Middle School Teachers’ Perceptions of Goal Orientations, Teacher Self-Efficacy, and Authentic Outcomes-Based Assessments

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Middle School Teachers’ Perceptions of Goal Orientations, Teacher Self-Efficacy, and Authentic Outcomes-Based Assessments

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Dissertation submitted to the Faculty of the College of Education in partial fulfillment of the requirements for the degree of Doctor of Education in Higher Education

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Abstract

The purpose of this study was to determine middle school teachers’ attitudes towards authentic outcomes-based assessments and to relate teachers’ perceptions of patterns of adaptive learning to authentic assessment scores of middle school students. Multiple learning theories were used to shape the conceptual framework. The correlational portion of this study was designed to seek relationships between the participants’ perceptions of patterns of adaptive learning and their students’ mean authentic assessment scores. The descriptive survey portion of this study was designed to gather middle school social studies teachers’ opinions of authentic outcomes-based assessments used to evidence mastery of intended learning outcomes. The Spearman’s Rank Correlation Coefficient was used to examine correlations, and descriptive statistics were used to describe teachers’ perceptions of authentic outcomes-based assessments. The results of the correlational portion of this study were nonsignificant in that patterns of adaptive learning do not predict authentic outcomes-based assessment scores. Insights that stemmed from the descriptive survey portion of this study included middle school teachers’ opinions of the resources, scoring practices, format preferences, and alignment of authentic assessments used to replace state standardized assessments. Implications that were formed based on the findings from this study included revisiting school culture and methods of evaluation. The results of this research study warrant additional research across multiple grade levels, content areas, gender, and professional roles to heighten awareness about patterns of adaptive learning and authentic assessment.

Keywords: achievement goal, authentic assessment, authentic outcomes-based assessment, competency-based assessment, goal orientation, goal structures, patterns of adaptive learning, performance-based assessment, performance task, portfolio, project-based assessment, simulations, teacher self-efficacy
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Chapter 1: Introduction

Introduction to the Problem

Educational institutions use assessment data including the results of standardized assessments or authentic outcomes-based assessments to report student achievement to governmental agencies (Brindley, 1998, 2001). The achievement results are used to monitor student progress towards intended learning outcomes, and they indicate the need for curricular changes (Brindley, 2001; Maki, 2002). Standardized assessments offer data that are easy to calculate and track student progress, but they do not offer the best methods for teaching and evaluating 21st century skills (Driscoll & Wood, 2007; Huba & Freed, 2000). Critics oppose high-stakes assessments that simply demonstrate what students can recall (Abbott & Wren, 2016; Bergen, 1993; Huba & Freed, 2000; NCTE, 2017). Traditional multiple-choice assessments pressure teachers to teach facts, encourage rote memorization, and focus on test-taking strategies (Midgley, 2002) instead of allowing individuals to go through the stages of knowledge, comprehension, application, analysis, synthesis, and evaluation (Bloom, 1956). Educational reformers have urged public educators to transition to authentic outcomes-based assessments that demonstrate levels of intellect or skillsets through performances (Bergen, 1993; NCTE, 2017).

Another concern is that teachers have indicated different preferences in their goal structures and approaches to instruction. Teachers’ perspectives of school goal structures, approaches to instruction, and personal teaching efficacy could impact students’ motivational orientations that influence achievement. School goal structures are rooted in a school’s policies and procedures, and they influence students to adopt personal achievement goals, which affect self-efficacy, learning strategies, and affective behaviors (Roeser, Midgley, Urdan, & Levin, 1996). When educators emphasize effort, improvement, and developing competence over
demonstrating relative ability, individuals tend to increase cognitive strategies, self-efficacy, and positive affective behaviors. When educators emphasize demonstrating ability relative to others, individuals tend to decrease their levels of cognitive strategies and self-efficacy and increase their levels of negative behaviors. Combining preferred school goal structures, approaches to instruction, and authentic assessment practices could encourage students to delve deep into learning processes and increase achievement. Concerns about goal structures, teacher self-efficacy, and evaluation methods gave grounds for this study to examine middle school teachers’ attitudes towards authentic outcomes-based assessments and to investigate if teachers’ perceptions of patterns of adaptive behavior predict authentic assessment scores of middle school students.

Past researchers found relationships between school goal structures, classroom goal structures, self-efficacy, and individual goal orientations (Ames & Archer, 1988; Ford et al., 1998; Pintrich, 2000; Roeser et al., 1996). School goal structures influence students to adopt personal achievement goals, which affect self-efficacy, learning strategies, and affective behaviors (Roeser et al., 1996). Mastery goal oriented individuals work hard to develop ability (Dweck & Leggett, 1988; Kaplan & Maehr, 2007; Midgley, 2002), engage in tasks (Ames & Archer, 1988; Pintrich, 2000), and apply knowledge (Kaplan & Maehr, 2007; Midgley, 2002). Ultimately, they want to be successful and truly develop competence (Middleton & Midgley, 1997). Performance goal oriented individuals, on the other hand, want to be viewed by others as intelligent; therefore, they are more concerned with social comparison and demonstrating competence (Midgley, 2002). Performance goal oriented individuals tend to exhibit testing anxieties due to their fears of appearing incompetent (Middleton & Midgley, 1997). According
to Midgley (2002), standardized testing could encourage individuals to adopt performance goals due to accentuating how individuals compare to each other.

Teachers with high self-efficacy have been found to prepare authentic, engaging learning activities aligned with students’ interests and goals (Kilday, Lenser, & Miller, 2016). They establish classrooms that reflect mastery goal structures and demonstrate higher student achievement (Kilday et al., 2016; Miller, Ramirez, & Murdock, 2017). Past researchers (Ames & Archer, 1988; Ben-Eliyahu et al., 2017; Dweck & Leggett, 1988, Ford et al., 1998; Kaplan & Maehr, 2007; Midgley, 2002; Pintrich, 2000) made recommendations for teachers to structure their classrooms in a manner that encourages students to adopt mastery goal orientations.

One way educators could encourage mastery goal structures would be to use assessment methods that encouraged students to demonstrate their knowledge, skills, and competences of designated learning outcomes (Biggs & Tang, 2007; Maki, 2002). Outcomes-based assessments are methods used to evaluate student learning that integrate theory and practice. They require learners to complete challenging tasks (Kaplan & Maehr, 2007; Midgley, 2002). During the process, students increase competence (Dweck & Leggett, 1988; Kaplan & Maehr, 2007; Midgley, 2002), self-efficacy skills (Kaplan & Maehr, 2007), and achievement (Middleton & Midgley, 1997). Authentic outcomes-based assessments such as simulations, competency-based assessments, portfolios, project-based assessments, and performance-based assessments nurture creativity, critical thinking, collaboration, and application. The assessment designs model experiential learning and help students develop competence and increase achievement (Dweck & Leggett, 1988; Kaplan & Maehr, 2007; Middleton & Midgley, 1997; Midgley, 2002).

Background, Context, History, and Conceptual Framework for the Problem
Educational institutions refer to leading theories when making decisions related to teaching, learning, and assessment. The conceptual framework drafted for this study focused on learning, instruction, and goal orientation theories. Researchers (Ames, 1992; Atkinson, 1957; Atkinson & McClelland as cited in Covington, 2000; Elliott & Dweck as cited in Covington, 2000; Midgley, 2002) found relationships between achievement, individuals’ emotions, and thoughts about successes and failures. Therefore, learning theories and alternative methods of assessment were the two prominent themes in the conceptual review. The first theme detailed constructivism-based learning theories including Bloom’s taxonomy (Bloom, 1956), Gardner’s (1983) theory of multiple intelligences, Kolb’s experiential learning theory (Kolb, 2015), and achievement goal theory. The second theme demonstrated how alternate assessment forms put theory into practice by imitating real-world scenarios and preparing students for the global workforce.

This information contained within the literature review presents methods of outcomes-based assessments that could be used to reinforce the learning and motivational strategies and characteristics discussed by the theorists. There are multiple methods of assessment that mimic real world applications. Simulations allow individuals to solve problems presented in real world scenarios (Mann et al., 2011, McGonigal, 2010; Prensky, 2012; Reardon, Becker, Shakeshaft, & Bacon, 2011). Competency-based assessments are often used to demonstrate mastery of competencies related to workforce skills (Baughman, 2012; CIC, 2015). Project-based assessments encourage critical thinking, collaboration, and problem solving as learners create and present their products that usually reflect real world issues or challenges (Chang & Tseng, 2011; Pearlman, 2006). Performance-based assessments entice meaningful learning as students transfer knowledge during times of authentic activities (Wiggins & McTighe, 2011).
Statement of the Problem

The conceptual framework revealed how authentic outcomes-based assessments could be designed to follow suggestions revealed in theories of learning, instruction, and goal orientations. Theorists (Bloom, 1956; Gardner, 1983; Kolb, 2015) inferred that following their models of learning could increase student achievement. Others researchers (Ames, 1992; Atkinson, 1957; Atkinson & McClelland as cited in Covington, 2000; Elliott & Dweck as cited in Covington, 2000; Kaplan & Maehr, 2007; Midgley, 2002; Roeser et al., 1996) explained how school goal structures, classroom goal structures, and instructional approaches could influence learners to adopt mastery goals, which lead to higher achievement.

Despite the volume of empirical literature evidencing the benefits of authentic assessments, public education institutions continue to track achievement with standardized assessments. Some researchers (Baglin, Bedford, and Bulmer, 2013; Driscoll & Wood, 2007) who advocated for authentic outcomes-based assessments claimed that students learn and increase achievement by engaging in the simulations (Mann et al., 2011, McGonigal, 2010; Prensky, 2012; Reardon, Becker, Shakeshaft, & Bacon, 2011), competencies (Baughman, 2012; CIC, 2015), projects (Chang & Tseng, 2011; Pearlman, 2006), and performances (Wiggins & McTighe, 2011). It is not unusual to see examples of authentic assessments in elective and vocational classes in the public K–12 setting, but standardized assessments remain the main way to measure achievement in the core subjects of math, English, science, and social studies (Bergen, 1993).

In addition to assessment concerns, teachers vary in their ability to motivate students (Midgley, 2002). Their professional identities impact their approaches to instruction, which in turn influences student engagement. Several researchers (Ames & Archer, 1988; Ben-Eliyahu et
al., 2017; Ford et al., 1998; Newton & Martin, 2013, Pintrich, 2000) studied students’ goal orientations; however, research on teacher efficacy and teachers’ goal orientations was lacking. Research in the area of teachers’ professional identities, including pedagogical approaches to instruction and perspectives of teacher self-efficacy, could provide insight on practices that affect achievement.

**Purpose of the Study**

The purpose of this study was to determine middle school teachers’ attitudes towards authentic outcomes-based assessments and to relate teachers’ perceptions of patterns of adaptive learning to authentic assessment scores of middle school students. One part of this study was designed to determine if the variables of school goal structures, approaches to instruction, and teacher self-efficacy could serve as predictors of middle school students’ outcomes-based assessment scores. The other part of this study surveyed teachers’ opinions, attitudes, and beliefs of using authentic outcomes-based assessments to measure student achievement. One prediction based on the review of literatures was that teachers with high self-efficacy establish classroom environments and approaches to instruction that foster higher achievement. The participants’ responses to the survey questions were correlated to the mean scores of their students’ outcomes-based assessments. This study resolved to increase empirical literature about teachers’ perceptions of authentic assessment practices and relationships between patterns of adaptive learning and students’ achievement scores.

**Research Questions**

The following research questions were addressed in this study:

1. How do middle school social studies teachers’ perceptions of patterns of adaptive learning relate to their students’ authentic outcomes-based assessment scores?
a. How do middle school social studies teachers’ perceptions of school goal structures relate to their students’ authentic outcomes-based assessment scores?

b. How do middle school social studies teachers’ perceptions of mastery and performance approaches to instruction relate to their students’ authentic outcomes-based assessment scores?

c. How do middle school social studies teachers’ perceptions of teacher efficacy relate to their students’ authentic outcomes-based assessment scores?

H1ₐ: Middle school social studies teachers’ perceptions of patterns of adaptive learning predict their students’ authentic outcomes-based assessment scores.

H1ₒ: Middle school social studies teachers’ perceptions of patterns of adaptive learning do not predict their students’ authentic outcomes-based assessment scores.

2. What are middle school social studies teachers’ perceptions of outcomes-based assessments used to measure student achievement?

Rationale, Relevance, and Significance of the Study

This study was designed to inform educators about teachers’ perceptions of authentic outcomes-based assessments and how goal structures, approaches to instruction, and teacher self-efficacy relate to authentic outcomes-based assessment scores. The participants’ responses to the survey questions could help educators, stakeholders, policymakers, and key constituents be aware of teachers’ perceptions of the effectiveness of using authentic outcomes-based assessments to measure student learning of middle school students in the social studies content area. Educational institutions could use the results revealed in this study to make informed decisions about methods of evaluation. In addition, the information from this study contributed additional knowledge to the empirical literature about the impact of outcomes-based
assessments, school goal structures, approaches to instruction, and teacher self-efficacy. Previous researchers (Ames & Archer, 1988; Ben-Eliyahu et al., 2017; Ford et al., 1998; Midgley et al., 2000; Newton & Martin, 2013; Pintrich, 2000) studied relationships between the predictor variables of school goal structures, approaches to instruction, and teacher self-efficacy; however, there was limited information available about relationships between the predictor variables and outcomes-based assessments scores prior to this study.

Definition of Terms

**Achievement goal**: Achievement behavior as a result of an individual’s cognitive and affective processes, beliefs, and attributions (Ames, 1992).

**Authentic outcomes-based assessment**: A challenging, engaging assessment designed to provide evidence of achieving intended learning outcomes (Crespo et al., 2010) through one or more real world processes (Driscoll & Wood, 2007; VDOE, 2014) by using methods of experiential learning, challenging tasks, reflection, collaboration, and/or critical thinking (Brindley, 1998). The assessment is a subjective form of assessment that allows examinees to construct their own responses in formats such as essays, performance tasks, and research products (Baker et al., 2016).

**Classroom goal structure**: Classroom structures and practices that influence certain mastery or performance achievement goals (Ames, 1992).

**Competence**: A person’s ability to use knowledge and skills (Crespo, 2010).

**Competency**: A comprehensive understanding of a skill or attitude that supports a person’s ability to effectively perform a desired function, action, or activity that reflects a workforce skill, expectation, or prerequisite (Dabbagh, 2015).
**Competency-based assessment:** An assessment form that uses competencies and standards to evaluate student progress, programs, and curriculums (Dabbagh, 2015).

**Competency-based education (CBE):** A pedagogical approach that focuses on the mastery of skills and concepts instead of course or credit hours (CIC, 2015).

**Experiential learning:** A belief that knowledge is created through experience (Baglin et al., 2013).

**Formative assessment:** An ongoing assessment that informs educators of student progress, learning, and misunderstandings (Cotton, 2017; Driscoll & Wood, 2007).

**Goal orientation:** A purpose-schema (Kaplan & Maehr, 2007) or motivational orientation a person adopts based on attributional tendencies (Dweck & Leggett, 1988) and thoughts about learning and achievement (Ames & Archer, 1988).

**Goal structure:** The qualities or situational affordances of the learning environment that influence learners to engage in certain academic behaviors (Midgley, 2002). Midgley (2002) defined goal structure as “various classroom and school-level policies and practices that make mastery or performance goals salient, as well as the explicit goal-related messages teachers communicate to their students” (p. 24).

**Learning outcome:** A statement that indicates what a learner is expected to know, understand, and apply upon completion of a learning process (Crespo, 2010).

**Mastery goal orientation:** A belief that ability is developed and that effort leads to improvement in outcomes, skills, understandings, and self-efficacy (Mann et al., 2011).

**Metacognition:** An individual’s control of cognitions used to plan, monitor, and adjust goal appropriate behavior (Mann et al., 2011).
Patterns of adaptive learning: Patterns of cognition, affect, and behavior that drive individuals to adopt achievement goals and other motivational constructs in educational settings.

Performance assessment: An assessment that allows an individual to demonstrate knowledge in an actual or simulated situation (Bergen, 1993).

Performance goal orientation: A belief that ability is demonstrated by outperforming others (Mann et al., 2011).

Portfolio assessment: An assessment of learning based on a collection of an individual’s works that could include but is not limited to products, reflections, and evidence of progress (Chang & Tseng, 2011).

Project-based assessment: A method of assessment that promotes active participation, creation of products, collaborative group work, data collections, problem solving, analyzing, inferencing, portfolios, and other methods that require students to apply concepts and knowledge to real-world problems (Baglin et al., 2013; Holmes, 1997).

Project-based learning (PjBL): A learning process that features real life scenarios and problems that encourage students to problem-solve, collaborate, investigate, and form conclusions (Chang & Tseng, 2009).

School goal structure: The perceived mastery and performance goal structures at the school level (Midgley, 2002).

Self-efficacy: A motivational construct that stems from an individual’s confidence to accomplish a specific task (Wiesman, 2016).

Simulations: Scenarios created to practice, test, or train individuals for desired actions, responses, and communication to specific situations or problems (Mann et al., 2011; McGonigal, 2010; Prensky, 2012).
**Standardized assessment:** An assessment administered using standardized procedures and consistency in material, content, numbers of questions, testing environments, and scoring practices to obtain genuine comparisons between examinees (Baker et al., 2016).

**Summative assessment:** An assessment that determines a learner’s mastery of concepts (Driscoll & Wood, 2007).

**Teacher self-efficacy:** A teacher’s beliefs in his or her ability to perform instructional tasks (Kilday et al., 2016). Midgley (2002) referred to teacher efficacy as “teachers who feel they can teach even the most difficult students and who believe they can affect students’ intellectual development above and beyond other influences such as the family” (p. 209).

**Delimitations, Limitations, and Assumptions**

This study was delimited to sixth and seventh grade social studies teachers in one school district in Virginia. The reason this study used a small population of participants was due to the limited number of teachers who administered the Local Alternative Assessment (LAA) to middle school students in the school district serving as the research site. Aside from using a small number of participants, some limitations associated with this research study included the response rate and the section of the survey instrument that was used to gather teachers’ perceptions of authentic outcomes-based assessments. In addition, this study contained several assumptions. It was assumed that the participants fully understood the learning outcomes they were responsible for teaching, which were in the form of Standards of Learning (SOL) used by the state of Virginia. It was also assumed that the participants received adequate training related to the purpose of the LAA that the state of Virginia implemented to replace state standardized assessments in the participants’ content areas. Finally, this researcher had to trust that the participants answered the questions truthfully.
Summary

This study explored relationships between goal structures, approaches to instruction, teacher self-efficacy, and outcomes-based assessments. Teachers’ perceptions of beliefs and practices that impact student motivation and achievement were provided in the results of this study. According to past research, school goal structures and classroom goal structures (Midgley, 2002; Roeser et al., 1996) could predict student achievement due to the impact they have on cognitive (Bloom, 1956) and affective behaviors (Krathwohl, Bloom, and Masia, 1964). In addition to pedagogical goals, the types of activities incorporated in the outcomes-based assessments featured in this research study could impact student achievement by influencing students to adopt certain goal orientations. Furthermore, teachers’ professional identities, or their beliefs about their abilities to deliver instruction effectively and increase student achievement could motivate students to invest more time and effort in their studies leading to increased student achievement. Therefore, relationships between teachers’ perceptions of authentic outcomes-based assessments, school goal orientations, approaches to instruction, personal teaching efficacy, and the mean scores of middle school students’ LAA assessments were examined in this research study.

Theories relevant to learning, instruction, and assessment practices were detailed in the conceptual framework. The first theme in the conceptual review featured learning theories developed by Bloom (1956), Gardner (1983), and Kolb (2015). The first theme also included achievement goal theory, which explained individuals’ motivation and learning behaviors related to achievement (Midgley, 2002). The second theme presented in the conceptual framework was about authentic assessment forms that put the theories of concentration into practice.
The studies discussed in the review of literatures evidenced the learning theories in practice. Interconnections between the predictor variables were explored based on information presented in the conceptual framework and the review of literatures. The methodology detailed the research design, procedures, participants, and methods of data collection and analyzation. This study proposed that educators could benefit from gaining teachers’ perspectives of patterns of adaptive learning, personal teaching efficacy, and authentic outcomes-based assessments in middle school settings.
Chapter 2: Literature Review

Introduction

Concerns about student engagement and demonstrating mastery of intended learning outcomes sparked educational reform. Authentic outcomes-based assessments could serve as alternative, subjective forms of assessments that allow educators to measure student knowledge through some type of interaction with content knowledge (VanTassel-Baska, 2013). A transition to authentic outcomes-based assessments could extend learning processes, mimic real world practices, and give learners opportunities to demonstrate mastery of concepts through the products they create. As students engage in the process, they focus on real world problems, critical thinking, collaboration, data collection, problem solving, and feedback (Chang & Tseng, 2011; Pearlman, 2006). The literature indicated that classroom activities that inspire students to engage in learning processes and form meaningful connections encourage students to master concepts; whereas, classrooms that encourage students to focus on grades and their rankings compared to others do not encourage students to master concepts (Midgley, 2002).

