical thinking, creative thinking, ethical reasoning, information literacy, problem solving, and written communication by changing traditional teaching methods in a community college United States history class. Specifically, the study will analyze the effectiveness of the flipped classroom pedagogical model at helping students develop the workforce desirable skills. In order to accomplish this research, I need your assistance. I truly appreciate your willingness to serve as an independent rater for this study.

This semester, two instructors participating in this study are teaching two face-to-face sections of United States history II (HIS 202) each. For each instructor, one of their sections is designated as an experimental group where they will teach using the flipped classroom and the other section is the control group where they will use their traditional teaching method. The instructors will administer a pretest and posttest to their students. I am asking that you use a series of rubrics to evaluate the students' work on both the pretest and posttest.

You will not be made aware of the students' identities. Your identity will also remain anonymous from the other participants in the study. I will provide all of the materials you will need to participate in this study. Also, I will provide professional development to you in the usage of the rubrics for evaluation. If at any time you would like to withdraw from the study, you may ask to do so. Participation in this study is voluntary and you are free to choose not to evaluate a student's work for any reason. Participation will require approximately 4 weeks of your time.

Data for this research study will be obtained from the comparison of the pretest and posttest rubric scores. Your name, the participating instructors' names, and the students' names, nor any distinguishing characteristics will appear with the pretests and posttests to be evaluated. There are no foreseeable risks to those involved in this study. Also, there are no direct benefits to the participants of this study.

The results of this research study will be reported in the form of a doctoral dissertation at The University of Alabama in Tuscaloosa. Research such as this is important and needed to help make decisions regarding successful teaching methodologies in community college history classes. The benefits to society are that the results will be added to the information bank for further study.

UNIVERSITY OF ALABAMA IRB
CONSENT FORM APPROVED: 2-17-11
EXPIRATION DATE: 2-16-17

For any questions about this interview contact me at dgriffey@gadsdenstate.edu or call me at (256) 504-6521. You may also contact my faculty advisor, Dr. Vivian Wright, at vwright@bamaed.ua.edu or call her at (205) 348-1401. If you have questions about your rights as a person taking part in a research study, make suggestions or file complaints and concerns, you may call Ms. Tanta Myles, the Research Compliance Officer of the University at (205)-348-8461 or toll-free at 1-877-820-3066. You may also ask questions, make suggestions, or file complaints and concerns through the IRB Outreach Website at http://osp.ua.edu/site/PRCO_Welcome.html. You may email us at participantoutreach@bama.ua.edu.

You have read and understand the consent form. You agree to participate in this research study. Upon signing below, you will receive a copy of the consent form.

_____	_____	_____
Name of Participant	Signature	Date
James Derrick Griffey		
_____	_____	_____
Name of Person Obtaining Consent	Signature of Person Obtaining Consent	Date

UNIVERSITY OF ALABAMA IRB
 CONSENT FORM APPROVED: 2-17-16
 EXPIRATION DATE: 2-16-17

FLIPPING THE CLASSROOM IN COMMUNITY COLLEGES: RETHINKING HISTORY
INSTRUCTION TO DEVELOP WORKFORCE DESIREABLE SKILLS

James Derrick Griffey, Researcher
Dr. Vivian H. Wright, Faculty Advisor

Consent Form for Students

Dear Student:

As part of the requirements for the completion of my doctorate degree at The University of Alabama, I am conducting a research study to determine if students can more effectively develop workforce desirable skills such as critical thinking, creative thinking, ethical reasoning, information literacy, problem solving, and written communication by changing traditional teaching methods in a community college United States history class. Specifically, the study will analyze the effectiveness of the flipped classroom pedagogical model at helping students develop the workforce desirable skills. In order to accomplish this research, I need your assistance. I truly appreciate your willingness to participate in this study.

This semester, you have registered for the United States history II (HIS 202) course being taught by the two instructors participating in this study. For each instructor, one of their sections is designated as an experimental group where they will teach using the flipped classroom and the other section is the control group where they will use their traditional teaching method. Your instructor will inform you which group you are in.