A number of researchers (Ames & Archer, 1988; Ben-Eliyahu, Linnenbrink & Putallaz, 2017; Ford, Smith, Weissbein, Gully & Salas, 1998; Newton & Martin, 2013; Pintrich, 2000) focused on students’ perceptions of goal orientations and how they related to achievement. Midgley (2002) suggested that empirical research lacked studies that focus on teachers’ approaches to instruction and goal structures as related to achievement goal theory. Several studies discussed in this literature review surround authentic assessment practices, but there was little to no information about correlations between authentic outcomes-based assessment scores and teachers’ perspectives of goal structures and their professional identities.
This study adds to existing knowledge about teachers’ perceptions of patterns of adaptive learning and the effectiveness of outcomes-based assessments. More specifically, the purpose of this study was to determine if teachers’ perceptions of school goal structures, approaches to instruction, and personal teaching efficacy served as predictors of students’ outcomes-based assessment scores in middle school social studies classrooms. This study also determined teachers’ perspectives of authentic outcomes-based assessments as a means of determining mastery of content knowledge.

The study topic. Learners are evaluated for different purposes (Brindley, 1998; Driscoll & Wood, 2007). Educators may want to assess students’ knowledge of desired learning objectives, specific concepts, or prior knowledge. The methods and frequency of evaluation impact student motivation (Ames, 1992). High-stakes assessments usually involve traditional objective assessments, but they are not comparable to the products individuals are expected to produce and carry out in the workforce (Driscoll & Wood, 2007; Huba & Freed, 2000). Authentic outcomes-based assessments could increase student motivation, engagement, and achievement at all levels. In addition, outcomes-based assessments could increase the possibility of students showcasing learning (Heimerl, 2016).

Another consideration in the examination of authentic outcomes-based assessment practices was the student engagement required to complete the tasks. Past researchers (Ames & Archer, 1988; Ford et al., 1998; Pintrich, 2000) found that classroom structures enticed learners to adopt achievement goals depending on instructional tasks, collaborative groups, and methods of assessment. Students in mastery goal oriented classrooms were found to demonstrate originality, intellect, and achievement (Dweck & Leggett, 1988; Kaplan & Maehr, 2007; Midgley, 2002). Students in performance goal oriented classrooms were found to concentrate on
their individual performances and rankings compared to their peers in the learning environment (Midgley, 2002).

This study focused on relationships between learning theories and assessment practices. Surveys were administered to gather teachers’ perceptions of goal orientations and outcomes-based assessments. The data was analyzed to determine if teachers’ perceptions of goal orientations served as predictors of outcomes-based assessment scores. Additional survey questions were analyzed to draw conclusions about the effectiveness of outcomes-based assessments and the impact of goal orientations on assessment results.

The context of the study. The context of the study addressed the effectiveness of outcomes-based assessment measures in social studies classrooms in the general education setting and the impact of goal orientations on assessment results. The issues that drove this study dealt with the incompetence of traditional objective forms of assessments as vehicles for preparing learners for the subjective forms of evaluation they endure throughout life (Driscoll & Wood, 2007). The idea was that shifting to learner-centered assessments could offer students valuable experiences as they develop essential skills and abilities including higher-level thinking, problem solving, and forms of communication. In addition, learning and assessment practices could influence individuals to adopt certain goal orientations (Midgley, 2002). The context of this study was based on teachers’ views, insights, and opinions about patterns of adaptive learning and the scope of outcomes-based assessments used in public education.

The significance of the study. Due to the significance of this study, educators could determine the need to decrease the frequency of standardized assessments and increase the frequency of authentic outcomes-based assessments. The literature that was reviewed contained many negative attributes of standardized testing, which model performance goal structures due to
the way they emphasize one’s ability compared to others (Midgley, 2002). Students are affected by the way scores are publicized (Ames, 1992). Alternative forms of assessment, such as outcomes-based assessments could encourage positive academic behaviors that are associated with mastery goals. Additional understandings that stemmed from this study could help educational institutions consider replacing objective tests with alternative forms of assessments. An educational movement to authentic outcomes-based assessment could offer students opportunities to produce measureable, realistic, and unique products.

This study was important to the academic field because educators were able to offer their observations of patterns of adaptive learning and authentic assessment practices. The results of the surveys administered to teachers indicated their preferences for using a combination of mastery and performance approaches to instruction, and they prefer administering authentic assessments to evidence mastery of concepts. Because this study highlighted the effectiveness of outcomes-based assessments, educators may consider transitioning to authentic forms of assessments using the survey results as a baseline for guiding the process.

The statement of the problem. Educators have voiced concerns about the shortfalls of standardized testing (Abbott & Wren, 2016). Some have recognized the importance of the data standardized assessments yield, but the negative concerns outweigh the positive comments. Past researchers (Driscoll & Wood, 2007; Maki, 2002) advocated for students to have opportunities to participate in authentic assessments. Linking assessment to instructional practices could help learners increase student comprehension, aptitudes, critical thinking, problem solving, and task completion (Maki, 2002). In addition, authentic assessment practices allow educators and learners to utilize digital technologies to model the digital expectations in the workforce on a global scale (Bolat & Bobeva, 2014; Prensky, 2012).
Educators could use designated outcome statements to guide instruction and outcomes-based assessments (Brindley, 1998). McGonigal (2010) and Prensky (2012) offered examples of students learning through simulations. Baughman (2012) explained the connection between students, employers, and competency-based assessments. Ames and Archer (1988), Ben-Eliyahu et al. (2017), Dweck and Leggett (1988), Ford et al. (1998), Kaplan and Maehr (2007), Midgley (2002), Pintrich (2000), and Vansteenkiste et al. (2014) discussed links between goal orientations and achievement. Past research found that classroom structures influence individuals to adopt achievement goals based on the types of tasks, grouping, recognition, communication, and evaluation in classrooms (Ames & Archer, 1988; Ben-Eliyahu et al., 2017; Midgley, 2002; Pintrich, 2000). The consensus among researchers was that students in mastery goal oriented classrooms grapple with creativity, critical thinking, and challenges. Conversely, students in performance goal oriented classrooms concentrate on their individual performances and rankings compared to their peers.

This study was designed to determine the effectiveness of outcomes-based assessments as perceived by teachers. Survey questions addressed the challenges educators face in assigning and scoring outcomes-based assessments. Participants reported on the impact of digital tools and media on outcomes-based assessments for students in the sixth and seventh grades. Furthermore, this study determined to what extent teachers believe educational systems should implement a hybrid of authentic outcomes-based assessments and traditional objective assessments to ensure student mastery of concepts. Finally, this study examined relationships between patterns of adaptive learning and authentic outcomes-based assessment scores of middle school students attending one school district in the state of Virginia.
The organization of the chapter. The organization of the literature review was comprised of the following subtopics: conceptual framework, assessments, teacher self-efficacy, goal orientations, and outcomes-based assessments. The conceptual framework addressed learning theories as they relate to motivation, learning, and assessment. The assessments section discussed perceptions of assessment and accountability as indicated in prior research. The section about teacher self-efficacy defined TSE and explained the impact it had on instruction. The goal orientation section addressed the history of goal theory and the influence of mastery and performance goals on instruction, learning, and evaluation. The outcomes-based education (OBE) and assessments section described the philosophy behind OBE and different types of qualifying assessments as described by past studies.

Conceptual Framework

The fundamental theories evident in the review of scholarly articles provided a basis for this literature review. The theories presented in the conceptual framework flowed throughout the described instructional, learning, and assessment processes. The first theme dealt with learning theories including Bloom’s taxonomy (Bloom, 1956), Gardner’s theory of multiple intelligences (Gardner, 1983), Kolb’s experiential learning theory (Kolb, 2015), and goal achievement theory. The second theme focused on authentic assessment methods. The theories were portrayed in a concept map to establish connections.

Learning theories. Educators use learning theories to guide instructional practices. Theories developed by Jean Piaget and Lev Vygotsky have led pedagogical practices for years (Fosnot & Perry, 2005). Behaviorism, the principle of learning through behavioral responses, prompted educators to arrange concepts in order from simple to complex. According to that
theory, passive learners listen and observe teachers, and then they engage in activities to gain experience and interact with concepts. Learning typically ends with assessment and evaluation.

Constructivism is a psychological theory that deals with cognitive development and understanding of concepts instead of behaviors and skills. The theory was derived from the work of Jean Piaget, Lev Vygotsky, Jerome Bruner, Howard Gardner, and Nelson Goodman. According to Fosnot and Perry (2005), Vygotsky taught that adults need to carefully plan and distribute information in a manner that helps children acquire knowledge. Vygotsky’s zone of proximal development was used to exemplify how a child’s intelligence is developed with layers of adult teaching, reasoning, and scaffolding of information. Classrooms that encourage mastery goals follow a constructivist approach by promoting inquiry-based learning (Midgley, 2002). Midgley (2002) stated, “Constructivist theories of education such as those proposed by Vygotsky (1978) argue that learning is optimal when individuals engage in tasks lying just beyond their present capabilities” (p. 62). Some attributes of constructivism include active participation on behalf of the learner, learning from errors, reflecting through writing, and engaging in dialogue and oral discourse.

Bloom’s taxonomy. Bloom (1956) and Krathwohl et al. (1964) developed taxonomies that targeted cognitive and affective learning behaviors. An educational report titled “A Design for General Education” (p. 47) offered a comprehensive list of educational outcomes (Bloom, 1956) that was used to design an assessment model for classifying levels of cognitive complexity (Tomlinson & McTighe, 2006). Bloom (1956) classified the objectives of knowledge, comprehension, application, analysis, synthesis, and evaluation into what is known as Bloom’s Taxonomy. The objectives were organized in a hierarchy so that the lower level skills are at the bottom and the higher-level skills are at the top. Using the taxonomy to structure questions and
activities that include the complete range of cognitive objectives could communicate to students that they are expected to carry out multifaceted tasks (Rodriguez & Bellanca, 2007).

The lowest level of Bloom’s taxonomy is knowledge, which is a person’s ability to demonstrate learning by recalling phenomenon that was experienced academically (Bloom, 1956). Knowledge deals with truths, philosophies, concepts, and practices (Crespo et al., 2010). According to Bloom (1956), knowledge is the educational objective with the highest frequency, and it could be delivered quickly and easily through lectures and forms of literacies. Often times, standardized or teacher-made tests focus on this objective. Knowledge is used when educators want learners to communicate who, what, when, where, and why of a topic they are learning (Driscoll & Wood, 2007); whereas, competence is the ability to apply knowledge and skills in real life applications.

One key aspect of a competence is the degree of autonomy and responsibility with which learners are able to apply knowledge and skills. Because defining, recalling, and retelling require low levels of cognition, educators are urged to provide students with opportunities to apply their knowledge to the upper levels of the taxonomy (Bloom, 1956; Driscoll & Wood, 2007). Realistic situations and real world problems entice students to utilize high levels of cognition (Driscoll & Wood, 2007).

Bloom (1956) identified comprehension as the most sought after scholarly skill in education. When students comprehend what is being communicated, they are able to classify, categorize, reorder, infer, predict, summarize, and transfer information. Analysis deals with an individual being able to break down information, make relationships, and understand the juxtaposition of the thoughts, ideas, or principles (Bloom, 1956). Synthesis requires an individual to configure information from different sources into a sensible arrangement of their own design.
Bloom (1956) reiterated the difficulty of testing synthesis objectives due to the need for students to be granted the freedom of creativity and originality. Evaluation involves making decisions and drawing conclusions about the significance of information.

Bloom (1956) claimed that the behaviors individuals exhibit in the cognitive domain are mostly planned, deliberate, and purposeful, but the behaviors they exhibit in the affective domains are inadvertent and unpremeditated. The taxonomy of affective domains (Krathwohl et al., 1964) targeted simple to complex behaviors that influence individuals to adopt goals related to diversity, beliefs, responsibility, and scholarship (Driscoll & Wood, 2007). Those behaviors affect individuals’ willingness, commitment, and effort towards “learning by doing” (Krathwohl et al., 1964, p. 118). During the initial phase of learning by doing, the individual is receiving information and taking responsibility for learning as demonstrated in the student’s responses and actions. The goal is for the individual to engage in the activity well enough to develop interest in the phenomenon and experience gratification with the results of the experience or product that was created in the process. Baker et al. (2016) conducted a study using virtual performance assessments (VPA) to demonstrate learning, as they believed the assessment format could support cognitive and affective behaviors crucial to scientific inquiry.

Multiple intelligence theory. Multiple intelligence theory deals with individuals’ isolated strengths that could serve as sources of motivation to complete tasks (Gardner, 1983). Gardner (1983) explained that people filter through different competencies that inspire the thoughts and actions of individuals when completing tasks. Instead of limiting individuals to a number on an intelligence test, learners could be given opportunities to develop intellectual competences. The theory focuses on the competences of linguistic, musical, logical-mathematical, spatial, bodily-kinesthetic, and personal. People usually engage in an array of intelligences simultaneously as
they carry out complex and sophisticated activities. Multiple intelligence theory teaches that isolated strengths of individuals could serve as sources of motivation for individuals to complete tasks (Gardner, 1983); however, when students wrestle with intelligences outside of their comfort zone, they enhance their knowledge and extend their learning repertoire (Heacox, 2002).

**Experiential learning theory.** Kolb (2015) claimed that experiential educational programs that include internships, practicums, projects, fieldwork, work-study programs, and simulations offer students opportunities to learn while engaging in real life experiences. Kolb (2015) was inspired to develop the experiential learning theory (ELT) after he and some group members experienced a training session described as life transforming. The theory was developed by first exploring the work of foundational scholars. According to Kolb (2015), William James, who is known for developing the progressive approach, believed individuals were fluid and their actions were based on their experiences. Jean Piaget, who studied cognitive psychology and developed constructivism, believed levels of intellect are developed according to individuals’ experiences. Mary Parker Follett believed learning and development are fueled by individuals’ interactions and experiences with each other. Lev Vygotsky, who developed the zone of proximal development (ZPD), believed scaffolded information supports learners’ ability to acquire knowledge and build upon concepts. John Dewey, who studied social psychology, believed people learn through their experiences and reflections.

Kolb’s (2015) theory of experiential learning has a different theoretical premise than preceding behaviorist theories. The experiential learning model involves four different modes of learning, which include concrete experience (CE), abstract conceptualization (AC), reflective observation (RO), and active experimentation (AE). Kolb (2015) explained that an important part of experiential learning theory is the combination of “action/reflection and
experience/abstraction” (Kolb, 2015, p. 49). As individuals experience phenomena, they acquire knowledge and act on it. Ideally, a learner would “spiral” (Kolb, 2015, p. 51) through all of the modes of experiencing, reflecting, thinking, and acting.

Dunlap, Dobrovolny, and Young (2008) simplified the four phases that individuals experience during the process of Kolb’s experiential learning theory. First, learning becomes involved in a specific experience such as participating in a lab, collecting data, or reading material. Next, the learner reflects on the experience through activities such as participating in discussions and maintaining written journals or logs as part of their portfolios and projects (Huba & Freed, 2000). Finally, the learner forms conclusions and builds upon preexisting ideas, conclusions, or theories. Svinicki and Dixon (1987) stated, “Thus, concrete experience becomes experiencing; abstract conceptualization becomes explaining; and active experimentation becomes applying” (p. 144). In addition, a modification to Kolb’s cycle could be to include action verbs that describe activities that could take place during the different phases (Biggs & Tang, 2007; Svinicki & Dixon, 1987).

**Achievement goal theory.** Achievement goal theory is a theoretical framework about students’ motivation and approaches to learning (Kaplan & Maehr, 2007). Midgley (2002) stated, “Achievement goal theory is a social-cognitive approach to the study of students’ motivated behavior in achievement settings that defines personal motives (called goal orientations) and situational affordances (called goal structures) in the same conceptual terms” (pp. 206–207). The theory developed during the late 1970s and early 1980s as researchers wanted to learn more about “achievement motivation” (Midgley, 2002, p. ix). Atkinson and McClelland (as cited in Covington, 2000) presented the dynamics of action model in the 1950s and early 1960s, which suggested achievement was an emotional struggle between being
determined to be successful while evading failure. Atkinson (1957) explained that individuals with strong achievement motives are willing to take risks, but individuals who fear failure avoid risks and choose easier paths.

In 1988, Elliott and Dweck (as cited in Covington, 2000) proposed that individuals are motivated by goals for some purpose they are pursuing. Achievement goals define individuals’ desired outcomes and performances (Dweck, 2002), and they deal with the different ways people think about tasks, complete activities, and procure satisfaction or recognition for their effort and performance (Ames, 1992). The theory links classifications of goal orientations to learning. Midgley (2002) claimed that teachers have goal orientations just like students, which are embedded in teacher self-efficacy, pedagogical practices, and approaches to instruction. The combination of those entities make up their professional identities (Midgley, 2002).

The cognitive and affective domains influence individuals’ goal orientations. Mastery and performance goals were the two main categories developed by researchers to group individual learning choices and classroom influences. Mastery goals, also known as task goals, are associated with learning, seeking challenges, increasing ability, and achieving success (Dweck & Leggett, 1988; Middleton & Midgley, 1997). Individuals with mastery goal orientations present “positive attitudes toward learning” (Ames, 1992, p. 262), and they value the reward of knowledge gained through hard work. Classrooms that encourage mastery goals follow a constructivist approach by promoting inquiry-based learning (Midgley, 2002). Ben-Eliyahu et al. (2017) found that students in mastery-structured classrooms view their teachers as agents of positive social behaviors including responsibility, conduct, and respect.

Performance goals are associated with demonstrating ability (Middleton & Midgley, 1997). Performance-oriented individuals attempt to prove their ability while avoiding challenges
and failure (Dweck & Leggett, 1988; Middleton & Midgley, 1997). They are concerned with their “self-worth” (Ames, 1992, p. 262). They want to perform well in comparison to their peers with little effort, and they seek “public recognition” (Ames, 1992, p. 262) for outperforming their peers. Performance goals were further classified into the categories of performance approach and performance avoidance (Covington, 2000; Vansteenkiste et al., 2014). Performance approach oriented students study hard in efforts to be successful on assessments, and performance avoidance oriented students want to avoid failing and appearing incompetent (Covington, 2000; Middleton & Midgley, 1997; Midgley, 2002).

Self-determination theory. Vansteenkiste et al. (2014) studied self-determination theory (SDT) which deals with reasons behind individuals’ achievement goal choices. Their purpose for the study was to discuss theoretical and concrete benefits of understanding the reasons for achievement goal choices instead of just focusing on the strengths of achievement goals. According to SDT, the various achievements of individuals are affected by their decisions to perform or flounder when in control or under pressure by internal or external forces. According to the information obtained in their literature review, achievement goals were once limited to mastery goals and performance goals. Then performance goals were further classified into performance-approach and performance-avoidance goals. To clarify the meaning of the revised outlook on performance goals, Vansteenkiste et al. (2014) explained that students who wish to outperform their peers have performance approach tendencies, and students who simply do not want scores lower than their peers have performance-avoidance tendencies.

Next, educational researchers started questioning “competence standards” (Vansteenkiste et al., 2014, p. 155). Approaching competence was viewed positively, and avoiding incompetence was viewed negatively. Researchers looked at task-based standards to see if
learners were approaching tasks or avoiding tasks. Competence standards were then classified into the following categories: task-based, self-based, and other-based. It was determined that each classification could be carried out by individuals in efforts to improve skills or achieve higher. On the other hand, individuals could perform better at tasks just to avoid performing worse than previous attempts at the same tasks.

Later, researchers started analyzing “achievement-related motive dispositions” (Vansteenkiste et al., 2014, p. 155). They found that individuals have different dispositions that affect how they embrace achievement goals. They also found that most individuals focus on achievement or failure. They highlighted how those dispositions echo competence standards in the sense of individuals making choices because they choose to experience success or avoid failure. Vansteenkiste et al. (2014) made the following propositions to better understand individuals’ reasons for goal choices: (1) articulate the reasons behind an individual’s choice to pursue achievement goals; (2) separate the reasons from the aims; (3) consider the individual’s intellectual, emotional, and behavioral outcomes; (4) predict outcomes and motivational influences based on reasons backing achievement goals; (5) consider character traits that are related to reasons for achievement goals.

**Authentic outcomes-based assessments.** The second theme found in the literature concentrated specifically on authentic forms of assessments. Some educators or institutions have transitioned from traditional assessments to authentic outcomes-based assessments, which are alternative forms of assessment such as projects, portfolios, and written documents that require “active participation” (Baglin et al., 2013, p. 1). Villarroel, Bloxham, Bruna, Bruna, and Herrera-Seda (2018) explained that authentic assessments incorporate practices and standards normally found in professional work environments. There are several forms of outcomes-based
assessments that could provide alternative means for evaluating one’s knowledge. Simulations could be used to evaluate how individuals explore different options, possibilities, and resolutions when presented with scenarios (Mann, Reardon, Becker, Shakeshaft, & Bacon, 2011; Prensky, 2012). Competency-based assessments are often connected to workforce skills individuals need for employment (Baughman, 2012; CIC, 2015). They allow students to interact with content that could lead to higher levels of comprehension and achievement (Murray, Perez, Geist, & Hedrick, 2012). Project-based assessments could be used to inspire students to consider real world problems, and they could be tiered according to students’ ability levels (Pearlman, 2006).

This review of literature offered compelling evidence to warrant a transition from traditional assessments to authentic outcomes-based assessments based on the position or viewpoint of student learning. The data lacked information about teachers’ perspectives of goal orientations and outcomes-based assessments; therefore, the vantage point from which this study was viewed was teachers’ perceptions of patterns of adaptive learning and outcomes-based assessments in middle school social studies classrooms in the general education setting. Teachers who administer and evaluate alternative forms of assessments were considered the individuals who would be most helpful in answering the research questions. This was partly due to Driscoll and Wood’s (2007) recommendation that faculty members should control learning outcomes and assessment criteria since they are the professionals delivering instruction and monitoring student learning. The surveys that were administered for this study offered teachers’ insights into goal structures, approaches to instruction, teacher self-efficacy, and alternative forms of assessments.

The following concept map (Figure 1) related the discussed theories and practice.
This conceptual framework targeted theoretical frameworks related to learning, instruction, and goal orientations. Bloom’s (1956) taxonomy defined learning outcomes. Gardner’s (1983) theory of multiple intelligences defined intellectual competencies. Achievement goal theory outlined individuals’ goal preferences (Ames, 1992; Dweck & Leggett, 1988; Middleton & Midgley, 1997; Midgley, 2002). Kolb’s (2015) experiential learning theory revealed methods of gaining knowledge. This literature review suggested that authentic outcomes-based assessments are superior to traditional forms of assessments because they employ fundamental learning theories throughout the assessment process. This researcher wanted to know teachers’ perceptions of patterns of adaptive learning and the effectiveness of authentic outcomes-based assessments. The topic of this study was significant because the literature evidenced a massive transition to alternative forms of assessments. This study offered teachers’ opinions about the positive and negative aspects of authentic outcomes-based
assessments and sought relationships between teachers’ perceptions of school goal structures, approaches to instruction, teacher efficacy, and their students’ outcomes-based assessment scores.

**Review of Research and Methodological Literature**

Educational institutions submit to governmental pressures to report learning outcomes, which are the standards, objectives, benchmarks, and competencies (Brindley, 2001) that describe what students are expected to learn and master in their programs (Brindley, 1998). Learning outcomes evidence learners’ knowledge, understandings, and abilities (Crespo et al., 2010). They cover more than just content knowledge; they also entail personal and social skills. Educators use learning outcomes to guide curriculums, and institutions monitor and report achievement towards the intended learning outcomes. Sometimes achievement is measured by performance on benchmark and standardized assessments, and sometimes it is measured with outcomes-based assessments including portfolios, tasks, and projects (Brindley, 2001). Institutions use the results of assessments to analyze achievement and make pedagogical adjustments to the curriculum and learning outcomes (Brindley, 2001; Maki, 2002). External constituencies use assessment results to demonstrate student growth and mastery towards the designated outcomes for accountability purposes (Huba & Freed, 2000).

**Assessments.** It is common knowledge that the purpose of assessment is to measure student achievement (Brindley, 2001; Driscoll & Wood, 2007) and inform instruction (Comer, 2011). Assessments could be used to determine student and institutional progress towards intended learning outcomes, and the results could be compared against other students and institutions (Baker et al., 2016). One problem is that teachers are under pressure for students to pass achievement tests and master 21st century skills at the same time (Wiesman, 2016).
Standardized assessments drive teachers to focus on facts and test-taking strategies (Midgley, 2002) instead of critical thinking and problem solving skills. Multiple-choice and true-false assessments are easy to score, interpret, and calculate, but they do not teach students the real life skills of managing time, meeting deadlines, thinking critically, solving problems, and developing reports or presentations (Driscoll & Wood, 2007; Huba & Freed, 2000).

Assessment measures influence a person’s approach to learning (Newton & Martin, 2013). Midgley (2002) expressed concerns about federal and state mandated testing and school level policies influencing teachers to use instructional methods associated with performance goal structures such as drilling and practicing for assessments. In addition, teachers struggle with increased classroom size, which interferes with their ability to form meaningful relationships with students. Maki (2002) claimed that if there were more internal reasons for assessment such as faculty commitment to student learning, individuals may be more motivated to create assessments that inform instruction and learning. Assessment methods need to align with learning outcomes to allow students to demonstrate their achievement, skills, and competences (Biggs & Tang, 2007; Maki, 2002; McKnight, 2017).

Educators use formative assessments to determine the need for remediation or changes to instructional approaches and curriculum design (Cotton, 2017; Driscoll & Wood, 2007). Summative assessments determine levels of student mastery. Some educational systems have tried combining the results of formative and summative assessments to evidence learners’ progress and achievement in relation to the outcome statements (Brindley, 1998). Increased use of assessments that foster deep learning (Newton & Martin, 2013) could promote student engagement, performance, understanding, and achievement. In addition, they could evidence the learning of 21st century skills (Bergen, 1993). Methods of assessment that could stimulate
students to strengthen their knowledge throughout the experience include authentic measures such as projects, essays, displays, performances, competencies, and simulations (Huba & Freed, 2000). Indirect measures involve surveys or interviews that offer helpful information or suggestions about learning processes.

Hardiman and Whitman (2014) explored relationships between innovation and assessment practices. They questioned what types of assessments teachers were administering and how students anticipated tests. Educational institutions and stakeholders across the nation seem dependent on criterion-referenced tests because of the data they offer, but students are worthy of alternative means to demonstrate their knowledge and reflect on their own learning (Smith, 2016). While recognizing that traditional forms of assessments are appropriate at times, Hardiman and Whitman (2014) advocated for incorporating assessments that would drive learning. Authentic assessments could serve as alternatives to traditional summative exams (Driscoll & Wood, 2007). Alternate forms of assessment could help students who do not perform well on objective assessments (Panitz & Panitz, 1998). They would help students shift from a conviction of passing or failing to an attitude of learning and making discoveries (Hardiman & Whitman, 2014).

Bloom (1956) recommended interacting with information throughout the stages of knowledge, comprehension, application, analysis, and synthesis before reaching the evaluation stage; however, sometimes individuals are asked to evaluate information after the processes of comprehension and analyzation. Multiple-choice questions on a test are not well suited for evidencing the cognitive behavior of evaluation because people need to first comprehend and analyze information. Past studies evidenced increases in attention and engagement when students had choices in assessment forms (Hardiman & Whitman, 2014). In addition, Hardiman and
Whitman’s (2014) review of educational neuroscience research suggested links between alternative assessment forms and long-term memory. An interview with a teacher who used alternative forms of assessments such as projects and reflections revealed that students opted for projects that were more intensive in efforts to forego summative assessments with time constraints.

Other teachers have expressed their own ideas about measuring achievement. NCTE (2017) conducted a survey of 530 teachers who taught elementary through college in urban, suburban, and rural areas. The participants understood assessment practices and used a variety of formative and summative formats. They were similar in their responses that meaningful assessments are not the same as standardized assessments. They believed high-stakes assessments were unfavorable, and they had their own ideas for alternative methods of classroom and district assessments. The survey responses from administrators indicated assessments should be engaging, applicable to real world situations, require problem solving, and include feedback to inform further instruction and learning.

Newton and Martin (2013) inferred authentic assessment methods could reinforce learning. They conducted a phenomenological study to examine students’ written assessment responses across hierarchical levels increasing in complexity. The participants were comprised of 28 second-year undergraduate biochemistry students between the ages of 20 and 36. The midterm and final examinations included multiple-choice and written response questions. First, the participants completed the R-SPQ-2F to determine their deep and surface learning approach scores. Next, Newton and Martin (2013) used the Structure of Observed Learning Outcome (SOLO) taxonomy to categorized responses according to increasing comprehensiveness. Then, they ranked the midterm and final exam questions according to the levels of Bloom’s taxonomy.
Finally, they used an R-SPQ-2F to analyze the student responses across the three measures, and they completed a linear regression and Pearson correlation coefficient. The results of the phenomenological portions of the study demonstrated a relationship between higher deep learning approach scores and exam responses classified by cognitive complexity. The participants’ deep learning approach scores were indicative of exam responses.

Based on their results, Newton and Martin (2013) stated alternative analytic methods could be used to foster deep learning. The significance of the study was in revealing how the assessment strategies could guide the learning process at hierarchal levels. It also validated that learners need to acquire skills in succession as leveled by Bloom’s taxonomy. Learners cannot move to higher levels until they have gained skills and knowledge at lower levels. Mastering objectives in order of the taxonomy was found to be necessary due to the way learners integrate and apply knowledge.

Newton and Martin (2013) explained that the results of their study evidenced that students with higher surface approach scores tend to demonstrate lower levels of cognitive complexity because they do not typically make meaningful connections to the content, which limits their understanding of concepts. The study reinforced that surface approach learners, like performance goal oriented students, tend to focus on facts instead of concepts. Their self-inflicted limitations prevent them from moving beyond the knowledge and comprehension levels of Bloom’s taxonomy. Newton and Martin (2013) concluded that alternative assessment strategies could be monumental in guiding students with deep learning approaches towards mastery of objectives at increasing levels of cognitive complexity.

**Motivation, approaches to learning, and teacher self-efficacy.** Self-efficacy and motivation influence individuals’ approaches to learning (Kilday, Lenser, & Miller, 2016; Maki,
Self-efficacy deals with a person’s beliefs about specific abilities, and teacher self-efficacy (TSE) deals with a teacher’s motivation, beliefs, and practices related to pedagogy (Kilday et al., 2016; Midgley, 2002). TSE shapes a teacher’s professional identity, which impacts the teacher student relationship. Teachers who exhibit high self-efficacy traits typically align their classrooms with mastery goal structures and demonstrate higher student achievement due to their effort, diligence, and investment in pedagogical practices (Kilday et al., 2016; Miller et al., 2017). They involve students in authentic learning activities, help students understand the rationale behind learning tasks, and consider students’ learning interests and goals (Kilday et al., 2016). Finally, they incorporate student centered learning, collaboration, and quality classroom management (Miller et al., 2017).

Kilday et al. (2016) conducted a study with teachers from professional development (PD) programs in the Mid-Atlantic region of the United States to investigate teacher self-efficacy for student-oriented teaching (SE-SOT). They wanted to know if teachers facilitate student-centered instruction as opposed to teacher-centered instruction. Their participants ranged from teachers in their first three years to teachers with more than 25 years of experience. The participants varied in the core subjects of social studies, English, science, and mathematics. The study yielded statistically significant relationships between the following variables: SE-SOT and ratings of self-efficacy on measures for motivation and engagement, SE-SOT and teachers’ mastery goals, teachers’ general sense of efficacy and their teaching goals, teachers’ SE-SOT and their work avoidance and relational goals, and SE-SOT and relational goals. A one-way ANOVA evidenced statistically significant differences among the experienced groups. Plainly stated, teachers with one to three years of experience yielded lower levels of SE-SOT than teachers with 11 to 25 years of experience.
Miller et al. (2017) and Wiesman (2016) conducted studies related to motivation and approaches to learning. Miller et al. (2017) claimed students are motivated to adopt personal goal orientations, or behavior patterns related to learning, based on the way teachers establish classroom structures. Generally, the instructional and assessment methods used by educators place emphasis on certain achievement goals. Wiesman (2016) claimed that teachers who can effectively motivate students also improve the learning environment and increase student achievement, but the researcher questioned if teachers’ motivational techniques align with current research.

Wiesman’s (2016) descriptive research study addressed teachers’ perceptions of intrinsic and extrinsic motivation, goal orientations, and student self-efficacy. The researcher claimed that motivational strategies used by teachers could increase student engagement and achievement. The study involved surveying 150 teachers of students in grades 9–12 at a high school in a middle-class suburb of Chicago, Illinois. The findings revealed that novice teachers who had one to five years of experience and veteran teachers who had six or more years of experience reported similar perceptions of student motivation. Both groups of teachers conveyed students were not intrinsically motivated, which confused Wiesman (2016) because he observed teachers working hard to create interesting lessons. The participants also reported students lacked motivation in collaborative settings, which contradicted the literature Wiesman (2016) reviewed about the significance of peer relationships. Finally, both groups of teachers believed verbal praise was an effective method to motivate students.

According to Wiesman (2016), participants identified with the importance of mastery goal orientations and student self-efficacy; although, there was a small, statistically significant difference between the novice and experienced teachers in their understandings of the
motivational worth of mastery oriented goals (Wiesman, 2016). Both groups of teachers agreed that social goals were less significant than mastery and performance goals; however, there was a statistically significant difference between the two groups’ perceptions of performance goals. Wiesman’s (2016) results indicated that experienced teachers have a better understanding of mastery and performance goals. Novice teachers thought students were motivated by demonstrating competence and outperforming others, as opposed to developing competence as noted in the literature. Finally, both groups of teachers acknowledged the importance of student self-efficacy, and they thought it was a critical attribute in high school.

Wiesman (2016) stressed the importance of using motivational techniques to promote student engagement in the classroom. The researcher expressed concerns about teachers’ perceptions of social goals. It was noted that neither group of teachers effectively used motivational strategies despite previous research evidencing correlations between motivational techniques and student achievement. Implications included setting high expectations, challenging learners, discussing learning goals, breaking long assignments into shorter segments, incorporating active learning, providing meaningful lesson plans that relate to students’ lives, offering students choices, including real world applications, and offering alternative assessments.

Miller et al. (2017) conducted a study to examine how students perceived teacher competence and teacher respect. They also investigated how teacher self-efficacy (TSE) impacted teachers’ perceptions of student academic behaviors. They hypothesized that TSE would influence teachers’ own perceptions of student achievement as well as students’ perceptions of teacher competence and respect. Their study included 427 high school students in 27 math and 24 science classrooms within three schools in a Midwestern semi-urban district. Preliminary analysis was conducted to determine differences in classroom levels related to the
outcome variables. Correlation coefficients were calculated for perceived teacher competence and perceived teacher respect, which demonstrated significant variance between classes. Teachers’ perceptions of students were analyzed with multilevel regression analyses (Miller et al., 2017). They found variability between classes in the areas of effort and aptitude according to the way students and classes were grouped or leveled by ability. They found the variables had lower scores in remedial classes, but they found no relationship between student self-efficacy and students’ perceptions of teacher respect.

Miller et al. (2017) did not find any significant differences between students’ perceptions in advanced classes and students’ perceptions in standard courses as related to teacher competence and respect. Conversely, the remedial courses had lower ratings in effort and aptitude compared to average classrooms, while advanced courses had higher ratings in effort but lower ratings in aptitude. The low scores were limited to students’ perceptions of teachers in remedial courses. The results of the study indicated that remedial students exhibited lower levels of competence and respect towards their teachers compared to their peers in standard courses. Similarly, teachers of students in remedial courses indicated their students were lower in achievement and work ethic. It was noted that the findings might have been due to remedial students presenting more challenges to their teachers, which could affect teachers’ levels of competence and respect, especially if they felt like their efforts were ill conceived.

Miller et al. (2017) concluded by emphasizing the importance of perceptions. Students’ perceptions of their teachers impact their levels of engagement. Teachers’ perceptions of their students impact their instructional decisions and the relationships they form with their students. The results indicated that teacher confidence was demonstrated in their actions and in the way they interacted with students. High confidence levels seemed to inspire students to engage in
tasks and put forth effort. Miller et al. (2017) did not find a relationship between teacher self-efficacy and students’ perceptions of classroom goal structures. They believed intensive standardized testing interfered with teachers’ abilities to carry out lessons characteristic of mastery goal orientations.

The work of Kilday et al. (2016), Miller et al. (2017), and Wiesman (2016) justified further investigation into links between classroom goal structures, approaches to learning and instruction, and teacher self-efficacy. Like other researchers (Ames & Archer, 1988; Ben-Eliyahu et al., 2017; Dweck & Leggett, 1988, Ford et al., 1998; Kaplan & Maehr, 2007; Midgley, 2002; Pintrich, 2000), they indicated that teachers impact student motivation, engagement, and learning according to the way they structure their classrooms and design activities. Teachers with high self-efficacy beliefs tend to model mastery classroom orientations in the way they present challenges and vary their pedagogical practices (Miller et al., 2017). They are innovative, incorporate student centered learning, successfully manage classroom environments, and foster collaborative relationships.

**Goal Orientations.** Educational researchers have investigated the effects of school goal structures, classroom structures, self-efficacy, and aptitudes on students’ goal choices (Ames & Archer, 1988; Ford et al., 1998; Pintrich, 2000; Roeser, et al., 1996). After analyzing individuals’ perspectives of achievement, Vansteenkiste et al. (2014) found that either students have a desire to achieve or they fear failure. Individuals’ goal choices are related to their emotions and feelings about achievement. According to Midgley (2002), people hold varying degrees of performance and mastery goals at the same time, but they usually exhibit more characteristics in one orientation compared to the other. Mastery goal oriented individuals strive to learn concepts, develop ability, take on challenging assignments, and demonstrate their understanding or
mastery of concepts through the tasks they complete (Kaplan & Maehr, 2007; Midgley, 2002). They engage in learning with the purpose of gaining new skills and increasing competence (Dweck & Legget, 1988; Kaplan & Maehr, 2007; Midgley, 2002). Past researchers noted that mastery-oriented individuals tend to have self-efficacy skills (Kaplan & Maehr, 2007) and “adaptive cognitive, behavioral, and emotional outcomes” (Midgley, 2002, p. 26). They view engaging in tasks as a means of learning (Ames & Archer, 1988), mastering new skills (Dweck & Legget, 1988), and being successful (Middleton & Midgley, 1997). Pintrich (2000) claimed that mastery goals increase student efficiency, engagement, attitudes, determination, performance, and methods of thinking and learning.

In contrast, performance goal oriented individuals want to be perceived as having ability (Midgley, 2002). They want to avoid appearing incompetent or unintelligent. They are concerned with their academic performances and rankings in comparison to their peers. They tend to complete tasks quickly and seek public recognition for achievement. In addition, they may avoid studying for assessments so they can blame failure on not studying as opposed to being inept. They also demonstrate concerns or anxieties about methods of evaluation for fear of appearing incompetent (Middleton & Midgley, 1997).

Given the wide range of characteristics, performance goal orientations were divided into two classifications: performance-approach and performance avoidance (Covington, 2000; Vansteenkiste et al., 2014). Individuals who exhibit performance-approach goal orientations display a mixture of positive and negative academic behaviors, but they still focus on proving their ability instead of delving deep into the learning process (Kaplan & Maehr, 2007). Individuals who exhibit performance-avoidance goal orientations demonstrate low achievement and low efficacy (Kaplan & Maehr, 2007; Midgley, 2002). Overall, a student driven by
performance-approach would be concerned with outperforming others, and a student focused on performance-avoidance would fear achieving scores lower than age and grade level peers.

According to Covington (2000), goal theorists postulate that mastery or learning goals lead to increased achievement levels and performance goals lead to attempts to memorize information without actually mastering the content. Students who are performance goal oriented tend to prefer traditional assessments because they care about how they are judged academically and how they measure against others (Ames & Archer, 1988; Hardiman & Whitman, 2014; Pintrich, 2000). Midgley (2002) inferred that standardized testing could influence performance goals due to emphasizing one’s ability compared to others.

Past researchers (Ames & Archer, 1988; Ben-Eliyahu et al., 2017; Dweck & Leggett, 1988, Ford et al., 1998; Kaplan & Maehr, 2007; Midgley et al., 1998b; Midgley, 2002; Pintrich, 2000; Roeser et al., 1996; Vansteenkiste et al., 2014) questioned how individuals’ thoughts, feelings, and self-worth impact their approaches to achievement, and they advocated for classroom environments that demonstrate mastery goal orientations. Classroom activities that inspire students to master concepts and form meaningful connections encourage mastery behavior. Mastery goal-oriented classrooms encourage students to participate in challenging tasks even if it means learning from mistakes. Contradictory to mastery goal-oriented classrooms, performance goal oriented classrooms encourage students to submit work free of errors. They tend to focus more on grades, scores, and rankings compared to peers and achievement standings. Reassuringly, teachers could influence students to adopt mastery goals based on the types of activities, cooperative learning groups, communication, and evaluation in classrooms.
Ames and Archer (1988) studied relationships between motivational processes and mastery and performance goals. They questioned the impact of mastery and performance goals on students’ opinions of their classroom experiences. They wanted to know if students’ views of classroom goals were related to their assignment choices, attitudes, and sentiments about achievement. Their research method included random selection of 176 advanced secondary students from core content classes (Ames & Archer, 1988). The participants completed surveys inventorying their use of learning strategies, activity selections, attitudes, and characteristics.

The variables were analyzed with descriptive statistics (Ames & Archer, 1988). Regression analyses were conducted to compare relationships between goal orientations and perceived abilities. Correlational analyses were used to compare mastery and performance scores with measures of learning strategies, task choices, attitudes, and attributions. To properly analyze comparisons, the students were placed into the following four groups based on scores: high performance-high mastery (Hi-Hi), low performance-high mastery (Lo-Hi), high performance-low mastery (Hi-Lo), and low performance-low mastery (Lo-Lo). They used ANOVAS and HSD to group comparisons to determine differences between the four groups of participants.

Ames and Archer (1988) found that mastery goal-oriented individuals were more likely to use effective learning strategies, engage in challenging tasks, present positive learning attitudes, and exhibit strong work ethic. Performance goal-oriented individuals were more concerned with their abilities in comparison to their peers. They also found that students who believed their classroom environments fostered mastery goals reported engaging in challenging tasks and using active learning strategies. They stated their findings suggested that students need to adopt mastery goal orientations in order to develop ways of thinking and learning necessary for skill development. Both Miller et al. (2017) and Ames and Archer (1988) found that
participants’ views of classroom climate impacted their levels of motivation, interests, participation, and self-regulated learning. Therefore, classroom goal orientations influenced individual goal orientations.

Classroom goal structures are not the only factors persuading individuals to adopt goal orientations. School goal structures also influence students to adopt personal achievement goals, which affect self-efficacy, learning strategies, and affective behaviors (Roeser et al., 1996). A school environment adds to a student’s sense of belonging and affects a person’s willingness to learn; therefore, supportive settings help students reduce anxiety and negative affective behaviors. According to Roeser et al. (1996), much of the past research about school goal structures was limited to classroom practices, but goal structures are in fact established and perceived at the school level, which exist in school-based policies and practices. Schools tend to adopt a mastery or a performance path. The dominant goal structure typically surfaces through the school’s policies and practices.