Mid-semester, your instructor will change the way he or she teaches for one unit. The instructors will administer a pretest, ask you to complete several formative assessments, and administer a posttest. All of these activities are included as a part of the regular classroom instruction. I am asking that you agree to allowing your pretest and posttest to be evaluated by two independent raters. Even if you choose not to participate in the study, you will still complete all of the activities to be assigned during the unit being observed for the purposes of the study. The difference is that your pretest and posttest scores will not be included in the study.

Your identity will remain anonymous from the independent raters. Also, your scores on the pretest and posttest will not affect your current grade (at the time of the study) or your final course grade. It will be up to the instructor to determine grading of the work completed during the unit being observed in this study. If at any time you would like to withdraw from the study, you may ask to do so. Participation in this study is voluntary and you are free to disallow your pretest or posttest from being evaluated by the independent raters. Choosing not to participate in this study will not affect you negatively in any way. Participation will require approximately 4 weeks of your time.

Data for this research study will be obtained from the comparison of your pretest and posttest rubric scores. Your name, nor any distinguishing characteristics, will appear with your pretests and posttests when the independent raters evaluate them. There are no foreseeable risks to those involved in this study. Also, there are no direct benefits to the participants of this study.

UNIVERSITY OF ALABAMA IRB
CONSENT FORM APPROVED: 2-17-16
EXPIRATION DATE: 2-16-17

The results of this research study will be reported in the form of a doctoral dissertation at The University of Alabama in Tuscaloosa. Research such as this is important and needed to help make decisions regarding successful teaching methodologies in community college history classes. The benefits to society are that the results will be added to the information bank for further study.

For any questions about this interview contact me at dgriffey@gadsdenstate.edu or call me at (256) 504-6521. You may also contact my faculty advisor, Dr. Vivian Wright, at vwright@bamaed.ua.edu or call her at (205) 348-1401. If you have questions about your rights as a person taking part in a research study, make suggestions or file complaints and concerns, you may call Ms. Tanta Myles, the Research Compliance Officer of the University at (205)-348-8461 or toll-free at 1-877-820-3066. You may also ask questions, make suggestions, or file complaints and concerns through the IRB Outreach Website at http://osp.ua.edu/site/PRCO_Welcome.html. You may email us at participantoutreach@bama.ua.edu.

You have read and understand the consent form. You agree to participate in this research study. Upon signing below, you will receive a copy of the consent form.

Name of Participant	Signature	Date
James Derrick Griffey		
Name of Person Obtaining Consent	Signature of Person Obtaining Consent	Date

UNIVERSITY OF ALABAMA IRB
 CONSENT FORM APPROVED: 2-17-16
 EXPIRATION DATE: 2-16-17

APPENDIX C
VALUE RUBRICS

Evaluation Rubrics for *FLIPPING THE CLASSROOM IN COMMUNITY COLLEGES: RETHINKING HISTORY INSTRUCTION TO DEVELOP WORKFORCE DESIREABLE SKILLS* – A Dissertation by James Derrick Griffey, The University of Alabama, 2016.