Schools that exhibit mastery school goal structures focus on student improvement, development, and mastery of intended learning outcomes. Schools that exhibit performance school goal structures focus on relative ability, social comparison, and competition among students. When schools emphasize effort, improvement, and mastery (developing competence) over demonstrating relative ability, individuals increase cognitive strategies, self-efficacy, and positive affective behaviors. When schools emphasize demonstration of ability relative to others, individuals tend to decrease their levels of cognitive strategies and self-efficacy and increase their levels of negative behaviors.

In consideration of perceived teacher-student relationships, Roeser et al. (1996) investigated the role schools have in establishing positive learning and mental health supports.
They hypothesized that students’ perceptions of efficacy, affective behaviors, and academic self-worth would predict achievement. They believed that academic self-consciousness interfered with concentration, production, and performance. The population in Roeser et al.’s (1996) study consisted of middle school students in one school district. The researchers administered four survey scales from the Patterns of Adaptive Learning Survey (PALS). They found positive relationships between mastery school goal structures, students’ goal orientations, self-efficacy, and achievement. In contrast, they found negative relationships between performance goal structures, student self-efficacy, and achievement. Furthermore, they found the quality of teacher-student relationships were the biggest predictors of student self-efficacy. Roeser et al. (1996) concluded that middle schools with supportive and caring environments that emphasize individual effort are related to positive adaptive behaviors.

Midgley et al. (1998b) conducted a longitudinal study to investigate the impact of the learning environment on adolescent motivation in four Michigan school districts from the fall of 1994 to the spring of 1999. They administered surveys to students and teachers, and they conducted observations. The study included data from 10 middles schools and 21 elementary schools. The survey scales measured items with a 5-point Likert scale, and they were previously found consistent and valid. They found a statistically significant relationship when they correlated positive interpersonal relations and a sense of school belonging with students’ positive attitudes about school, self-esteem, self-deprecation, and feelings of anger. They found that students who perceived an emphasis on competition and relative ability avoided soliciting for help, while students who perceived an emphasis on understanding and mastering concepts demonstrated less avoidance of soliciting for help. They also found that students who perceived mastery-learning environments in their math classes employed learning strategies, executed self-
regulation skills, solicited help, and achieved higher. Recommendations for fostering mastery-oriented learning environments included allowing students to repeat tasks, placing less focus on test scores and mistake-free work, increasing focus on effort and improvement, assessing students with portfolios and project-based approaches, integrating cross-curricular instruction, and including rigor in the curriculum.

Ford et al. (1998) conducted a quantitative study to examine links between the learning environment, learning processes, and outcomes. The study was based on the premise that metacognition deals with the cognitive choices people make to manage cognitive and affective behaviors necessary for achieving goals. Therefore, the researchers wanted to determine the metacognitive processes adult learners utilize when trying to master multifaceted tasks. Their research was designed to investigate how individuals’ goal orientations and metacognitive practices were related to their learning outcomes and transfer of knowledge during times of self-selected activities. The findings revealed that the more developed the behaviors are, the more likely a person will succeed.

The participants used in the study included 106 undergraduate psychology students enrolled at a large university in the Midwest (Ford et al., 1998). The procedure involved placing participants in a training environment that gave the learners the autonomy to choose different difficulty levels of training exercises. The researchers hypothesized a positive relationship between metacognitive activity and learning outcomes. That meant they predicted that the individuals who demonstrated self-monitoring and self-adjustment of learning would evidence more knowledge and higher levels of achievement.

Ford et al. (1998) offered a detailed overview of the training the participants received. In summary, the procedure required the participants to attend training two consecutive days. The
task involved a computer-based decision-making program called TANDEM. The program simulated a naval radar-tracking task that was used by other researchers to study teamwork stress factors. In the simulation program, the participants were given conflicting signals and they had to deal with the obscurity while making critical decisions. The participants were allowed to choose activities that varied in complexity. The easier activities presented simple task components and the more difficult tasks involved realistic scenarios with complex task requirements that were representative of what would be experienced in the field. The study involved 106 participants, but the researchers only included the data of the 93 participants who engaged in the most complex training scenario during the last training trial. They wanted to be able to measure the skill proficiency of one common scenario at the end of the participants’ training.

The following attributes were measured upon collecting the following data: mastery orientation, performance orientation, the number of times individuals practiced scenarios, activity level, metacognitive activity, knowledge, training performance, self-efficacy, and transfer performance. The participants’ activities were analyzed for the frequency of practicing important task strategies. They also completed a 12-item survey at the end of the training period to gauge their usage of metacognitive strategies. Then, they participated in a nine-item multiple-choice test to evaluate their knowledge of the task. The participants’ achievement on the training performance of the 12th trial was examined. Finally, the participants completed a self-efficacy survey on an eight-item scale to assess their self-confidence levels to successfully complete the task.

Ford et al. (1998) stated the results of the study supported their hypothesis that a positive relationship existed between mastery orientation and metacognitive activity. They found a significant relationship between metacognitive activity and the variables of knowledge, skill, and
perceptions of self-efficacy. They also determined that the three learning outcomes projected an individual’s performance in a transfer task. Ford et al. (1998) concluded that self-regulatory skills, including metacognition, influence effective learning processes when learners are supported with a mastery oriented classroom environment. Their reasoning was based on their finding that mastery goal oriented individuals participated in superior metacognitive activities. Ultimately, the participants were more mindful of mastering skills and learning from mistakes.

Pintrich (2000) claimed that mastery goals increase student efficiency, engagement, attitudes, determination, performance, and methods of thinking and learning. The researcher conducted a study to determine if students’ cognitive and metacognitive strategies would decrease over time and if the reduction would correspond to changes in goal preferences. He wanted to know if group affiliation influenced motivational beliefs, affective behaviors, use of strategies, and classroom performance. The study utilized 150 (78 girls and 72 boys) eighth and ninth grade math students attending a junior high school in southeastern Michigan. Data was collected with questionnaires that were administered during three different time periods: the beginning of the school year, the end of the school year, and the end of the succeeding school year.

The participants were placed into the following four groups: high-mastery/high-performance students, high-mastery/low-performance students, low-mastery/high-performance students, and low-mastery/low-performance students (Pintrich, 2000). Trained research assistants orally administered the 7-point Likert scale questionnaire that was adapted from the Motivated Strategies for Learning Questionnaire. The data collected related to the participants’ beliefs in their own success, their feelings about themselves in school, their willingness to self-monitor and take risks, their use of meta-cognitive strategies, and their levels of importance associated to self-
identities, interests, practicality, and timeliness. Finally, Pintrich (2000) evaluated their grades in math to determine levels of classroom performance. It was predicted that the two high-mastery groups would outperform the two low-mastery groups.

Pintrich (2000) used a repeated measures ANOVA design to analyze the data. Out of the four types of student groups, there were no significant differences between the two high-mastery groups, but the performance goal oriented students were more concerned with their rankings with others, and they failed to take real interest in mastery and learning (Pintrich, 2000). Pintrich (2000) explained that according to normative goal theory, students prone to mastery goals focus on learning and mastering concepts, and those prone to performance goals are driven by the will to outperform others to avoid being perceived as incompetent. Students who are mastery goal oriented are self-sufficient, value tasks, convey positive attitudes towards learning, and utilize intellectual and metacognitive strategies. Students who are performance goal oriented tend to be less motivated, use fewer strategies, and perform lower. It was believed that students concerned with both performance and mastery goals were at less risk of losing motivation. Given those findings, the researcher claimed that instructors should structure classrooms in a manner that influences students to adopt mastery goal perspectives; although, it was not meant to imply that one model should be utilized and the other ignored. Instead, educators could design activities that tap into both preferences of learning goals.

Ben-Eliyahu et al. (2017) investigated how gender influences social and academic goal orientations of gifted students. They wanted to know if goal orientations could serve as predictors of course performance, engagement, and self-concept. The independent variables in the study were academic and social goal orientations. The dependent variables were academic behaviors, social behaviors, self-concepts, and friendship retention. The academic behaviors
included performance and engagement. The social behaviors included conduct and peer interactions.

The participants in the study were comprised of secondary students attending an intensive three-week summer program designed for gifted students in the southeast region of the United States (Ben-Eliyahu et al., 2017). Procedures included gaining parental consent for the students to participate in two online surveys scheduled to take place at the beginning and end of the program, and a follow-up survey six months after the program. The 5-point Likert-type scale survey instruments targeted academic and social goal orientations, academic and social self-concepts, maintaining friendships, course performance, in-class academic engagement, responsible classroom conduct, positive peer interactions, out-of-class academic engagement, and responsible out-of-class conduct.

Ben-Eliyahu et al. (2017) conducted a chain of multiple regression analyses. They ran different analyses for boys and girls, which evidenced positive academic mastery goal orientations for both genders. They found a positive relationship between the girls’ mastery goal orientations and course performance, and a negative relationship between boys’ social demonstration-avoidance goal orientation and in-class academic engagement. They did not find a relationship between academic behaviors and academic performance-approach or avoidance goal orientations. Results of multiple regression analyses evidenced a positive relationship between academic mastery goal orientations and scholastic competence for boys and girls. They did not find any relationships between social goal orientations and scholastic competence. Ben-Eliyahu et al. (2017) stated, “Most consistently, academic mastery goal orientations were positively related to in-class academic engagement, scholastic self-concept, global self-worth, and self-concept of behavioral conduct” (p. 83).
Based on the results of the study, Ben-Eliyahu et al. (2017) accepted their within-domain hypotheses about social goal orientations being predictors of social self-concepts. They discovered that gifted students would rather be around peers with intellectual similarities, which suggests that they may be better suited for ability grouping. Mastery goal oriented students were found to interact with course materials during class time. In regards to gender, academic mastery goal orientations predicted course performance and responsible in-class behavior for girls. Social development goal orientations and self-concept of close friendship and behavioral conduct was positively related for girls, but negatively related for boys.

The work of Ames and Archer (1988), Ben-Eliyahu et al. (2017), Ford et al. (1998), Pintrich (2000), and Roeser et al. (1996) evidenced links between school goal structures, individual goal orientations, and academic outcomes. Achievement goal structures established in classrooms and schools were related to the use of effective learning strategies, determination, and academic success (Roeser et al., 1996). Mastery goal oriented individuals were found more likely to use learning strategies and engage in tasks (Ames & Archer, 1988; Ben-Eliyahu et al., 2017) which lead to increased knowledge, skills, perceptions of self-efficacy, and transfer of knowledge (Ford et al., 1998) for both boys and girls (Ben-Eliyahu et al., 2017). In addition, mastery goal oriented students were found to be more aware of their “scholastic self-concept, global self-worth, and self-concept of behavioral conduct” (Ben-Eliyahu et al., 2017, p. 83).

Pintrich (2000) advocated for teachers to structure their classrooms to foster mastery goal perspectives. Authentic outcomes-based assessments are methods of evaluation that allow students to think, create, reflect, collaborate, and apply knowledge to real world applications. The assessment methods reflect mastery achievement goals, which inspire learners to participate in stimulating tasks, develop skills, and master concepts (Dweck & Leggett, 1988; Kaplan &
Maehr, 2007; Middleton & Midgley, 1997; Midgley, 2002). Instructors facilitate knowledge, and the students learn by constructing products. The authentic assessments can be designed to encourage learning by doing as discussed in Kolb’s experiential learning model (Baglin et al., 2013). Finally, authentic outcomes-based assessments stimulate learning (Huba & Freed, 2000) by enticing students to engage in challenging tasks, reflection, collaboration, and critical thinking (Biggs & Tang, 2007; Brindley, 1998; Villarroel et al., 2018).

**Outcomes-based education and assessments.** Educational institutions are giving more attention to outcomes-based education (OBE) (Crespo, et al., 2010). OBE concentrates on the learning outcomes students are expected to learn and demonstrate. First, educators determine learning outcomes, and then they design assessments to measure progress (Driscoll & Wood, 2007). Next, instructors create learning activities to prepare students for the assessments. Finally, results of the assessments are used to make further instructional decisions. Ultimately, learning outcomes impact curriculum, pedagogy, and assessment.

Authentic outcomes-based assessments can replicate real-world problems and help prepare individuals for job related tasks. In addition, they offer students choices and opportunities for creativity. They could be designed as individual tasks or group tasks that are completed in or out of the school setting. They may incorporate traditional resources, digital tools and media, or both. The assessments are generally scored with rubrics and the evaluators provide feedback to students. These alternative forms of assessments could allow learners to interact with current issues and real life scenarios. The review of literatures suggests that authentic outcomes-based assessments such as projects, essays, presentations, portfolios, and performance tasks encourage learners to evidence knowledge and employ critical thinking skills.
Outcomes-based assessment concerns. Some people expressed negative views of assessment due to external factors such as accreditation (Maki, 2002). Teachers are faced with managing meticulous assessments as well as meeting state standards, national standards, and accountability requirements (Brindley, 1998). Brindley (2001) believed outcomes-based assessments are more advantageous, but politicians have been slow to adopt an alternate assessment mindset. Some are concerned that placing less focus on assessment scores, benchmarked data, and performance data such as honor rolls would lead to less rigorous learning programs (Midgley, 2002). They also fear that alternative forms of outcomes-based assessments could lack validity in reporting assessment results.

Additional concerns associated with authentic outcomes-based assessments include costs, the amount of time they consume, the need for expert skills, and the lack of reliability and consistency in the assessment tools used to measure alternative assessments (Midgley, 2002). Improving assessment measures could require institutions to restructure their curriculums. After monitoring students’ projects for a few years, Holmes (1997) and his colleagues discovered that the areas with the highest frequency of errors were project designs, data analysis, and written reports. Students who tried to work outside of the scope of their capabilities demonstrated difficulties; however, Holmes (1997) continued to advocate for outcomes-based assessments in the form of PjBL because they impact student learning, attitudes, and viewpoints.

Reasons for outcomes-based assessments. Huba and Freed (2000) claimed authentic assessment techniques could help students become better learners because they drive students to devote more time to learning which helps students increase achievement and satisfaction levels. Ideally, instructors align intended course outcomes with institutional outcomes to help develop desired skills in learners. Panitz and Panitz (1998) claimed collaborative learning activities were
better assessment methods than traditional objective forms of assessments because cooperative learning groups provide instructors with opportunities to observe students working, questioning, and discussing concepts together. They give students opportunities to demonstrate the objectives of knowledge, comprehension, application, analysis, synthesis, and evaluation (Bloom, 1956) as they complete the assessment criteria. In addition, students could receive feedback on their progress towards designated outcomes throughout the process depending on the design of the assessment.

Brindley (2001) investigated outcomes-based assessments in two different educational settings in Australia. One was a regular educational institution and the other was an adult immigrant educational institution. Mean scores were evaluated to determine levels of achievement. The findings that were reported centered around teacher constructed outcomes-based assessments that varied in development, usage, and interpretations. Brindley (2001) stated, “Unless greater attention is given to providing adequate time allocation and appropriate forms of professional development, the many potential benefits of involving teachers in assessment will not be realized” (p. 403). Therefore, some implications that formed as a result of the study were that assessment practices need to correspond to methods of teaching and learning, and faculty members need proper professional development programs prior to administering outcomes-based assessments.

Driscoll and Wood (2007) conducted a study in 2000 while employed at California State University Monterey Bay. One served as an administrator, and the other served as a faculty member. They wanted to know how transitioning to outcomes-based assessments would motivate faculty members given their pedagogical improvements and shifts to student centered learning. They collected data through in-depth interviews of nine out of forty faculty members
who participated in faculty learning communities (FLCs). The consensus among participants was that assessment work is valuable. The changes the faculty made to incorporate outcomes-based assessments extended their pledge to student learning and increased student achievement.

Some concerns that were revealed upon analysis of the interviews included faculty members making different interpretations of learning outcomes, students having limited voices, and part-time faculty being left out of the development of learning outcomes. Driscoll and Wood (2007) recommended that faculty members, instead of administrators, be allowed to develop learning outcomes and assessment criteria due to their time devoted to teaching and learning. During the process, educators could refer to national standards, institutional expectations, and employer expectations. They also suggested referring to taxonomies to help develop learning outcomes. Biggs and Tang (2007) suggested using verbs to describe desired learning outcomes and methods of evaluation.

**Using outcomes-based assessments to evidence learning.** The literature supported the roles of outcome statements and assessments in evidencing student learning. Linking assessment to instructional practices could help learners increase their comprehension levels, aptitudes, perspectives, thoughts, and methods of solving problems and completing tasks (Maki, 2002). Traditional multiple choice and true/false exams do not reflect students’ originalities, understandings, problem-solving skills, critical thinking skills, or their abilities to transfer skills to the workplace (Driscoll & Wood, 2007). Driscoll and Wood (2007) advocated for students to have opportunities to synthesize and summarize what they have learned through authentic assessments. Different types of authentic outcomes-based assessments include simulations, competency-based assessments, portfolios, project-based assessments, and performance-based assessments.
**Simulations.** Simulations are authentic forms of assessment that require individuals to respond to real world scenarios (Mann et al., 2011). Dunlap et al. (2008) claimed students apply theories, models, and concepts to the problems they attempt to solve during times of simulations and projects. Digital technologies have enabled simulations that could be used to explore different possibilities, solutions, and endings (Mann et al., 2011; Prensky, 2012). Simulations could be used to foster collaboration and real world problem solving (McGonigal, 2010). Some examples of simulations that happen in the working world on a daily basis include planning cities, battles, finances, healthcare, and environmental provisions (Prensky, 2012). Some organizations use simulations for training purposes. Authentic simulations could require students to demonstrate methods of responding to real world problems and situations that may be encountered in the work environment (Mann et al., 2011).

Mann et al. (2011) discussed learning through simulations and PjBL in today’s digital age. Project ALL was a project designed to offer aspiring administrators an opportunity to preview and simulate administrative duties (Mann et al., 2011, p. 277). The project involved teachers who wanted to pursue educational leadership. Mann et al. (2011) followed suggestions they found in their literature review about designing simple, convenient, and affordable methods of delivering education. The platform included the use of videos and web programming that were funded by a grant. The benefits to participating in the program was allowing teachers to determine if they were truly interested in administration and all of the duties attached to the job.

First, Mann et al. (2011) determined issues and demands school principals face in their employment. Next, they created simulated situations in a virtual middle school environment that included demographics and data. Then, the participants in the cohort watched the recordings, which simulated issues about supervision, professional development, assessment, planning,
safety, budget, and professionalism. Finally, the participants scored decisions, determined consequences, and received feedback on their decisions. The participants could access the simulations at their convenience through the Internet, but two hours were scheduled every Monday for face-to-face interactions with instructors.

The data collected indicated the participants were fond of accessing material through the Internet at their convenience (Mann et al., 2011). There were some negative concerns about accumulating low scores due to forming decisions they thought were best as opposed to choosing best practice resolutions and conclusions. Some of the participants questioned the rulings provided on their scoring rubrics. Mann et al. (2011) acknowledged times in the field that are appropriate to make decisions outside of best practice guidelines, but the purpose of the simulation experience was to become familiar with best practice and reduce the frequency of making poor decisions. Despite the presented challenges, participants considered the simulation program a viable learning tool.

**Competency-based assessments.** Competency-based education is an example of outcomes-based education (Biggs & Tang, 2007) as it allows students to take charge of their own learning and complete assessments in timeframes that are best for them (Council of Independent Colleges, 2015). The instructional model supports learners with applying skills, collaborating with peers, reflecting, and reporting on learning (Bondie, 2015). Faculty members use competency based assessments and performance tasks to determine students’ needs and inform instruction. Some students learn best through high levels of interaction with content (Murray et al., 2012), and other students acquire competencies through experiential learning and experience (Baughman, 2012). Often times, vocational and technical forms of education develop and assess competencies aligned to learning outcomes (CIC, 2015). Competency-based assessments link
postsecondary education to workforce needs by helping students develop the competencies necessary for gainful employment (Baughman, 2012; CIC, 2015).

Innovative institutions are employing more competency-based assessments (LeBlanc & Christensen, 2001; Manning, 2014). According to LeBlanc (2013), Southern New Hampshire University (SNHU) has been awarding credit based on satisfactory evidence of mastering competencies, which are usually in the form of projects. The students participate in learning tasks and competency-based assessments at their chosen rate of completion. Given their successes, competency-based assessments in lieu of seat time may be the next big revolution or disruptive innovation (Christensen et al., 2011) in higher education.

Traditional forms of instruction and assessment may no longer be adequate to meet the needs of digital natives. Advancements in technology and increased focus on higher-level skills have changed pedagogical practices and paradigms commonly used in society. Digital tools and media have altered the way individuals learn, communicate, and complete tasks. Developments in recent research have indicated relationships between technology and the neurological developments of individuals born into the current digital age (Hanover Research, 2014). Digital Natives (Prensky, 2012) have been raised with forms of technology; therefore, their methods of thinking and learning have changed accordingly. The degree to which students interact with digital technologies may differ according to age, character traits, and levels of maturity (Coulby, Hennessey, Davies, & Fuller, 2011), but research has demonstrated that students accustomed to digital technologies have indicated their preferences for instant information, multitasking, graphics, links, rewards, and games (Prensky, 2012).

Coulby et al. (2011) discussed the current generation of digital natives (Prensky, 2010) and their preferences for technology based teaching and learning. The researchers suggested
integrating mobile technology in pedagogical practices. They explained that medical education research currently uses a wide range of mobile technology in a variety of contexts. They wanted to know more about using technology for assessment. They claimed that mobile assessments could allow instructors to quickly review submissions and provide feedback more frequently than traditional summative assessments. Their study involved 13 participants in work-based placement who failed their final qualifying examinations. The research design involved an experiment using a mini-CEX assessment tool on PDAs, which could be used to complete competency assessments and extend learning processes. The researchers explained that the assessment tool is frequently used in postgraduate students’ portfolios in the medical field.

The process involved the participants finding appropriate opportunities to ask clinical supervisors to complete assessments, and then the students reviewed their results and implemented any feedback that was provided (Coulby et al., 2011). At the end of the work-based placement, the students retook their exams. A total of 196 assessments were completed by 80 assessors comprised of doctors, consultants, and other health care professionals. The evaluations averaged 15 minutes for observations and eight minutes for the mini-CEX assessment. In total, 67% of the assessments included comments. Ten students completed the survey, and seven students attended the focus group.

The researchers reviewed the assessment data that was gathered from the PDA and determined the following themes: attitudes towards the technology, feasibility, practicality, confidence versus digital nativity, and overall impact (Coulby et al., 2011). Hence, the students and assessors presented positive attitudes towards the technology due to the ease of use, the convenience of communication, and the ability to serve multiple functions such as checking email. The devices also helped students and assessors identify and define learning goals. Coulby
et al. (2011) concluded that digital devices accentuated the learning process, and the organized formative assessment process helped students make improvements due to the amount of feedback they received.

Baughman (2012) stated some postsecondary educational institutions have modified curriculums to include competencies and outcomes-based assessments according to what individuals need to be successful in business and industry. It is important for individuals to develop competencies such as knowledge, abilities, attitudes, ideals, and behaviors prior to employment. A concern was expressed about students having a lack of knowledge about the “holistic development of college students” (Baughman, 2012, p. 10). Therefore, the researcher noted that students need to start developing competencies prior to post-secondary education and then master them in higher education.

Baughman (2012) conducted a mixed methods study with 26 industrial technology students during a 16-week course. The purpose of the study was to determine the impact competency-based learning and assessment had on student professional development. Student competencies were surveyed with a Likert-scale, and the initial and final assessment averages were analyzed with a paired T-test per SPSS 19 software. Descriptive statistics were used to evaluate the pre-course assessment data. Qualitative data included a post-course survey and student written reflections. The student responses were analyzed with content analysis to interpret results and identify themes and patterns. A comparison of results between the pre and post-course assessments demonstrated successful student professional development.

Baughman (2012) found that the participants favored the self-assessments and peer-assessments. The students expressed they developed professionally because of the course. The findings were that instructional methods and materials helped individuals attain desired learning
outcomes, but they actually gained competencies through experiential learning and experience. The conclusion that developed was that competency-based assessment tools could measure student professional development.

*Digital badges.* The review of literatures did not evidence the use of competency-based assessments at the middle school level; although, there was information available about public school educators who use digital badges, which are visual acknowledgements of progress, achievements, and mastery of skills and competencies (Digital Youth Network, 2014; Educause, 2013; Heimerl, 2016). Digital badges act as incentives and motivators for individuals to engage in learning, develop artifacts, work collaboratively, share products, and build skills. Educators could create digital badges using their existing curriculums to give students opportunities to strengthen skills, knowledge, experiences, interests, and collaboration (Digital Youth Network, 2014).

Designing a digital badge program involves creating modules, goals, activities, and assessments that correlate with learning outcomes (Digital Youth Network, 2014). The modules use internet based learning strategies and foster collaboration among peers. Students use the learning modules to guide them in creating artifacts, which are products students produce such as media literacy, written compositions, and visual images (Wiley, n. d.). Digital badge programs offer alternate forms of assessments, which resemble competency-based learning (Heimerl, 2016). Heimerl (2016) stated, “In other words, they remind us that education is more than credentials; it’s about developing new knowledge and skills that you can use in the world” (para. 4). In addition, students could showcase learning to a wider audience via the internet. Finally, students could gain skills that transfer to other settings including the community and workplace.
**Project-based assessments.** Project-based assessments require students to create products that serve as alternative forms of assessments (Pearlman, 2006). Chang and Tseng (2011) stated project-based learning (PjBL) accentuates “learning by doing” (p. 211) by imitating real problems people encounter in daily life. The learning experiences are just as important as the products students produce (Smith, 2016). PjBL focuses on real world problems, critical thinking, collaboration, data collection, problem solving, and feedback (Chang & Tseng, 2011; Pearlman, 2006). The learning process supports skill-building, academic growth, and student progress (Chang & Tseng, 2011). Pearlman (2006) believed the key to successful PjBL utilized complex, rigorous scenarios, and tiered instruction to foster learning. Often times, the process involves educators grouping students, presenting problems, and scaffolding projects with learning activities.

One of the benefits of PjBL is that students are held accountable for their own learning (Pearlman, 2006). They receive feedback along the way, which helps them become aware of their strengths and weaknesses. Mann et al. (2011) claimed that graduates of PjBL environments would be more likely to retain knowledge than students who participate in programs that use traditional forms of assessments. Their reasoning was that students make meaningful connections when they have to construct and apply knowledge. Some concerns that have been presented from instructors’ positions include finding suitable topics, managing large numbers of projects, tailoring project criteria to fit individual needs (Baglin et al., 2013), and assessing learning outcomes throughout the process (Chang & Tseng, 2011).

Project-based assessments could help students learn from their mistakes and turn failures into developments. According to Holmes (1997), projects nurture communication, collaboration, and application of skills as students simulate real life experiences while working on projects. The
process naturally causes participants to make decisions and apply content knowledge. Holmes (1997) conducted a study to determine the impact of assessment methods on students and teachers. The literature review revealed that traditional math assessments were comprised of exams with questions that students would have to answer without textbooks or help from others. The study involved students who were enrolled in a statistics course that were participating in a compulsory project, which comprised 20% of their assessment grade.

The projects were intended to give students opportunities to explore their interests, and it was expected that the projects would represent teaching, learning, and mastery of content (Holmes, 1997). The caliber of the project-based assessment was estimated to involve about 40 hours of work, and the products had to include problem identification, data collection, analyzation, and conclusions within a 15-page paper. Results of the study evidenced that students who pursued topics they were truly interested in developed the best projects. Students who tried to work outside of the scope of their capabilities demonstrated difficulties. Holmes (1997) concluded that project-based assessments impact student learning, attitudes, and viewpoints.

Dunlap et al. (2008) discussed electronic forms of learning in line with Kolb’s model of experiential learning. Their study chronicled a website design program for novice online learners. They explained that students who enrolled in the program typically began with little to no website design knowledge. The design of the courses in the program required students to build an educational website during the first course and add specific features to the site during the succeeding course. Through the experiential process, students learned new knowledge, interacted with ideas and concepts, applied skills, and reflected on their experiences. As they built upon their existing knowledge, they were able to recall their experiences and apply their knowledge to real world applications, problems, and decisions.
Smith (2016) conducted an ethnographic case study to examine learning processes during a yearlong after-school PjBL opportunity designed for Science, Technology, Engineering, and Math education (STEM). Her research was based on the social constructivist views of learning through experiences and discoveries. The participants included nine groups of students ranging in age and grade levels. They were allowed to group themselves. The after school projects required participants to create pop-up books about the impact of dead zones in the groups’ assigned regions. During the process, students created reflective videos. Smith (2016) used nine reflective videos and one focus group video created by three participants from the groups to review students’ perspectives of learning.

After coding and categorizing data to determine common themes and completing comparative analysis to study student learning, Smith (2016) determined the following themes: making learning more real, empathy, and control. The researcher discovered that the students perceived meaningful lessons throughout the course of the project as valuable learning experiences. The nature of the projects promoted teamwork, communication, ingenuity, and self-regulatory skills. The findings revealed that the students recognized the importance of motivation, communication, diversity, hard work, and learning from experience. The researcher concluded by explaining students could work and learn together during times of authentic tasks. The metacognition that was evident in the reflective videos would not have been demonstrated with traditional multiple-choice assessments.

The work of Holmes (1997), Dunlap et al. (2008), and Smith (2016) offered compelling evidence of how PjBL could be used to assess student learning and knowledge. Holmes (1997) found that project-based assessments could motivate students to engage in the learning process and master concepts. Dunlap et al. (2008) demonstrated how the experiential process drives
students to gain new knowledge as they interact with real world concepts and apply knowledge. Smith (2016) proved how PjBL supported collaboration, cooperation, creativity, and strong work ethic. Holmes (1997), Dunlap et al. (2008), and Smith (2016) heightened awareness of experiential learning through authentic tasks, which further substantiates a movement towards authentic outcomes based assessments.

**Portfolios.** Another form of an outcomes-based assessment is a portfolio. Portfolios serve as formative or summative forms of assessment that evidence teaching and learning (Lam, 2016). They allow students to accumulate, assemble, and showcase their labors, developments, and achievements. Instructors use learning outcomes to guide students in planning their portfolios, but the students have some autonomy in the artifacts and products they provide. The products are tailored to individuals, but they are also specific to content with a comprehensive range of products. To extend and enrich learning processes, students could include rationales and reflections to help them make meaning of their experiences and consider how the lessons would influence future decisions (Driscoll & Wood, 2007).

Chang and Tseng (2011) claimed that educators could use portfolios, which is a form of PjBL, to evaluate students’ products, reflections, attitudes, and progress. They believed PjBL activities develop critical thinking and problem-solving aptitudes. They conducted a study to examine the impact of a Web-based portfolio assessment system on PjBL. The purpose of the study was to determine if statistically significant differences existed in students’ attitudes, preferences, and performances between an experimental group that used a Web-based system and a control group that did not use the system. The participants included an experimental group comprised of 30 students who used the Web-based portfolio assessment system, and a control group comprised of 30 students who used a conventional assessment. During the course of the
study, both groups of students received the same instruction for two hours a week for ten weeks. At the end of the ten weeks, post-tests were administered to gather students’ perceptions of their learning, performance, knowledge, and understandings.

Based on the results of an independent t-test and the Pearson’s Product-Movement Correlation, Chang and Tseng (2011) found significant differences between the high and low scoring groups. According to the prerequisites prior to the study, the students were found to be similar, which verified the groups of students were analogous. After analyzing the results of each individual question, the researchers did not find significant differences in the domains of peer assessment and discovering and solving problems, but they did find significant differences between the two groups in all other domains on the student self-perception questionnaires. The results demonstrated that the experimental group evidenced higher self-perceptions of their learning and performances than the control group. Chang and Tseng (2011) determined the Web-based portfolio assessment system significantly impacted the students’ perceptions of their performances concerning portfolio assessment and PjBL abilities. Based on the results of the study, the researchers found reason to believe educators should include students’ perceptions of their performances in final grade calculations (Chang & Tseng, 2011).

Bolat and Bobeva (2014) discussed advancements in pedagogical practices and paradigms because of digital tools and media. They designed a study to determine if tablets motivated students to engage in online assessment using wikis and electronic portfolios. They also wanted to design a feedback form that could be used on the tablets and evaluate the aptness of timely feedback. They used an action research design that utilized a PjBL model that specifically used wikis and electronic portfolios (Bolat & Bobeva, 2014). The study was split into two parts. Mission one required students to develop an electronic portfolio using University
software and a decision making tool in Microsoft Excel. Mission two required groups of students to work together on a business project and demonstrate management, marketing, and collaboration skills. Students used the tablets for individual formative assessments, individual summative assessments, and an online group wiki portfolio that was scored as a summative assessment.

The observations, ideas, and reflections that were communicated by students, tutors (instructors), and stakeholders were grouped into the following four categories: functional, social, independence, and well-being. Bolat and Bobeva (2014) noted that mobile devices increased functionality because they could share results with students soon after assessments, the comprehensive feedback was relevant to learning outcomes, and the forms were easy to use due to their checklists and other functionalities. Administrators liked viewing the feedback that automatically uploaded to the Virtual Learning Environment (VLE). The students liked the social aspect of establishing rapport with the tutors via electronic devices. The tutors liked sharing the technology-enhanced learning (TEL) application during times of professional development. Under the independence category, it was noted that the students liked using the devices for assessment purposes, and they appreciated the ability to view feedback.

Bolat and Bobeva (2014) concluded the study by stating that the use of tablets in a PjBL assessment facilitated reflection, customization, timeliness, and creativity. The digital tools allowed users to be flexible in their locations. The tutors liked the flexibility of scoring assessments in an environment of their choosing, and the administrators liked receiving feedback forms via email. The tutors believed having the autonomy of uploading results at a time of their choosing allowed them to balance their personal and professional lives. The participants were
observed to be interested and motivated. All in all, the mobile devices increased functionality, collaboration, creativity, and flexibility in the learning environment.

Newhouse (2014) investigated switching from physical portfolios to digital portfolios for the purpose of high-stakes summative assessments in secondary visual arts and design courses in Western Australia. The researcher claimed traditional notebook style portfolios could be expensive, cumbersome, and difficult to score, but electronic portfolios could be accessed, evaluated, and scored digitally “using statistically enhanced methods of scoring” (p. 205). The study targeted converting from physical submissions to digital submissions, reliable scoring, and determining if the scores of digital portfolios were comparable to physical portfolios. The research design was an action research study that gathered qualitative and quantitative data. The data collected was a collection of achievement scores, observations, interviews, and surveys. The participants included ten visual arts and design teachers and their students. The perceptions and attitudes of students were collected through interviews and questionnaires.

The research team developed criteria for the portfolios and scoring methods (Newhouse, 2014). A scoring rubric and a custom scoring tool were developed to assess the digital portfolios. The Cronbach’s Alpha reliability coefficients were used to monitor the internal consistency of the scores for each assessor. Newhouse (2014) explained that nine assessors evaluated 82 design portfolios. A total of 14 assessors evaluated 75 digitized Visual Arts portfolios using the ACJS online tool and paired comparisons method. A review of surveys from the design students indicated that 80% would rather have their original work scored, and 85% would rather develop the digital portfolios themselves. A review of the surveys from the visual arts students demonstrated that 96% would rather have their original work scored, and 46% would rather develop the portfolio themselves.
Most of the students agreed that they could adjust to digital methods of portfolio
development (Newhouse, 2014). The design teachers welcomed the idea of digital portfolios, but
the visual arts teachers refuted due to concerns with art media and elements such as texture,
color, scale, and lighting. In a review of the study, Newhouse (2014) blamed inconsistencies
between assessors due to levels of subjectivity. The findings demonstrated that the Visual Arts
portfolios correlated strongly with the physical portfolios, but the Design group did not exhibit
strong correlations between digital and physical portfolio scores. In conclusion, Newhouse
(2014) determined that the nature of the content was too difficult to represent digitally.

Chang and Tseng (2011), Bolat and Bobeva (2014), and Newhouse (2014) revealed the
successes and challenges of assessing students with portfolios. Chang and Tseng (2011) found
that the experimental group, which used a Web-based portfolio assessment system, evidenced
higher self-concepts than their peers in the control group who completed conventional
assessments. Bolat and Bobeva (2014) found that the use of tablets in a PjBL assessment aided
participants in the process of reflection, customization, timeliness, and creativity. Newhouse
(2014) found some positives in switching from physical portfolios to digital portfolios in the
visual arts and design courses; although, he determined that the art content was not favorable for
digital representations. Portfolios that contained the students’ original works would be more
suitable to assess.

**Performance-based assessments.** Educators are revisiting performance-based
assessments because of the impact they have on teaching and learning (Abbott & Wren, 2016). A
performance task is a type of assignment or activity students complete to address the concept
(Abbott & Wren, 2016). A culmination of performance tasks is known as a performance
formative tasks as “tools the educator designs for students to acquire learning” (p. 427), whereas summative assessments evidence mastery of competencies. Once a competency has been mastered, the student can ascend to the next level. Bergen (1993) stated, “In order to be authentic, the performance has to have some connection to the ‘real world’ or a simulation of that world; that is, it must be an application of the learning” (p. 99). The outcome should be measureable, replica of real life situations, and unique to the individual or group of individuals being evaluated. Some considerations for authentic assessments include adequate time for development, participation, and evaluation.

Wiggins and McTighe (2011) claimed that students independently learn and transfer knowledge through authentic experiences as seen in outcomes-based assessments due to the way experiential learning stimulates the senses. They insinuated that authentic experiences help individuals store and retrieve information. They based their principles according to developments in neuroscience research, which evidenced that the human brain has a limited capacity to mix new information with previously learned material. As learners understand relationships and make connections, they store information in their long-term memory. Wiggins and McTighe (2011) stated, “The most successful teaching begins, therefore, with clarity about desired learning outcomes and about the evidence that will show that learning has occurred” (p. 7).

Wiggins and McTighe (2011) drew from Bloom’s taxonomy and the work of other theorists when they developed the framework Understanding by Design (UbD) with the intentions of making meaning and transferring knowledge through authentic performances. Their model focused on “six facets of understanding—the capacities to explain, interpret, apply, shift perspective, empathize, and self-assess” (Wiggins & McTighe, 2011, p. 4). They encouraged educators to begin by identifying desired results such as goals and essential understandings.
Then, teachers determine acceptable forms of evidence in the form of performances, products, and assessments. Finally, they plan learning experiences such as activities, experiences, and events.

VanTassel-Baska (2013) discussed the role of performance-based assessments in the Common Core State Standards (CCSS). Performance based assessments are being used as the primary method of judging achievement. VanTassel-Baska (2013) stated, “Performance-based assessment provides an alternative way of looking at student ability via contextual performance” (p. 43). They are especially useful in helping learners expose scholarly aptitudes. The tasks students complete as part of a performance-based assessment evidence the scope of learning relative to a topic (VanTassel-Baska, 2013).

Baker, Clarke-Midura, and Ocumpaugh (2016) stated computer-generated learning environments allow students to interact with others virtually and take responsibility for their own learning. They can be used for assessments that model real-world scenarios. Baker et al. (2016) wanted to know more about virtual performance assessments (VPA). They believed VPAs could foster cognitive and affective behaviors necessary for science inquiry. In addition, VPAs could be used to offer formative assessments and immediate intervention to help struggling students.

Baker et al. (2016) conducted a study to investigate the students’ methods of scientific inquiry during a VPA. Their study gathered data from VPA log files of students in the sixth and seventh grades in 138 science classrooms across the Northeastern and Midwestern United States and Western Canada. The researchers developed two VPA scenarios. The first one was a frog scenario, and the second one was a bee scenario. In the first scenario, students had to determine the cause of a mutation that resulted in six-legged frogs. The program allowed virtual characters to collect samples per the investigation. Students had to figure out how the mutations happened
and support their claims with evidence. In the second scenario, students had to determine what was killing local bees. Both scenarios offered similar processes, supports, and resources for students to utilize during the assessments. Their method included random assignment for participants to begin with the frog or bee scenario. Participants completed the other scenario after two weeks. Students received instructions and viewed an introductory video before each assessment.

The log data revealed student actions, such as making selections, while working on the scenarios (Baker et al., 2016). The results indicated that the students who paid more attention to the reading selections related to the correct hypothesis performed better than their peers who spent time reading selections that did not support the hypothesis. Baker et al. (2016) concluded that VPAs allow educators to carefully analyze methods of science inquiry used by students during their interactions with the scenarios. They predicted VPAs would be a strong method of assessment in the future. Identifying struggling students could be an area of concern with VPAs; therefore, educators would need to offer supports to bridge, or scaffold, student knowledge.

McIntosh and Milam (2016) discussed a movement towards performance-based assessments. They argued that people who participate in debates fulfill competencies related to transferring knowledge across content areas. They interviewed a number of individuals involved in debate programs. Their participants included debate coaches, former debaters, parents, and teachers in New York. They used surveys with open-ended questions and written responses to collect data. They found that the debate programs improved because of community engagement and student leadership skills. Their survey responses evidenced that the participants believed debates help middle school students develop leadership and analysis skills. Their findings indicated that current views of democratic education require alternative methods of teaching
students how to express their ideas and take action. Not only do debates prepare students for college and career, but they also encourage participants to think critically across multiple disciplines, and they afford “real-time responsive data” (McIntosh & Milam, 2016, p. 431).

Baker et al. (2016) and McIntosh and Milam (2016) validated the significance of performance-based assessments. First, Baker et al. (2016) demonstrated how computer-generated learning environments could foster virtual interaction between students and hold students accountable for their own learning. Most importantly, the scenarios could exemplify real-world problems. Next, McIntosh and Milam (2016) illustrated how debates could help students develop skills and transfer knowledge. The skills utilized in the performance-based assessments were similar to those used in the competency-based assessments conducted at the higher education level in the aforementioned studies. Both examples demonstrated levels of critical thinking and application of knowledge to real world scenarios.

**Summary.** This review of literature influenced a conceptual framework using Bloom’s taxonomy of educational objectives (Bloom, 1956), Gardner’s theory of multiple intelligences (Gardner, 1983), Kolb’s experiential learning theory (Kolb, 2015), and achievement goal theory (Ames, 1992) to understand goal orientations, instructional approaches, and authentic methods of assessment. Past research about instructional practices and assessment approaches demonstrated the need to investigate teachers’ perceptions of authentic outcomes-based assessments. In addition, the literature contained gaps about relationships between goal orientations and authentic outcomes-based assessments, which could yield significant findings. Based on this review of literature, educators could benefit from learning about teachers’ perspectives of school goal structures, mastery and performance approaches to instruction, teacher efficacy, and the effectiveness of authentic outcomes-based assessments in middle school settings.
Review of Methodological Issues

Educational research focused on learning and assessment has prompted changes to pedagogical practices. Various methods of research have been used to study topics related to education. Research designs use participants, data, methodologies, interpretations, and conclusions to investigate and answer research questions (Trochim, 2006). Researchers conduct studies to review, categorize, and triangulate information in search of common themes and patterns (McMillan, 2012). The results of educational research drive current instructional practices.