Critical Thinking					
Evaluation Criteria	Level 5	Level 4	Level 3	Level 2 or Below	Student Score
Explanation of issues	Issue/problem to be considered critically is stated clearly and described comprehensively, delivering all relevant information necessary for full understanding.	Issue/problem to be considered critically is stated, described, and clarified so that understanding is not seriously impeded by omissions.	Issue/problem to be considered critically is stated but description leaves some terms undefined, ambiguities unexplored, boundaries undetermined, and/or backgrounds unknown.	Issue/problem to be considered critically is stated without clarification or description.	
Evidence <i>Selecting and using information to investigate a point of view or conclusion</i>	Information is taken from source(s) with enough interpretation/evaluation to develop a comprehensive analysis or synthesis. Viewpoints of experts are questioned thoroughly.	Information is taken from source(s) with enough interpretation/evaluation to develop a coherent analysis or synthesis. Viewpoints of experts are subject to questioning.	Information is taken from source(s) with some interpretation/evaluation, but not enough to develop a coherent analysis or synthesis. Viewpoints of experts are taken as mostly fact, with little questioning.	Information is taken from source(s) without any interpretation/evaluation. Viewpoints of experts are taken as fact, without question.	
Influence of context and assumptions	Thoroughly (systematically and methodically) analyzes own and others' assumptions and carefully evaluates the relevance of contexts when presenting a position.	Identifies own and others' assumptions and several relevant contexts when presenting a position.	Questions some assumptions. Identifies several relevant contexts when presenting a position. May be more aware of others' assumptions than one's own (or vice versa).	Shows an emerging awareness of present assumptions (sometimes labels assertions as assumptions). Begins to identify some contexts when presenting a position.	
Student's position (perspective, thesis/hypothesis)	Specific position (perspective, thesis/hypothesis) is imaginative, taking into account the complexities of an issue. Limits of position (perspective, thesis/hypothesis) are acknowledged. Others' points of view are synthesized within position (perspective, thesis/hypothesis).	Specific position (perspective, thesis/hypothesis) takes into account the complexities of an issue. Others' points of view are acknowledged within position (perspective, thesis/hypothesis).	Specific position (perspective, thesis/hypothesis) acknowledges different sides of an issue.	Specific position (perspective, thesis/hypothesis) is stated, but is simplistic and obvious.	
Conclusions and related outcomes (implications and consequences)	Conclusions and related outcomes (consequences and implications) are logical and reflect student's informed evaluation and ability to place evidence and perspectives discussed in priority order.	Conclusion is logically tied to a range of information, including opposing viewpoints; related outcomes (consequences and implications) are identified clearly.	Conclusion is logically tied to information (because information is chosen to fit the desired conclusion); some related outcomes (consequences and implications) are identified clearly.	Conclusion is inconsistently tied to some of the information discussed; related outcomes (consequences and implications) are oversimplified.	
Total for Critical Thinking					

Creative Thinking					
Evaluation Criteria	Level 5	Level 4	Level 3	Level 2 or Below	Student Score
Taking Risks May include personal risk (fear of embarrassment or rejection) or risk of failure in successfully completing assignment, i.e. going beyond original parameters of assignment, introducing new materials and forms, tackling controversial topics, advocating unpopular ideas or solutions.	Actively seeks out and follows through on untested and potentially risky directions or approaches to the assignment in the final product.	Incorporates new directions or approaches to the assignment in the final product.	Considers new directions or approaches without going beyond the guidelines of the assignment.	Stays strictly within the guidelines of the assignment.	
Solving Problems	Not only develops a logical, consistent plan to solve problem, but recognizes consequences of solution and can articulate reason for choosing solution.	Having selected from among alternatives, develops a logical, consistent plan to solve the problem.	Considers and rejects less acceptable approaches to solving problem.	Only a single approach is considered and is used to solve the problem.	
Embracing Contradictions	Integrates alternate, divergent, or contradictory perspectives or ideas fully.	Incorporates alternate, divergent, or contradictory perspectives or ideas in a exploratory way.	Includes (recognizes the value of) alternate, divergent, or contradictory perspectives or ideas in a small way.	Acknowledges (mentions in passing) alternate, divergent, or contradictory perspectives or ideas.	
Innovative Thinking <i>Novelty or uniqueness (of idea, claim, question, form, etc.)</i>	Extends a novel or unique idea, question, format, or product to create new knowledge or knowledge that crosses boundaries.	Creates a novel or unique idea, question, format, or product.	Experiments with creating a novel or unique idea, question, format, or product.	Reformulates a collection of available ideas.	
Connecting, Synthesizing, Transforming	Transforms ideas or solutions into entirely new forms.	Synthesizes ideas or solutions into a coherent whole.	Connects ideas or solutions in novel ways.	Recognizes existing connections among ideas or solutions.	
Total for Creative Thinking					

Ethical Reasoning Skills					
Evaluation Criteria	Level 5	Level 4	Level 3	Level 2 or Below	Student Score
Understanding Different Ethical Perspectives/Concepts	Student names the theory or theories, can present the gist of said theory or theories, and accurately explains the details of the theory or theories used.	Student can name the major theory or theories she/he uses, can present the gist of said theory or theories, and attempts to explain the details of the theory or theories used, but has some inaccuracies.	Student can name the major theory she/he uses, and is only able to present the gist of the named theory.	Student only names the major theory she/he uses.	
Ethical Issue Recognition	Student can recognize ethical issues when presented in a complex, multilayered (gray) context AND can recognize cross-relationships among the issues.	Student can recognize ethical issues when issues are presented in a complex, multilayered (gray) context OR can grasp cross-relationships among the issues.	Student can recognize basic and obvious ethical issues and grasp (incompletely) the complexities or interrelationships among the issues.	Student can recognize basic and obvious ethical issues but fails to grasp complexity or interrelationships.	
Application of Ethical Perspectives/Concepts	Student can independently apply ethical perspectives/concepts to an ethical question, accurately, and is able to consider full implications of the application.	Student can independently apply ethical perspectives/concepts to an ethical question, accurately, but does not consider the specific implications of the application.	Student can apply ethical perspectives/concepts to an ethical question, independently (to a new example) and the application is inaccurate.	Student can apply ethical perspectives/concepts to an ethical question with support (using examples, in a class, in a group, or a fixed-choice setting) but is unable to apply ethical perspectives/concepts independently (to a new example.).	
Evaluation of Different Ethical Perspectives/Concepts	Student states a position and can state the objections to, assumptions and implications of and can reasonably defend against the objections to, assumptions and implications of different ethical perspectives/concepts, and the student's defense is adequate and effective.	Student states a position and can state the objections to, assumptions and implications of, and respond to the objections to, assumptions and implications of different ethical perspectives/concepts, but the student's response is inadequate.	Student states a position and can state the objections to, assumptions and implications of different ethical perspectives/concepts but does not respond to them (and ultimately objections, assumptions, and implications are compartmentalized by student and do not affect student's position.)	Student states a position but cannot state the objections to and assumptions and limitations of the different perspectives/concepts.	
Total for Ethical Reasoning					

Information Literacy Skills					
Evaluation Criteria	Level 5	Level 4	Level 3	Level 2 or Below	Student Score
Access the Needed Information	Accesses information using effective, well-designed search strategies and most appropriate information sources.	Accesses information using variety of search strategies and some relevant information sources. Demonstrates ability to refine search.	Accesses information using simple search strategies, retrieves information from limited and similar sources.	Accesses information randomly, retrieves information that lacks relevance and quality.	
Evaluate Information and its Sources Critically	Thoroughly (systematically and methodically) analyzes own and others' assumptions and carefully evaluates the relevance of contexts when presenting a position.	Identifies own and others' assumptions and several relevant contexts when presenting a position.	Questions some assumptions. Identifies several relevant contexts when presenting a position. May be more aware of others' assumptions than one's own (or vice versa).	Shows an emerging awareness of present assumptions (sometimes labels assertions as assumptions). Begins to identify some contexts when presenting a position.	
Use Information Effectively to Accomplish a Specific Purpose	Communicates, organizes and synthesizes information from sources to fully achieve a specific purpose, with clarity and depth	Communicates, organizes and synthesizes information from sources. Intended purpose is achieved.	Communicates and organizes information from sources. The information is not yet synthesized, so the intended purpose is not fully achieved.	Communicates information from sources. The information is fragmented and/or used inappropriately (misquoted, taken out of context, or incorrectly paraphrased, etc.), so the intended purpose is not achieved.	
Access and Use Information Ethically and Legally	Students use correctly all of the following information use strategies (use of citations and references; choice of paraphrasing, summary, or quoting; using information in ways that are true to original context; distinguishing between common knowledge and ideas requiring attribution) and demonstrate a full understanding of the ethical and legal restrictions on the use of published, confidential, and/or proprietary information.	Students use correctly three of the following information use strategies (use of citations and references; choice of paraphrasing, summary, or quoting; using information in ways that are true to original context; distinguishing between common knowledge and ideas requiring attribution) and demonstrates a full understanding of the ethical and legal restrictions on the use of published, confidential, and/or proprietary information.	Students use correctly two of the following information use strategies (use of citations and references; choice of paraphrasing, summary, or quoting; using information in ways that are true to original context; distinguishing between common knowledge and ideas requiring attribution) and demonstrates a full understanding of the ethical and legal restrictions on the use of published, confidential, and/or proprietary information.	Students use correctly one of the following information use strategies (use of citations and references; choice of paraphrasing, summary, or quoting; using information in ways that are true to original context; distinguishing between common knowledge and ideas requiring attribution) and demonstrates a full understanding of the ethical and legal restrictions on the use of published, confidential, and/or proprietary information.	
Total for Information Literacy Skills					