Quantitative research is structured, specific, and controlled (McMillan, 2012). It deals with variables, numbers, calculations, and statistics. At times, researchers can learn more from the experiences of others than they can with calculations and statistics. Qualitative research focuses on the study of social and behavioral issues (Creswell, 2013). Researchers use participants’ perspectives or responses to provide explanations about the topics investigated (McMillan, 2012). They use multiple methods to collect data such as forming observations and collecting artifacts (Adams & Lawrence, 2015). More specifically, they define assumptions, interact with participants, collect data, analyze and synthesize the information, determine relationships, and draw conclusions (Creswell, 2013; McMillan, 2012; Stake, 2010). Qualitative research requires extensive time in the field working where phenomena occur naturally. Sometimes researchers use mixed-method designs that incorporate quantitative and qualitative practices within a single study (Creswell, 2013). The combination of the two designs helps researchers gain more information about phenomena through multiple forms of data collection.

Research methods. Repeated methods of research were examined in this literature review. Examples of methodologies found in the literature review include grounded theory,
phenomenology, ethnography, descriptive research, experimental and nonexperimental designs, mixed-methods, and action research. The topics or themes studied in the various research designs include goal orientations, teacher self-efficacy, and various forms of outcomes-based assessments. The studies about goal orientations and teacher self-efficacy investigated the impact of metacognition on instruction and learning. The studies about assessment practices also explored the use of digital technologies to enhance assessment processes.

Some methodologies found in the reviewed were not appropriate methods for this research study. For example, Coulby et al.’s (2011) use of grounded theory research to analyze attitudes, practicality, confidence levels, and the overall impact of a digital device used as an intervention to augment the learning process would not have worked for this study because the research focus was not limited to learning about a single case. Similarly, Newton and Martin’s (2013) use of phenomenography to group students’ written responses into a hierarchy to determine relationships between deep learning approach scores and exam responses at increasing levels of cognitive complexity was not appropriate because this study did not collect written narratives. Next, Smith’s (2016) use of ethnographic research to study PjBL was not appropriate because this study did not interview or observe participants. Additionally, Baughman’s (2012) mixed-methods study to determine if competency-based assessment tools could measure student professional development was not appropriate because qualitative data was not collected. Finally, Bolat and Bobeva (2014) and Newhouse’s (2014) action research designs were not appropriate because this researcher did not perform an action.

This study included two methods of research. One method used in this study was similar to the descriptive research studies carried out by Ben-Eliyahu et al. (2017), Kilday et al. (2016), Miller et al. (2017), Murray et al. (2012), and Wiesman (2016). Descriptive research is an in-
depth quantitative study that answers who, what, when, where, and how questions by collecting data through surveys, questionnaires, observations, and archival research (Adams & Lawrence, 2015). The objective is to learn more about phenomena, determine patterns, and compare the results to existing theories and past research. The data collected in a descriptive study could explain actions, trends, attitudes, and behaviors; although, the results cannot always be generalized to a broader population.

Self-report surveys require participants to report on their “own attitudes and behaviors” (Adams & Lawrence, 2015, p. 106). It was determined that the descriptive research method used in this study would help educators understand the participants’ levels of awareness, understandings, emotions, and self-perceptions of targeted data. One caveat that was considered was that people might not be truthful. Adams and Lawrence (2015) cautioned that participants might rate themselves according to how they want others to perceive them instead of their true attitudes and behaviors. In efforts to reduce bias, this researcher kept the surveys anonymous, and the survey scales did not contain identifying questions. The descriptive statistics were displayed in tables in the results section.

This study administered surveys to participants to determine their perceptions of outcomes-based assessments and how their perceptions of school goal structures, instructional approaches, and personal teaching efficacy related to their students’ authentic outcomes-based assessment scores. The research method was inspired by previous researchers discussed in the literature review. Roeser et al. (1996) used PALS scales to seek relationships between students’ perceptions of school goal structures and their psychological states related to school. Midgley et al. (1998b) used surveys in their longitudinal study to relate the learning environment to adolescent motivation. In more recent studies, Ben-Eliyahu et al. (2017) administered surveys to
study the effect of gender on social and academic goal orientations of gifted youth. Kilday et al. (2016) used surveys to investigate teacher self-efficacy for student-oriented teaching (SE-SOT). Miller et al. (2017) used surveys to relate students’ perceptions of teacher competence and respect. They also investigated relationships between teacher self-efficacy and perceptions of student academic behaviors. Murray et al. (2012) used descriptive research to seek correlations between students’ grades and accessing materials. Wiesman (2016) conducted survey research to gain teachers’ perceptions of student motivations.

The other method of research that was used in this study was a correlational design. Correlational studies frequently use measures such as surveys, interviews, observations, and other tests. Researchers use experimental designs so they can control the independent variable and determine the impact on the dependent variable (Harris, 2014). Adams and Lawrence (2014) clarified that descriptive research describes a population, but experimental studies investigate relationships between variables. Nonexperimental studies could come close to experimental studies if the researchers use a variety of measures and linear regression (Bowen, 2013). Often times, researchers use the Pearson product-moment correlation coefficient (Pearson’s $r$) to determine if linear relationships exist between variables. The variables are measured to see if there is a positive or negative direction of relationship, which would indicate the strength of the relationship. If the scores of two measures move in the same direction, there is a positive correlation. If the scores move in opposite directions, there is a negative correlation. Cronbach’s alpha ($\alpha$) could be used to check for consistency by looking for correlations among responses.

Multiple independent-groups designs could be used with correlational, quasi-experimental, or experimental studies (Adams & Lawrence, 2015). Adams and Lawrence (2015) explained that a multiple independent-groups design is used when the researcher wants to
compare multiple (three or more) levels of a variable. Each group of participants has unique characteristics. If the researcher had to conduct a separate study for each variable, more participants would be needed, but a multiple independent-groups design allows the researcher to compare multiple variables in one study.

Chang and Tseng (2011) and Pintrich (2000) conducted correlational studies. Chang and Tseng (2011) investigated the impact of a Web-based portfolio assessment system on PjBL. They used an independent t-test and the Pearson’s Product-Movement Correlation to look for statistically significant differences between the two groups. Pintrich’s (2000) study used four sets of variables and four groups of participants. Because Pintrich (2000) collected data over three different time periods, he used two-way ANOVAs to measure the interaction of mastery goals and performance goals by time. The ANOVA is a statistical test that determines causation (Adams & Lawrence, 2015). It analyzes the relationship between the grouping variable and the measured variable in correlational and quasi-experimental designs. A one-way analysis is used when there is only one variable present in the study. The statistical test compares variances between and within groups. The two-way or three-way ANOVA is used when the study has more than one variable.

Pintrich (2000) used a three way ANOVA to measure the interaction between mastery and performance goals over time. When researchers use the ANOVA statistical test, they need to compute a post hoc test after finding a statistical significance (Adams & Lawrence, 2015). The post hoc test makes comparisons between groups. One limitation researchers have to be prepared for is a type I error because of the increased number of comparisons. To avoid this problem, researchers can use a statistical correction in the form of a post hoc test. This study utilized methods used by Pintrich (2000) due to seeking correlations between the variables of teachers’
perceptions of school goal structures, mastery and performance approaches to instruction, teacher efficacy, and the participants’ students’ outcomes-based assessment scores.

Ames and Archer (1988) and Ford et al. (1998) used experimental designs. Ames and Archer (1988) conducted an experimental study to determine relationships between “motivational processes” and “mastery and performance goals” (p. 260). They wanted to know how mastery and performance goals impacted students’ perceptions of classroom experiences, and how assignment choices, attitudes, and views of achievement influenced adoption of goals. Ford et al. (1998) conducted a quantitative study to examine relationships between learning outcomes and the participants’ abilities to transfer knowledge. They specifically looked at relationships between the participants’ goal orientations, metacognitive processes, and desired outcomes of knowledge, skills, and self-efficacy. This study offered some similarities to Ames and Archer (1988) and Ford et al. (1998) in the sense of determining relationships between variables related to goal orientations.

As indicated in the methodological review, multiple methodologies could be used to study assessment practices. The researchers in the aforementioned studies utilized grounded theory approach, phenomenology, descriptive research, experimental and nonexperimental designs, self-report surveys, mixed-methods, and action research. The studies demonstrated an expansion of empirical knowledge in the topics of motivation, self-efficacy, achievement goals, and forms of outcomes-based assessments. Nevertheless, the studies offered limited information about instructors’ perceptions of approaches to instruction, goal orientations, teacher self-efficacy, and authentic outcomes-based assessments. This literature and methodological review warranted a study that could offer information about teachers’ perceptions of patterns of adaptive learning and their experiences with composing, administering, and scoring outcomes-based
assessments. The results of this study extended knowledge about teachers’ perceptions of patterns of adaptive learning and the practicality and feasibility of alternative assessment practices in the general education setting of public middle schools.

**Synthesis of Research Findings**

The aim of the literature review was to better understand factors that impact learning and to seek alternative methods of conducting assessments that tap into individuals’ achievement goals. The inclusion criteria in the literature review included studies that focused on individuals’ underlying reasons for learning, teacher self-efficacy, and methods of authentic outcomes-based assessments. The studies reviewed indicated relationships between learning, performance, achievement, and outcomes. The exclusion criteria included objective forms of measurement. Some commonalities that surfaced between the studies reviewed included the need for teachers to establish mastery oriented classroom environments and for learners to participate in subjective forms of measurement representative of real applications used in daily practices in society.

**Teacher self-efficacy (TSE).** Kilday et al. (2016), Wiesman (2016), and Miller et al. (2017) investigated teacher self-efficacy (TSE) and teachers’ understandings of student motivation. Wiesman (2016) addressed teachers’ perceptions of what motivates students, and Kilday et al. (2016) and Miller et al. (2017) addressed TSE, which concerns teachers’ motivations and their instructional beliefs and practices. Miller et al. (2017) and Wiesman (2016) agreed that teachers and students are under pressure to demonstrate success on assessment measures while learning 21st century skills at the same time. Kilday et al. (2016) and Miller et al. (2017) believed teachers with high levels of self-efficacy achieve greater student outcomes because of the way they structure their classrooms to blend their learning beliefs with their perceptions of students. They proposed that teachers with high self-efficacy structure classrooms
to influence mastery goals, which fosters quality instruction and increased academic achievement.

**The impact of metacognition on achieving outcomes.** Students’ perceptions of their teachers and learning environments impact their motivation and willingness to engage in learning processes (Miller et al., 2017; Roeser et al., 1996). Likewise, teachers’ perceptions of their students drive their instructional decisions and methods of interactions with their students. Past researchers (Ames & Archer, 1988; Ben-Eliyahu et al., 2017; Dweck & Leggett, 1988, Ford et al., 1998; Kaplan & Maehr, 2007; Midgley, 2002; Pintrich, 2000) found that teachers could influence students to adopt mastery goals based on the learning activities, interactions, and evaluation in classrooms. Classroom activities that inspire students to master concepts and form meaningful connections encourage mastery behavior (Ford et al., 1998). Mastery goal oriented classrooms encourage students to participate in challenging tasks even if it means learning from mistakes (Miller et al., 2017).

Ames and Archer (1988), Ben-Eliyahu et al. (2017), Ford et al. (1998), Newton and Martin (2013), Pintrich (2000), and Vansteenkiste et al. (2014) conducted studies that evidenced how the cognitive processes of individuals affect the way they learn, perform, and achieve outcomes. The consensus was that individuals’ perceptions of learning and achievement are linked to their goal orientations. Individuals who are mastery goal orientated appreciate learning and developing skills, whereas individuals who are performance goal oriented are more concerned with outperforming others. Mastery goal oriented individuals take risks and work through difficult problems, but performance goal individuals tend to avoid challenging tasks. Ben-Eliyahu et al.’s (2017) found that academic mastery goal orientations predicted course performance, and Newton and Martin (2013) found that participants’ deep learning approach
scores were suggestive of their exam responses. Unfortunately, state standardized testing may interfere with teachers’ abilities to establish mastery goal oriented learning environments (Miller et al., 2017).

**Assessment practices.** Newton and Martin (2013) inferred assessments could serve purposes beyond evidencing knowledge of content. They claimed assessment tools could make connections between the course expectations, understandings of course objectives, comprehension of content, and approaches to learning. Their reasoning was that students do more than earn grades from tests; they also interact with course goals and materials in their preparation and participation of assessments. Newton and Martin (2013) explained that the results of their study suggested that alternative assessments could be used to foster deep learning as students progress through the hierarchal levels outlined in Bloom’s taxonomy.

**Outcomes-based education and assessments.** Educators and learners could choose from a variety of outcomes based assessments. Some examples detailed in the literature review included competency-based assessments, portfolio assessments, project-based assessments, and performance-based assessments. Some of the studies demonstrated the use of digital tools and media integrated into the assessment designs. All of the studies discussed relationships between assessment practices and student achievement. Some of the studies included valuable information about relationships between assessment practices and students’ perceptions of goal orientations. The assessments featured in the studies evaluated students’ products, competencies, and levels of motivations and self-efficacy. The studies featured in the literature review could help educators make decisions about assessment practices suitable for their criteria.

Wiesman (2016) stated that teachers should include alternative assessments that offer real world applications to increase student motivation. In addition, digital devices could enrich
learning and assessment processes (Baker et al., 2016; Bolat & Bobeva, 2014; Coulby et al., 2011). More specifically, Holmes (1997) found that project-based assessments impact student learning, attitudes, and viewpoints. Smith (2016) determined that authentic projects motivate students and encourage collaboration, creativity, experiential learning, and self-efficacy, which are traits unseen in standardized assessments. Finally, McIntosh and Milam (2016) discussed using performance-based assessments such as debates to fulfill competencies that pertain to leadership, analysis, critical thinking, and the transfer of knowledge across multiple disciplines.

**Competency-based assessments.** Coulby et al. (2011), Baughman (2012), and Dabbagh and English (2015) completed studies investigating competency-based assessments. Coulby et al. (2011) targeted a technology-based application to augment competency-based assessments. They determined that digital devices accentuated the learning process, and the organized formative assessment process helped students make improvements due to the amount of feedback they received. Baughman (2012) investigated the impact competency-based learning and assessment had on student professional development. Results of the study demonstrated that the participants preferred the self-assessments and peer-assessments, and the students indicated they increased skills through experiential learning and experience. Dabbagh and English (2015) were able to demonstrate how portfolios developed in competency-based programs could be used to demonstrate learning, skills, and curriculum areas that need development.

**Project-based assessments.** Researchers have demonstrated how project-based assessments encourage students to participate in common practices such as collaborating, collecting data, and solving problems (Chang & Tseng, 2011; Pearlman, 2006). Educators could present real world scenarios that would foster collaboration between students and development of products. Some of the studies featured in the review of literature included studies that
employed project-based assessments. First, Bolat and Bobeva (2014) investigated the impact electronic tablets had on motivating students to participate in assessments that used wikis and electronic portfolios. They found that using tablets in a PjBL assessment enabled users to post reflections, customize tools, and complete activities in a timely manner. The tablets also offered opportunities for creativity, flexibility in location, and user-friendly functions. Next, Mann et al. (2011) designed a project that involved teachers who wanted to pursue educational leadership. Finally, Smith (2016) examined students’ reflective videos that told of their learning experiences.

**Portfolio-based assessments.** Portfolios are methods of evaluation that involve students assembling a showcase of their work and achievements. The products could be personal yet reflective of intended learning outcomes. Chang and Tseng (2011) and Newhouse (2014) conducted studies that investigated portfolio assessments. Chang and Tseng (2011) investigated how a Web-based portfolio assessment system could impact PjBL. They wanted to analyze student performance, accomplishments, and self-perceptions. They found a significant difference in self-perceptions, which were found to be higher in the experimental group of 30 that used a Web-based portfolio assessment as opposed to the control group of 30 that used a traditional assessment. Based on the results of their study, they suggested considering students’ opinions about their performances in final grade calculations. Newhouse (2014) conducted a study that examined transitioning from traditional physical portfolios to digital portfolios for the purpose of high-stakes summative assessments. The study involved visual arts and design secondary courses in Western Australia, which was later determined too difficult to represent with digital media. A review of achievement scores, observations, interviews, and surveys taken from the students and teachers of ten visual arts and design courses revealed that the digital portfolios were not necessarily better than the traditional portfolios. The digital portfolios were well received by the
design teachers, but the visual arts teachers preferred the traditional portfolios due to the art medium.

**Performance-based assessments.** Performance-based assessments could take the form of performance tasks in which students have to transfer knowledge (Wiggins & McTighe, 2011) or complete something authentic in response to a presented real world scenario or concept (Abbott & Wren, 2016; Brindley, 1998). The tasks could involve works of writing, debates, role-plays, or other performances (Driscoll & Wood, 2007). Baker et al. (2016) and McIntosh and Milam (2016) conducted studies that analyzed different types of performance-based assessments that required students to engage in critical thinking and transfer of knowledge to real world scenarios. Baker et al. (2016) conducted a study to learn more about virtual performance assessments (VPA). They wanted to analyze how students managed scientific inquiry during a VPA. They found that the highest achieving students were those who read the selections and identified correct hypotheses. They determined VPAs were useful methods of monitoring students’ methods of scientific inquiry. McIntosh and Milam (2016) used open-ended surveys to interview individuals involved in debate programs. The results of their study indicated that debates could be used as alternative methods of assessment that also exemplify democratic education.

**Review of assessment practices.** Educators could explore multiple assessment options to evaluate student learning and attainment of desired outcomes. The studies reviewed featured examples of simulations, competency-based assessments, portfolio assessments, and project-based assessments. Coulby et al. (2011) demonstrated how digital devices could strengthen the learning process and increase methods of feedback. Baughman (2012) found that students gain desired learning outcomes through a culmination of processes, resources, and experiences. Dabbagh and English (2015) demonstrated how portfolio assessments could be used to evaluate
student learning and identify curriculum areas that need to be strengthened. Chang and Tseng (2011) discovered the value of students’ perceptions of their learning and performances. Newhouse (2014) found that some products, such as art projects, are not suitable for evaluation with digital means. Bolat and Bobeva (2014) outlined the benefits of using tablets in a PjBL assessment. Mann et al. (2011) determined that simulation programs could be worthwhile methods of learning and assessment. Finally, Smith (2016) found that students value learning through experiences and reflection.

**Critique of Previous Research**

Educators have expressed their frustrations about standardized testing, and they have advocated for alternative forms of assessments that stimulate creativity and critical thinking (Midgley, 2002). The literature acknowledged authentic forms of outcomes-based assessments as unique methods of evaluations such as competency-based assessments, portfolio assessments, and project-based assessments. Many of the assessment forms incorporated current forms of digital tools and media. In addition, the studies demonstrated relationships between assessment practices and student achievement.

The studies presented in the literature review offered relevant information related to learning and assessment. The researchers presented clear purposes and answered research questions. Most of the studies were based on theories prominent in the educational world, and the researchers explained how the results of their studies could further pedagogical practices. Decisions for this study were made based on the experiences, results, and suggestions of the researchers featured in the review of literatures. This study modeled the research practices of Ames and Archer (1988), Ben-Eliyahu et al. (2017), Ford et al. (1998), Kilday et al. (2016),

**The impact of metacognition on achieving outcomes.** Ames and Archer (1988), Ben-Eliyahu et al. (2017), Ford et al. (1998), Kilday et al. (2016), Miller et al. (2017), Newton and Martin (2013), Pintrich (2000), Roeser et al. (1996), Vansteenkiste et al. (2014), and Wiesman (2016) heightened awareness of relationships between cognitive processes and achievement. The information they provided in their studies clarified how students’ perceptions of learning and achievement are related to their goal orientations. They also offered information about the role of educators in establishing school and classroom goal structures. As a result of their studies, educators could learn how to structure their schools and classrooms to foster mastery goal orientations and deep learning aptitudes.

Kilday et al. (2016), Wiesman (2016), and Miller et al. (2017) conducted studies that targeted goal orientations, self-efficacy, and teachers’ perceptions of motivational techniques. Their studies described the participants, methods, and procedures used in survey research. Similar to the correlational portion of this study, they used survey questions adopted from previous studies, and they used multilevel regression analyses to analyze the data. In their reports, they used tables to support the data. Kilday et al. (2016), Wiesman (2016), and Miller et al. (2017) considered teachers’ roles vital to creating positive classroom climates and centers of learning. The consensus on behalf of the researchers was that if teachers employ the strategies suggested by the researchers, they might be able to boost student achievement. The information learned from their studies could be helpful to educators during times of professional development.
Ames and Archer (1988) studied relationships between motivational processes and mastery and performance goals. Their descriptive design used random selection of 176 secondary students. Scores were analyzed to group the participants in the following categories: performance-high mastery (Hi-Hi), low performance-high mastery (Lo-Hi), high performance-low mastery (Hi-Lo), and low performance-low mastery (Lo-Lo). The study included survey instruments to collect data about learning strategies, activity selections, attitudes, and causal attribution. They used statistical measures to determine relationships between variables. Their report included the survey questions, charts, and tables to demonstrate the results of descriptive statistics and correlations between measures. They discussed an implication to the study, but they did not offer limitations or suggestions for future research.