Problem Solving Skills					
Evaluation Criteria	Level 5	Level 4	Level 3	Level 2 or Below	Student Score
Identify Strategies	Identifies multiple approaches for solving the problem that apply within a specific context.	Identifies multiple approaches for solving the problem, only some of which apply within a specific context.	Identifies only a single approach for solving the problem that does apply within a specific context.	Identifies one or more approaches for solving the problem that do not apply within a specific context.	
Propose Solutions/Hypotheses	Proposes one or more solutions/hypotheses that indicates a deep comprehension of the problem. Solution/hypotheses are sensitive to contextual factors as well as all of the following: ethical, logical, and cultural dimensions of the problem.	Proposes one or more solutions/hypotheses that indicates comprehension of the problem. Solutions/hypotheses are sensitive to contextual factors as well as the one of the following: ethical, logical, or cultural dimensions of the problem.	Proposes one solution/hypothesis that is “off the shelf” rather than individually designed to address the specific contextual factors of the problem.	Proposes a solution/hypothesis that is difficult to evaluate because it is vague or only indirectly addresses the problem statement.	
Evaluate Potential Solutions	Evaluation of solutions is deep and elegant (for example, contains thorough and insightful explanation) and includes, deeply and thoroughly, all of the following: considers history of problem, reviews logic/reasoning, examines feasibility of solution, and weighs impacts of solution.	Evaluation of solutions is adequate (for example, contains thorough explanation) and includes the following: considers history of problem, reviews logic/reasoning, examines feasibility of solution, and weighs impacts of solution.	Evaluation of solutions is brief (for example, explanation lacks depth) and includes the following: considers history of problem, reviews logic/reasoning, examines feasibility of solution, and weighs impacts of solution.	Evaluation of solutions is superficial (for example, contains cursory, surface level explanation) and includes the following: considers history of problem, reviews logic/reasoning, examines feasibility of solution, and weighs impacts of solution.	
Implement Solution	Implements the solution in a manner that addresses thoroughly and deeply multiple contextual factors of the problem.	Implements the solution in a manner that addresses multiple contextual factors of the problem in a surface manner.	Implements the solution in a manner that addresses the problem statement but ignores relevant contextual factors.	Implements the solution in a manner that does not directly address the problem statement.	
Evaluate Outcomes	Reviews results relative to the problem defined with thorough, specific considerations of need for further work.	Reviews results relative to the problem defined with some consideration of need for further work.	Reviews results in terms of the problem defined with little, if any, consideration of need for further work.	Reviews results superficially in terms of the problem defined with no consideration of need for further work	
Total for Problem Solving Skills					

Written Communication Skills					
Evaluation Criteria	Level 5	Level 4	Level 3	Level 2 or Below	Student Score
Content Development	Uses appropriate, relevant, and compelling content to illustrate mastery of the subject, conveying the writer's understanding, and shaping the whole work.	Uses appropriate, relevant, and compelling content to explore ideas within the context of the discipline and shape the whole work.	Uses appropriate and relevant content to develop and explore ideas through most of the work.	Uses appropriate and relevant content to develop simple ideas in some parts of the work.	
Genre and Disciplinary Conventions <i>Formal and informal rules inherent in the expectations for writing in particular forms and/or academic fields (please see glossary).</i>	Demonstrates detailed attention to and successful execution of a wide range of conventions particular to a specific discipline and/or writing task (s) including organization, content, presentation, formatting, and stylistic choices	Demonstrates consistent use of important conventions particular to a specific discipline and/or writing task(s), including organization, content, presentation, and stylistic choices	Follows expectations appropriate to a specific discipline and/or writing task(s) for basic organization, content, and presentation	Attempts to use a consistent system for basic organization and presentation.	
Sources and Evidence	Demonstrates skillful use of high-quality, credible, relevant sources to develop ideas that are appropriate for the discipline and genre of the writing	Demonstrates consistent use of credible, relevant sources to support ideas that are situated within the discipline and genre of the writing.	Demonstrates an attempt to use credible and/or relevant sources to support ideas that are appropriate for the discipline and genre of the writing.	Demonstrates an attempt to use sources to support ideas in the writing.	
Control of Syntax and Mechanics	Uses graceful language that skillfully communicates meaning to readers with clarity and fluency, and is virtually error-free.	Uses straightforward language that generally conveys meaning to readers. The language in the portfolio has few errors.	Uses language that generally conveys meaning to readers with clarity, although writing may include some errors.	Uses language that sometimes impedes meaning because of errors in usage.	
Total for Written Communication Skills					

APPENDIX D
PRETEST AND POSTTEST FORMS

United States History

Workforce Skills Pretest

Directions: For each of the following questions, you are to prepare a brief written essay response. Your essay should be long enough to answer each question completely. It is critical that you answer each part of the question. Also, be sure to complete any exercise that the question asks of you. You may complete this pretest at home. Finally, be sure to write legibly and clearly when answering the essay questions.

Evaluation: Your answers will be evaluated using a series of rubrics on critical thinking, creative thinking ethical reasoning, information literacy, problem solving, and written communication. While there is not a question dedicated to written communication, your entire set of answers will be evaluated together.

1. Critical Thinking – Evaluate the presidential leadership of Theodore Roosevelt, William Howard Taft, and Woodrow Wilson in terms of their effectiveness in obtaining passage of reform measures. In your opinion, which one of the three progressive presidents was most successful in achieving his goals?
2. Creative Thinking – In your own words, describe the “Progressive Era.” After writing your description, produce a political cartoon that depicts the ideas presented in your description.
3. Ethical Reasoning – What were some of the major problems that the United States faced during the “Progressive Era?” Choose one of the problems that you listed and present an argument supporting the government’s action to solve that problem. Also, choose one of the problems that you listed and construct an argument against the government’s action. Be sure to include supporting details in your arguments.
4. Information Literacy – Use the internet to find 1 item of research pertaining to World War I. Write a brief description of the item that you chose. Also, provide a citation for the item as well (use whatever citation method you’re most comfortable with). Finally, critique your source. Is it reliable? Is it peer reviewed? Would you recommend others to use this source?
5. Problem Solving - Evaluate Wilson's Fourteen Points, his negotiations at the Versailles Treaty talks, and the national debate over treaty ratification and the League of Nations. What could Wilson have done differently to achieve a different outcome? What could have happened differently at the Treaty of Versailles to prevent World War II?

United States History

Workforce Skills Posttest

Directions: For each of the following questions, you are to prepare a brief written essay response. Your essay should be long enough to answer each question completely. It is critical that you answer each part of the question. Also, be sure to complete any exercise that the question asks of you. You may complete this pretest at home. Finally, be sure to write legibly and clearly when answering the essay questions.

Evaluation: Your answers will be evaluated using a series of rubrics on critical thinking, creative thinking ethical reasoning, information literacy, problem solving, and written communication. While there is not a question dedicated to written communication, your entire set of answers will be evaluated together.

1. Critical Thinking – Evaluate the presidential leadership of Franklin D. Roosevelt in terms of their effectiveness in dealing with the Great Depression. In your opinion, which one of Roosevelt’s initiatives were most successful in offering relief from the Depression?
2. Creative Thinking – In your own words, describe the “The New Deal.” After writing your description, produce a political cartoon that depicts the ideas presented in your description.
3. Ethical Reasoning – What were some of the major problems that the United States faced on the home-front during World War II? Choose one of the problems that you listed and construct an argument supporting the government’s action to solve that problem. Also, choose one of the problems that you listed and present an argument against the government’s action. Be sure to include supporting details in your arguments.
4. Information Literacy – Use the internet to find 1 item of research pertaining to World War II. Write a brief description of the item that you chose. Also, provide a citation for the item as well (use whatever citation method you’re most comfortable with). Finally, critique your source. Is it reliable? Is it peer reviewed? Would you recommend others to use this source?
5. Problem Solving - Evaluate the decision to employ nuclear weapons against Japan and assess later controversies over the decision. What could Truman have done differently to achieve a different outcome? Could an end to the war have been achieved by avoiding the use of Nuclear Weapons? Be sure to provide evidence to support your positions.