Ford et al. (1998) conducted a study to examine how goal orientations and metacognitive practices lead to achieving outcomes and transferring knowledge. They offered a detailed description of their participants and procedures. They used statistical measures to analyze several variables related to achievement, and they displayed the data they gathered in charts. Essentially, Ford et al. (1998) found that mastery goal oriented individuals choose to engage in higher-level metacognitive activities, which extend learning, but they did not find a relationship between performance goal oriented students and metacognitive activities. Their findings related to the variables were explained, and they made arguments defending the findings of their study. Finally, they discussed limitations to their study and made suggestions for future research.

Pintrich (2000) conducted a study to examine how students’ cognitive and metacognitive strategies would continue over time and whether they would influence changes in goal preferences. The study included a review of literature and clearly detailed information about the participants, methods, and procedures. Self-report surveys were administered to participants over
two consecutive school years. Statistical measures were used to analyze the data. The study concluded with implications for educators to structure classrooms to encourage mastery goal perspectives. Limitations and suggestions for future research were indicated.

Newton and Martin (2013) studied surface and deep approaches to learning. They defined the concepts and explained the purpose for their study. They offered a literature review and explicit information about the participants, methods, and procedures. They referenced existing theories and used reliable instruments to collect data. Results of their study reinforced existing knowledge and characteristics of surface and deep approaches to learning. In addition, they used the results of their study to illuminate the notion that students need to master skills at the lower levels of Bloom’s taxonomy before proceeding to higher levels. They discussed their findings at all levels, and they revealed limitations and made suggestions for future research.

Ben-Eliyahu et al. (2017) examined gender influences on social and academic goal orientations of gifted youth. They developed several hypotheses to test. They predicted they would see relationships within domains, but not necessarily across domains. They described their participants, method, and procedures, which included gaining parental consent. Participants were surveyed prior to the summer program, at the end of the program, and six months after the program. The surveys were drawn from existing sources. Multiple regression analyses evidenced a positive relationship between academic mastery goal orientations and scholastic competence for boys and girls, but they did not find any relationships between social goal orientations and scholastic competence. Some limitations expressed by Ben-Eliyahu et al. (2017) included using a sample of gifted students attending a program structured towards mastery-oriented classroom goals. They explained the need for additional studies in other settings to see how the results...
would vary. Future studies that feature longitudinal research could examine how the results would vary over time.

Ben-Eliyahu et al.’s (2017) study offered informative information about social and academic goal orientations on many different levels. They found several correlations between the tested variables, but they did not determine if social and academic goal orientations could serve as predictors of outcomes-based assessment scores. The bulk of their study focused on the results of student measures and how the different variables related to each other. This study employed some of the same statistical measures used by Ben-Eliyahu et al. (2017), however; the surveys used in the study sought relationships between teachers’ perspectives of classroom goal orientations, teacher self-efficacy, and the results of students’ outcomes-based assessment scores.

While the studies by Ames and Archer (1988), Ben-Eliyahu et al. (2017), Ford et al. (1998), Newton and Martin (2013), Pintrich (2000), and Roeser et al. (1996) offered information about the importance of goal structures and classroom climate influencing students to adopt mastery goal orientations, the researchers did not look for correlations between goal orientations and outcomes-based assessments that model mastery goal characteristics. In addition, they did not survey instructors to determine their views of assessment practices that build upon mastery goal traits. Their studies could have been strengthened by including teachers’ opinions of outcomes-based assessments that support mastery oriented classroom environments.

Kilday et al. (2016), Wiesman (2016), and Miller et al. (2017) added to the empirical knowledge of self-efficacy and student motivation. Ames and Archer (1988), Ben-Eliyahu et al. (2017), Ford, et al. (1998), Newton and Martin (2013), Pintrich (2000), and Vansteenkiste et al. (2014) offered the educational community information about cognitive processes necessary for learning and achievement. It was obvious from their studies that individuals make choices that
help or hinder their ability to achieve. Educators may be able to structure their classrooms to encourage effective processes, but it would ultimately be each student’s choice to conform. The problem could be deeper than people realize. More studies and literature reviews targeting neurological processes may need to be conducted to better understand influences underlying choices for goal orientations. Nevertheless, educators could benefit from knowing if teachers’ perceptions of school goal structure, mastery and performance approaches to instruction, and teacher efficacy could serve as predictors of outcomes-based assessment scores of middle school students.

The above-mentioned researchers recommended future research to gather perspectives of learning outcomes from students, but they did not consider gathering teachers’ perspectives. Ames and Archer (1988), Ford et al. (1998), and Roeser (1996) encouraged educators to structure school and classroom environments in a manner that inspires students to embrace mastery goal orientations. Their recommendations gave reason to seek correlations between teachers’ perspectives of school goal structure, mastery and performance approaches to instruction, teacher efficacy, and students’ outcomes-based assessment scores. Therefore, this study differed from previous studies in the sense of investigating the teachers’ perspectives of outcomes-based assessments administered to sixth and seventh grade students as well as seeking relationships between the reported mean LAA scores and the participants’ responses to the PALS survey scales.

Miller et al. (2017) offered limitations to their study and suggested additional research in the area of teachers’ behaviors. More specifically, they stated that future studies should seek relationships between different levels of self-efficacy and student outcomes. Instead of determining if teacher self-efficacy is a predictor of goal orientations and methods of
instructional delivery as in Kilday et al.’s (2016) study, the correlational portion of this study surveyed teachers’ perspectives of school goal structures, mastery and performance approaches to instruction, and personal teaching efficacy. In addition, this study checked for correlations between the said variables and the participants’ students’ outcomes-based assessment scores.

Like Miller et al. (2017), this study used survey instruments with five point Likert scales adopted from Midgley et al.’s (2000) Patterns of Adaptive Learning Survey (PALS). The Spearman’s rho was used to analyze results. This study plotted the results of the PALS scales into scatterplots to review high and low mastery and performance orientations similar to Ames and Archer (1988) and Pintrich (2000). This study differed from Pintrich’s (2000) study by surveying perspectives of teachers instead of students, and the PALS survey results were correlated to the reported mean authentic outcomes-based assessment scores instead of traditional summative assessment scores. The outcome of this study could drive other researchers to consider relationships between teachers’ perceptions and student achievement.

**Authentic outcomes-based assessments.** Baker et al. (2016), Baughman (2012), Chang and Tseng (2011), Coulby et al. (2011), Dabbagh and English (2015), Newhouse (2014), Mann et al. (2011), and Smith (2016) conducted studies seeking various forms of achievement demonstrated in different types of authentic outcomes-based assessments. All of the researchers explained the purposes of their studies and discussed their findings from their literature reviews. They elaborated on the participants, methodology, and procedures. They used statistical measures to evaluate and analyze data to determine themes and draw conclusions. Finally, they reported limitations and made suggestions for future research.

**Simulation-based assessments.** Mann et al. (2011) created a simulation project to expose teachers interested in educational leadership to real life administrative duties. They used
technology to create the simulations. They discussed their participants and procedures. Their study involved a simulation, which is a form of an outcomes-based assessment. They gathered participants’ perspectives of using the program as a learning tool. They revealed strengths and weaknesses reported by students, but they did not gather perspectives of outside evaluators to offer insight about the participants’ performances in the simulation program. They did not determine the participants’ goal orientations, and they did not look for relationships between variables as designated in this study.

**Competency-based assessments.** Coulby et al. (2011), Baughman (2012), and Dabbagh and English (2015) examined different aspects of competency-based assessments. Coulby et al. (2011) investigated using mobile technology in pedagogical practices. Baughman (2012) conducted a mixed methods study to determine the impact of competency-based learning and assessment on student professional development. Dabbagh and English (2015) investigated student competencies in an Instructional Design (ID) program. Baughman (2012) and Dabbagh and English (2015) did not consider instructors’ viewpoints of students gaining competencies. They stated the results of the surveys could help educators determine areas of the curriculum that needed development, but the instructors were not given an opportunity to communicate possible causes or reasons for the reported concerns or shortfalls.

Dabbagh and English (2015) alluded that student proficiency ratings were not necessarily favorable measures to evidence student learning because there was nothing to substantiate the students’ self-reports of learning. They noted in their limitations that future studies should include outside observations to validate student self-reports of learning. They made a suggestion to compare data with a pre-test/post-test design. Coulby et al. (2011) included teachers’ input about using digital technology to support learning and assessment practices, but their overall
study could not be generalized to a larger population due to their small sample size. Like Baughman (2012) and Coulby et al. (2011), this study would be limited to a small number of participants; however, this researcher would use their strategy of defending findings with valid arguments. Finally, this study would analyze assessment scores and consider teachers’ perspectives of goal orientations and authentic outcomes-based assessments being used to evidence student learning.

**Project-based assessments.** Smith (2016) conducted an ethnographic case study to investigate PjBL. Empirical and theoretical literatures were reviewed which established the conceptual framework of social constructivist views of experiential learning, which is similar to the conceptual review section of this study. The researcher described the participants, method of data collection, and procedures for coding, categorizing, and analyzing the data. Triangulation of the data and evident themes that surfaced during the time of data collection and analysis were explained. Implications and suggestions for future research were defined in the study. Smith (2016) contributed to existing literature by evidencing learning through experiences and reflections as part of PjBL. This study utilized a similar theoretical framework; however, Smith’s (2016) study focused on data collected from students who participated in an authentic outcomes-based assessment, whereas this study focused on teachers’ perspectives of using an authentic outcomes-based assessment to evidence the learning of middle school students.

**Portfolio assessments.** Bolat and Bobeva (2014), Chang and Tseng (2011), and Newhouse (2014) conducted studies that investigated portfolio assessments. Bolat and Bobeva (2014) examined the impact of electronic tablets on students’ motivations to participate in technology-based assessments. They discussed their theoretical review of literature, which informed the design of their study. They used a matrix to classify and summarize observations,
ideas, and reflections revealed by the participants, instructors, and stakeholders. Bolat and Bobeva (2014) determined that tablets were an effective means of motivating students to participate in online assessments. They considered relationships between goal orientations, and they collected perspectives of students, teachers, administrators, and stakeholders. This study contained some similar characteristics by studying one form of authentic assessment and using matrices to report data, but Bolat and Bobeva (2014) used a more diverse population of participants.

Chang and Tseng (2011) wanted to determine how a Web-based portfolio assessment system could impact PjBL. Their study used pre-tests and post-tests to evaluate student learning and perceptions of success. Their study utilized experimental and control groups comprised of middle school students, and they used statistical measures to analyze data. In regards to the achievement data gathered for this study, this researcher used the reported means of the outcomes-based assessment scores of the participants’ students in the middle school setting as opposed to the pre and post-test scores used in Chang and Tseng’s (2011) study. This study placed focus on surveying teachers’ perspectives of authentic assessment instead of measuring learning and perceptions of success before and after an intervention.

Newhouse (2014) conducted a study that compared traditional portfolios and digital portfolios as assessment measures in visual arts and design secondary courses. The researcher took information from a three-year study he previously participated in and completed an analytical review of the results. New data was collected in a variety of forms including achievement scores, observations, interviews, and surveys. The study was one of few that included perspectives from educators. The results of the study demonstrated a relationship between two tested variables, but there were limitations with trying to create digital portfolios.
with works of art. The students and teachers in the visual arts classes expressed their preferences to have the actual artwork scored. Like Newhouse (2014), this study used surveys to collect participants’ opinions about the effectiveness of authentic outcomes-based assessments, but this study also sought relationships between the mean scores of the participants’ students’ authentic assessment scores and teachers’ perspectives of school goal structures, mastery and performance approaches to instruction, and personal teaching efficacy. One similarity between Newhouse’s (2014) study and this study was the expressed concern of subjective and inconsistent scoring between assessors.

**Performance-based assessments.** VanTassel-Baska (2013) explained that performance-based assessments are used as the primary method of judging achievement in the Common Core State Standards (CCSS). A number of researchers investigated forms of performance-based assessments. Baker et al. (2016) investigated virtual performance assessments (VPA). They believed VPAs could nurture cognitive and affective behaviors essential to scientific inquiry as discussed by Bloom (1956) and Krathwohl et al. (1964). Their study utilized random assignment for participants. McIntosh and Milam (2016) investigated using debates as performance-based assessments. They believed debates help individuals achieve competencies associated with transferring knowledge. They surveyed their participants and found that debates foster leadership, analysis, and critical thinking skills.

Baker et al. (2016) conducted an experimental study, but McIntosh and Milam’s (2016) study utilized survey research as conducted in this study. Baker et al. (2016) was able to confer with the empirical literature as they determined that authentic assessments held students accountable for their own learning. Both, Baker et al. (2016) and McIntosh and Milam (2016) discussed the use of 21st century skills in the areas of critical thinking and application of
knowledge to real world scenarios. This study also gathered the participants’ thoughts about authentic assessments evidencing 21st century skills. Their responses were reported in the results section, and implications were made accordingly.

**Chapter 2 Summary**


This researcher applied the argument of authority to determine the conclusion of the study based on the survey responses. The surveys administered for this study offered teachers’ perspectives of school goal structures, mastery and performance approaches to instruction, personal teaching efficacy, and authentic outcomes-based assessments. The literature review incorporated the theoretical frameworks of Bloom’s taxonomy (Bloom, 1956), Gardner’s theory of multiple intelligences (Gardner, 1983), Kolb’s experiential learning theory (Kolb, 2015), and achievement goal theory (Ames, 1992) due to their explanations of learning processes. The literature review proposed sufficient cause for investigating teachers’ perspectives of patterns of adaptive learning and authentic outcomes-based assessments as targeted in the following
research questions: 1) How do middle school social studies teachers’ perceptions of patterns of adaptive learning relate to their students’ authentic outcomes-based assessment scores? (a) How do middle school social studies teachers’ perceptions of school goal structures relate to their students’ authentic outcomes-based assessment scores? (b) How do middle school social studies teachers’ perceptions of mastery and performance approaches to instruction relate to their students’ authentic outcomes-based assessment scores? (c) How do middle school social studies teachers’ perceptions of teacher efficacy relate to their students’ authentic outcomes-based assessment scores? 2) What are middle school social studies teachers’ perceptions of outcomes-based assessments used to measure student achievement?
Chapter 3: Methodology

Introduction

Educators are driven by institutions to demonstrate student learning according to prescribed outcome statements (Brindley, 1998). Outcome statements provide standards and expectations for students, and they serve as guides for educators to plan curriculums and assessment measures. Learning outcomes are frequently labeled as standards, benchmarks, or competencies. Policymakers, stakeholders, and key constituents have been exploring alternative forms of assessments to demonstrate student achievement relative to the outcome statements.

Outcomes-based assessments include challenging tasks that combine theory and practice (Brindley, 1998). The authentic assessments incorporate student centered learning, experiential learning, reflection, collaboration, and real world applications. The assessment methods have attributes that reflect mastery achievement goals, which encourage learners to engage in challenging tasks, develop ability, master concepts (Kaplan & Maehr, 2007; Midgley, 2002), gain new skills, increase competence (Dweck & Leggett, 1988; Kaplan & Maehr, 2007; Midgley, 2002), exhibit self-efficacy skills (Kaplan & Maehr, 2007), and demonstrate academic success (Middleton & Midgley, 1997). Past studies have evidenced that teachers can influence students to adopt mastery goals based on the classroom structure (Midgley, 2002).

The purpose of this quantitative research study was to determine teachers’ perceptions of authentic outcomes-based assessments and to relate teachers’ perceptions of school goal structures, mastery and performance approaches to instruction, and personal teaching efficacy to authentic outcomes-based assessment scores of middle school students. The intention was to increase knowledge about relationships between patterns of adaptive learning and authentic assessment practices as perceived by teachers in one public school district in the state of
Virginia. This study included two quantitative designs that used survey scales to gather information, which produced statistics for analyzation (Fowler, 1988). This study used correlational and descriptive survey research designs. Both designs are common among social studies research (Adams & Lawrence, 2015). Correlational research designs seek relationships without the manipulation of variables (Creswell, 2008). The research method can be used to predict scores, but it does not explain the reasoning behind the scores (Adams & Lawrence, 2015). Survey research is used to gain individuals’ perspectives, opinions, and attitudes of issues under investigation (Adams & Lawrence, 2015; Creswell, 2008).

Surveys were used to gather the participants’ perceptions of school goal structures, mastery and performance approaches to instruction, and personal teaching efficacy to see if the variables could serve as predictors of authentic outcomes-based assessment scores in the middle school setting. The correlational portion of the study was designed to determine if relationships existed between the aforementioned predictor variables and the mean scores of the participants’ students’ authentic outcomes-based assessments. Another study that investigated predictor variables was Ben-Eliyahu et al. (2017) who conducted correlational research to determine if goal orientations could predict course performance, engagement, and self-concept. They also investigated the influence of gender on social and academic goal orientations of gifted students.

The descriptive portion of this study explored the challenges, resources, and scope of authentic outcomes-based assessments administered by the host district. This researcher wanted to know the effectiveness of using authentic outcomes-based assessments to demonstrate mastery of intended outcomes. The objective was to learn more about teachers’ perceptions of authentic assessments based on their experiences and to see if the assessment formats could be used to take theory to practice as discussed in the conceptual review. Wiesman (2016) used surveys to
investigate teachers’ perceptions of motivation, goal orientations, and student self-efficacy. Therefore, this study used mostly closed-ended survey questions to collect data that was analyzed to answer the research questions.

In the correlational portion of this study, participants were administered five PALS scales that were designed for teachers, and they were free and available in the public domain (Rand Corporation, 2020). The PALS scales were originally developed by Midgley et al. (1997), and then they were later revised by Midgley et al. (2000). The researchers who developed the survey instruments used Cronbach’s alpha to determine the internal consistency of the PALS scales (Midgley, 2002). The researchers found the PALS scales valid by confirmatory factor analysis and multiple indices of fit. The scales were tested multiple times across gender and races. The scales were previously correlated with a study by Nicholls (as cited in Midgley, 2002), and they were found valid and reliable. The descriptive portion of this study included researcher constructed survey questions using ordinal, nominal, and interval scales. The survey included some open-ended questions about the participants’ students’ LAA scores and optional information about authentic assessments.

**Incorporating the conceptual framework.** Research designs need to incorporate theory (Creswell, 2013). Ravitch and Riggan (2012) argued that the conceptual framework strengthens the methodology and supports the researchers’ design choices for the study. The conceptual framework supported this study by demonstrating relationships between learning theories and assessment practices. In addition, the conceptual framework worked hand in hand with the literature review. The discussion and conclusion section related results of the data analyzed to the conceptual framework.
The conceptual framework focused on three themes: learning theories, goal orientations, and assessment practices. According to Kolb (2015), alternative forms of active learning such as projects, research, and simulations allow students to learn through real life experiences. Kolb’s experiential learning theory (ELT) shadowed the behaviorist learning theories, which encouraged approaching concepts from simple to complex, interacting with ideas, and ending with assessment. In addition, learners’ behaviors and intellectual interests impact their performances (Gardner, 1983; Krathwohl et al., 1964). Bloom (1956) and his contemporaries developed a taxonomy to classify the objectives of knowledge, comprehension, application, analysis, synthesis, and evaluation. The objectives increase in difficulty as they rise on the pyramid. The types of assessment this study investigated were designed at the upper end of the taxonomy to measure students’ mastery of the intended learning outcomes.

Next, the conceptual review discussed mastery and performance goals. The literature indicated that students with mastery goal orientations tend to achieve higher, portray positive attitudes, self-regulate their learning, and put forth more effort (Ames & Archer, 1988; Covington, 2000; Kaplan & Maehr, 2007; Pintrich, 2000). Students who are performance goal oriented strive to outperform others, but they do not engage in active learning well enough to understand or master concepts. Performance goals were further divided into the categories of performance approach and performance avoidance (Covington, 2000; Kaplan & Maehr, 2007; Midgley, 2002). Students who are performance approach oriented strive to achieve high assessment scores, and students who are performance-avoidance oriented try to avoid failing assessments.

Finally, the conceptual review discussed alternative forms of assessments. The literature evidenced increased interest in transitioning from traditional standardized forms of assessment to
more subjective forms of assessment such as projects, portfolios, and written documents. These assessments could model practices commonly carried out in the workplace and utilize digital technologies representative of what individuals will use during times of employment. While the literature review offered many studies that focused on student learning, this study focused on determining if teachers’ perceptions of school goal structures, mastery and performance approaches to instruction, and personal teaching efficacy could serve as predictors of authentic outcomes-based assessment scores of sixth and seventh grade social studies students. This study also investigated teachers’ perceptions of outcomes-based assessments administered to sixth and seventh grade students in social studies classrooms in the general education setting.

**Significance of the study.** This chapter was written to disclose the study’s purpose, research questions, hypotheses, design choices, target population, variables, data collection methods, and analysis methods, limitations, delimitations, validity, ethical issues, and expected findings. More specifically, the sample, participants, research methods, and issues related to the study were outlined in this chapter. Expectations, theories, variables, relationships, limitations, and relationships between the hypotheses and the research questions were revealed in this chapter. Finally, the purpose, methods, relationships, argument of discovery, and the argument of advocacy were summarized in this chapter.

The conceptual framework served as the foundation supporting the research questions. The conceptual framework was important in shaping the research questions due to the theories about learning, mastering concepts, and demonstrating knowledge. The information and theories discussed in the literature informed the choices made for the methodology. It was originally thought that the significance of this study would lie within the relationships between school goal structures, mastery and performance approaches to instruction, teacher efficacy, and the mean
scores of the participants’ students’ outcomes-based assessments. While the PALS survey scales provided valuable information, the greater impact was found in the participants’ perspectives of administering and scoring the authentic assessments.

**Purpose of the Study**

The purpose of this study was to determine teachers’ perceptions of authentic outcomes-based assessments and to seek relationships between middle school teachers’ perspectives of school goal structures, mastery and performance approaches to instruction, personal teaching efficacy, and the mean scores of their students’ outcomes-based assessments. The research was contained within one school district in the state of Virginia. Past researchers (Ames & Archer, 1988; Ben-Eliyahu et al., 2017; Ford et al., 1998; Newton & Martin, 2013; Pintrich, 2000;) found relationships between students’ goal orientations and their academic assessment scores, but the researchers did not specifically target authentic outcomes-based assessments. Those studies focused on students’ performances, goal orientations, and perceptions of learning and assessment. Few studies contained findings about teachers’ perspectives of school goal structures, mastery and performance approaches to instruction, and personal teaching efficacy.

**Clarification of study.** Due to the lack of empirical literature about teachers’ perspectives of the targeted variables, this study was designed to investigate the scope of outcomes-based assessments as perceived by middle school teachers and to determine if relationships exist between middle school teachers’ perceptions of patterns of adaptive learning and the mean scores of their students’ authentic outcomes-based assessments. Surveys were administered to gather teachers’ perceptions of authentic outcomes-based assessments, school goal structures, approaches to instruction, and personal teaching efficacy. The data were analyzed to determine if middle school teachers’ perceptions of goal orientations serve as
predictors of their students’ authentic outcomes-based assessment scores. Additional survey questions were analyzed to draw conclusions about the effectiveness of authentic outcomes-based assessments. The results of this study offered information about teachers’ perceptions of authentic outcomes-based assessments and the variables that could possibly impact learning goals and authentic assessment practices.

As mandated by legislation, Virginia Department of Education replaced the state standardized assessments in Grade 3 History, Grade 3 Science, Grade 5 Writing, United States History to 1865, and United States History: 1865 to the Present with alternative assessments per House Bill 930 and Senate Bill 306 (Staples, 2014; VDOE, 2014). VDOE (2014) explained the reasoning for transitioning to alternative assessments was to reduce the amount of time spent preparing students for state standardized tests. They wanted students to participate in assessments that could be used to inform instruction. The requirements for the Local Alternative Assessment (LAA) included administering age-appropriate assessments characteristic of authentic performance assessments or portfolios scored with rubrics and other methods used to evidence adequate academic progress. According to VDOE (2014), authentic performance assessments “require students to perform a task or create a product that is typically scored using a rubric” (p. 3). The performance tasks replicate real life events.

School districts in Virginia are able to design the LAA they choose to administer to students in the designated content areas (VDOE, 2014). Per VDOE (2014) guidelines, the assessment process involves collaboration between participating educators and administrators. The LAA could be the combination of multiple assessments, or it could be an explicit assessment method. The assessment must reflect state content standards and integrate multiple subject areas. In addition, VDOE (2014) stated that school districts need to offer professional development to
teachers who administer the LAA within grades and across grades to help them understand the purpose, process, and benefits of the assessment forms.

The descriptive portion of this study analyzed teachers’ perspectives of the effectiveness of the LAA designed to replace a state standardized assessment. The specific type of authentic assessment that the sixth and seventh grade teachers who participated in the study administered to students was a performance task. Rubrics were used to score the assessments prior to the study. The self-constructed survey questions were designed to gather information about the participants’ experiences, beliefs, and attitudes about authentic outcomes-based assessments. In the correlational portion of the study, the mean LAA scores of the participants’ students were correlated with the results of the PALS scales.

**Relationships between variables, theory, and participants.** Goal achievement theory, Bloom’s taxonomy, Gardner’s multiple intelligences theory, and Kolb’s experiential learning theory were used to understand goal orientations and alternative methods of learning and assessment. The results of this study could be used to determine appropriate methods to assess middle school students in the general education setting. Goal theory clarified choices individuals tend to make related to learning (Kaplan & Maehr, 2007; Middleton & Midgley, 1997; Midgley, 2002). Bloom’s taxonomy highlighted the importance of establishing learning objectives and desired outcomes (Bloom, 1956). Gardner’s multiple intelligences theory (Gardner, 1983) and Kolb’s experiential learning theory (Kolb, 2015) helped to reveal methods of active learning and alternative measures used to demonstrate mastery of concepts. The literature review conducted for this study included studies that investigated goal orientations of secondary students, but most of the outcomes-based assessment methods discussed in the literatures were geared towards post-secondary education. The review of literatures did not reveal connections between teachers’
perceptions of patterns of adaptive learning and authentic outcomes-based assessment scores of middle school students.

The information gathered about teachers’ perceptions of the school goal structures, mastery and performance approaches to instruction, personal teaching efficacy, and authentic outcomes-based assessments could be informative to educators when determining appropriate methods of instruction to facilitate learning. Educators could learn from teachers’ observations of authentic methods used to evidence students’ mastery of intended learning outcomes. Teachers’ perspectives of authentic assessment practices could heighten awareness of different methods that could be used to evidence student learning. Their insights could reveal considerations that warrant attention when designing instructional and assessment methods. Stakeholders could use the results of this study to make informed decisions about pedagogical practices.

**Independent and dependent variables.** Educational research is trending toward using variables instead of constructs for purpose statements, research questions, and hypotheses (Creswell, 2008). Creswell (2008) described student achievement as a construct and a score as a variable. The independent variables or predictor variables in the correlational portion of this study were teachers’ perceptions of school goal structures, mastery and performance approaches to instruction, and personal teaching efficacy. The dependent variable or criterion variable included the mean LAA scores reported by the participants in response to one of the survey questions. The data were analyzed to see if relationships existed between the predictor variables and the criterion variable.

The purpose of the descriptive portion of this research study was to gain teachers’ perspectives of authentic outcomes-based assessments to determine if authentic assessment designs were adequate measures of achievement. The survey questions gathered data regarding
the scope, effectiveness, and administration of authentic outcomes-based assessments. Descriptive statistics were used to analyze the data. The results were reported with the assistance of visual supports including graphs and charts.

**Research Questions**

The research questions were constructed to increase knowledge about the effectiveness of authentic forms of outcomes-based assessments and to relate teachers’ perceptions of patterns of adaptive learning to the mean LAA scores reported by the participants. The results of the study could make educators aware of possible predictor variables that could forecast outcomes-based assessments scores. In addition, the results of the study offered teachers’ input about the effectiveness of using authentic outcomes-based assessments to measure student knowledge and mastery of the intended outcomes. The following research questions were explored in this study:

1. How do middle school social studies teachers’ perceptions of patterns of adaptive learning relate to their students’ authentic outcomes-based assessment scores?
   a. How do middle school social studies teachers’ perceptions of school goal structures relate to their students’ authentic outcomes-based assessment scores?
   b. How do middle school social studies teachers’ perceptions of mastery and performance approaches to instruction relate to their students’ authentic outcomes-based assessment scores?
   c. How do middle school social studies teachers’ perceptions of teacher efficacy relate to their students’ authentic outcomes-based assessment scores?
2. What are middle school social studies teachers’ perceptions of outcomes-based assessments used to measure student achievement?
Hypotheses

Correlational designs investigate relationships, and descriptive research describes a sample (Adams & Lawrence, 2014). The question that was addressed in the correlational portion of this study contained a hypothesis. The prediction for this study was drafted in the form of an alternative hypotheses ($H_a$). The alternative hypotheses, also known as experimental hypotheses, was compared to the null hypotheses ($H_o$). Data were collected and analyzed to make the decision to support or reject the null hypotheses. The following hypothesis was formed to test the research question:

1. How do middle school social studies teachers’ perceptions of patterns of adaptive learning relate to their students’ authentic outcomes-based assessment scores?

$H_{1a}$: Middle school social studies teachers’ perceptions of patterns of adaptive learning predict their students’ authentic outcomes-based assessment scores.

$H_{1o}$: Middle school social studies teachers’ perceptions of patterns of adaptive learning do not predict their students’ authentic outcomes-based assessment scores.

Since descriptive research measures behaviors and characteristics instead of testing relationships (Boundless, n. d.), the second research question investigated in the descriptive portion of this study was not suitable for addressing a hypothesis. The information gathered about teachers’ perspectives of authentic assessments was better suited for descriptive statistics. The results revealed some strengths and weaknesses with administering and scoring authentic assessments. The information learned from this study could be used to design an experimental or correlational study appropriate for testing a hypothesis at a later time.
Research Design

The rationale for this research design was rooted in the amount of empirical research about authentic outcomes-based assessments, patterns of adaptive learning, and student achievement. Numerous studies investigated relationships between students’ perspectives of patterns of adaptive learning and their achievement, but the empirical literature offered limited information about relationships between teachers’ perceptions of patterns of adaptive learning and authentic outcomes-based assessment scores of middle school students. In addition, much of the literature about authentic outcomes-based assessments was geared towards higher education. There were few studies about authentic assessments in the middle school setting. Therefore, the purpose of this research study was to gain middle school teachers’ perspectives of authentic outcomes-based assessments and to seek relationships between the predictor and criterion variables.

The research location was chosen partly because Virginia Department of Education replaced state standardized assessments in the social studies curriculum with an authentic assessment format called the Local Alternative Assessment (LAA). The type of authentic assessment that was used by the host district to assess social studies content knowledge was the performance-based task. Sixth and seventh grades were the only middle school grade levels that were required to participate in the LAA. Therefore, the participants who participated in this study were sixth and seventh grade social studies teachers in the general education setting at one public school district in Virginia.

The instruments of measurement used in this study included five survey scales from the Patterns of Adaptive Learning Survey (PALS) created by Midgley et al. (1997) and revised by Midgley et al. (2000), which were used for the correlational portion of the study. The survey data
collected from the PALS scales were correlated with the reported mean scores of the participants’ students’ authentic outcomes-based assessments completed at the end of one quarterly grading period. The survey instrument also included self-constructed survey questions that were designed for the descriptive portion of the study. In addition to the PALS scales, there were self-constructed survey questions designed to gather teachers’ perceptions of outcomes-based assessments.

The questions developed for the self-made questionnaire were designed specifically for this study according to the information Virginia Department of Education (2014) released to guide educators in developing assessments for the LAA. Prior to disseminating the surveys to the participants, the self-made questionnaire was piloted by three middle school teachers who were not participants in the study, but who were familiar with performance based assessments. The individuals who piloted the study participated in a program sponsored by the school district for the purpose of learning about and piloting performance-based tasks and assessments. The survey questions were designed to identify current trends of outcomes-based assessments at the middle school level as perceived by teachers.

**Relationship between conceptual framework and research questions.** The conceptual framework shaped the methodology. It gave bearing to this study due to the discussion of existing learning theories and their relationships to assessment practices. The studies contained within the literature review validated how learning theories drive assessment practices used to demonstrate mastery of intended outcomes. The first theme in the conceptual review discussed learning theories, and the second theme discussed assessment measures. The studies featured in the literature review demonstrated the benefits of transitioning from objective forms of assessment to more subjective forms of assessment such as projects, portfolios, simulations, and
competencies. Chang and Tseng (2011), Driscoll and Wood (2007), and Pearlman (2006) insinuated that alternative forms of assessments could reflect the types of products individuals are responsible for in work-based settings. The methodology designed for this study was determined according to past studies and suggestions made by Adams and Lawrence (2015) and Crewsell (2008; 2013).

**Target Population, Sampling Method (power) and Related Procedures**

**Target population.** Data were gathered for this research study from participants who taught sixth and seventh grade social studies courses at one public middle school in the state of Virginia. Permission to conduct the study was granted by the host district. The research methods and procedures were designed to cause as little disturbance to the instructional setting as possible (Creswell, 2008). The U.S. Department of Education, Institute of Education Sciences, and National Center for Education Statistics (n. d.) considered the host school district as a midsize suburb. The school district had roughly 8,000 students enrolled with a 20% minority rate (Virginia Department of Education, 2017). About 11% of the students enrolled in the school district received special education services, and less than 2% of the students received English language learning supports. More than 75% of the schools in the district were accredited at the time of the study. About 42% of the students received free and reduced lunch (NICHE, 2019). In regards to academics, the host school district demonstrated 80% proficiency in reading and 71% proficiency in math on state assessment tests. The school district maintained a 90% graduation rate.

**Sampling method.** Nonprobability sampling was the sampling method used in this study due to nonrandom selection (Adams & Lawrence, 2015). Probability sampling deals with selecting individuals representative of a population (Creswell, 2008). In this case, however, the
population of teachers who administered the LAA were few in number, so simple random sampling was not an option for this study. Creswell (2008) stated, “In nonprobability sampling, the researcher selects individuals because they are available, convenient, and represent some characteristic the investigator seeks to study” (p. 155). Nonprobability sampling was used because there were not enough teachers who met the criteria for probability sampling. For this study, the participants had to teach sixth or seventh grade social studies, and they had to administer an LAA to their students. There were only eleven possible units at the research site meeting the criteria. Purposive sampling, which is a type of nonprobability sampling, involves a small sample size picked by the researcher due to the specific criteria necessary to help the researcher answer the research questions. The type of purposive sampling that was used in this study was total population sampling because the entire population meeting the criteria, which totaled eleven teachers, was invited to participate in the study. Seven of the eleven teachers invited to participate in this study returned their consent forms. Therefore, the data used for this research was in the form of survey responses collected from seven participants.

**Procedures to inform participants.** The purpose of this study was described in the consent form that was sent to the participants April 14, 2018. The participants were informed in the consent form of how the data would be used as well as the risks, benefits, and methods of ensuring confidentiality (Creswell, 2008) (see Appendix B). They were also informed that their participation was voluntary, and they had the right to withdraw with no consequences. Finally, they were informed that the data would be collected with Qualtrics software, and the survey questions would not contain any identifying factors. The consent forms were returned by the host district on May 10, 2018.
The procedures required participants to complete items adapted from the following PALS scales developed to gain their perspectives as middle school teachers: Perceptions of the School Goal Structure for Students, Approaches to Instruction, and Personal Teaching Efficacy (Midgley et al., 2000). In addition, the participants responded to survey questions specially developed to gain perspectives about the effectiveness of outcomes-based assessments including the need for a hybrid assessment approach, the challenges educators face when scoring outcomes-based assessments, and the resources used by middle school students during times of outcomes-based assessments. The participants were not administered any questions containing identifying factors in efforts to protect their privacy.

**Instrumentation**

This study was designed according to the methods, procedures, results, and suggestions of previous studies. According to the review of past studies, Ames and Archer (1988) developed questions to assess students’ mastery and performance goals. They conducted a factor analysis to classify information into mastery and performance goal categories. Creswell (2008) explained that factor analysis helps researchers pinpoint essential questions on survey scales to be used in a study. The coefficient alphas in Ames and Archer’s (1988) study were 0.88 for the mastery scale and 0.77 for the performance scale.

Midgley et al. (1997) developed the PALS scales since the time of Ames and Archer’s (1988) study. The PALS survey instruments included scales for students and teachers (Midgley et al., 2000). They were originally published in 1997, but they were revised in efforts to place more attention on students’ goal functions instead of behaviors, interests, or influences on behalf of teachers (Midgley et al., 1998). Midgley et al. (2000) explained that the revised scales were better for analyzing data. This study focused on the scales developed for teachers. The
instruments used five point Likert-type scales. The PALS scales that were constructed for teachers, which measured perceptions of school goal structure for students, approaches to instruction, and personal teaching efficacy were used in this study.

The Perceptions of the School Goal Structure for Students was divided into two different scales (Midgley et al., 2000). One was developed to survey teachers’ perceptions of mastery goal structures for students (see Appendix D). The scale surveyed teachers’ perceptions of the school culture promoting deep immersion into the learning process and making meaningful real life connections, even if it meant learning from mistakes. The purpose of the scale (see Appendix D) was to determine if teachers perceived the school as communicating to students that the reason for completing academic tasks is to “develop competence” (Midgley et al., 2000, p. 34).

The other scale (see Appendix E) was developed to survey teachers’ perceptions of performance goal structures for students. The scale surveyed teachers’ perceptions of students trying to outdo or outscore their peers. The purpose of the scale (see Appendix E) was to determine if teachers perceive the school as communicating to students that the reason for completing academic tasks is to “demonstrate competence” (Midgley et al., 2000, p. 35). Developing competence and demonstrating competence were the key differences between the two scales as one would indicate mastery goal tendencies and the other would indicate performance goal tendencies. The perceived performance goal structure for teachers scale surveyed teachers’ perceptions of relations and competitive activity among faculty and administration. The perceived mastery goal structure for teachers scale surveyed teachers’ perceptions of school wide support, improvement, and determination.

The Approaches to Instruction-Mastery Approaches survey (see Appendix F) was designed to survey teacher strategies used to convey to students that the purpose of participating
in academic tasks is to develop competence (Midgley et al., 2000). The Approaches to Instruction-Performance Approaches survey (see Appendix G) was designed to survey teacher strategies used to convey to students that the purpose of participating in academic tasks is to demonstrate competence. Finally, the Personal Teaching Efficacy survey (see Appendix H) was designed to survey teachers’ opinions about their contributions to the academic growth of their students.

According to Midgley et al. (2000), the mastery goal structure for students survey, which was designed to gain teachers’ perceptions, included seven questions with an alpha of 0.81 and a mean of 4.07 (see Appendix D). The performance goal structure for students, which was also designed to gain teachers’ perspectives, included six questions with an alpha of 0.70 and a mean of 3.02 (see Appendix E). The mastery approaches survey, which targeted teachers’ strategies, contained four questions with an alpha of 0.69 and a mean of 3.44 (see Appendix F). The performance approaches survey contained five questions with an alpha of 0.69 and a mean of 2.21 (see Appendix G). The personal teaching efficacy survey contained seven questions with an alpha of 0.74 and a mean of 3.36 (see Appendix H). The scale means of the PALS scales administered for this study were compared to the scale means of Midgley et al.’s (2000) study to determine how the participants used in this study compared to the larger population in regards to high and low mastery and performance orientations.

Descriptive statistics and correlational measures were used to analyze the collected data in order to answer the research questions. Researchers conduct descriptive analysis to determine the means and standard deviations of the variables. Descriptive statistics show trends in collected data. Researchers use other statistical measures to analyze variations between scores. Some correlational studies use the Pearson product-moment correlation coefficient (r) to determine
relationships between the variables (Green & Salkind, 2005). Some basic assumptions associated with the Pearson correlation include bivariately normally distributed variables, random samples, and scores independent of other cases. If the data collected was limited to continuous variables, the Pearson’s $r$ could have been used to determine the correlation coefficient.

This study was designed to collect data with a mixture of continuous and ordinal scales. The PALS scales collect data with a Likert scale using categories that range from strongly disagree (1) to strongly agree (5). Those values could be ordered, but they could not be used to determine exact distances between the scale points. The Spearman’s rho was selected because the statistical measure could be used to rank order data from the PALS scales and the LAA scores to calculate correlation coefficients. Like the Pearson’s $r$, the Spearman’s rho offered correlations that vary between $-1$, a perfect negative correlation, and $+1$ a perfect positive correlation. The results from the Spearman’s rho were used to answer the research question designed for the correlational portion of the study. Descriptive statistics were used to answer the research question designed for the descriptive portion of this study.

**Data Collection**

**Previous studies.** The work of previous researchers was used to determine appropriate statistical measures for this study. Midgley et al. (1998b) conducted a longitudinal study in four Michigan school districts to determine how the learning environment impacted adolescent motivation. They used the PALS scales, which feature a 5-point Likert scale. Pintrich (2000) used two scales modified by Midgley et al. (1998a) to assess students’ mastery and performance goals. The mastery scale was comprised of six questions with an alpha of 0.70, and the performance scale was comprised of five questions with an alpha of .76 during the first wave of data collection. Pintrich (2000) charted the students’ results depending on whether they were
above or below the mean scores. Participants were classified as high mastery, low mastery, high performance, or low performance. The chi-square test was used as a statistical measure, and a 2 X 2 matrix was created to chart the mastery and performance goals.

**Data collection method.** The survey instrument used to collect data for this study included a combination of five PALS scales and some researcher constructed questions. The results from the PALS scales (Midgley et al., 2000) (see Appendix C) were used to address the first research question. The specially constructed questions were used to collect data about teachers’ perceptions of authentic outcomes-based assessments (see Appendix C), which were used to answer the second research questions. To safeguard valid and reliable responses, the survey tool included clear, self-explanatory questions. The survey scales addressed the research questions, and they offered sufficient categories to allow for variation between participants. The PALS scales were numbered one through five (See Appendices D-H). The survey instrument was piloted with three teachers who were trained to create and administer performance-based assessments. Finally, the participants were numbered and listed as case numbers to maintain anonymity of individuals (Creswell, 2008).

Participants completed the survey questions electronically using Qualtrics software. Qualtrics was the survey and data collection program required by Concordia University and Concordia’s Institutional Review Board for the purpose of collecting and analyzing survey data from human subjects. Data was collected with survey questions entered into the Qualtrics software by the researcher. The data was calculated using SPSS and the Qualtrics software suite within three months. Qualtrics allows researchers to develop, administer, and analyze surveys and responses. Statistical Package for the Social Sciences (SPSS) was used to run statistical
measures to analyze the data. Responses were coded in the form of case numbers to ensure confidentiality. The participants’ responses will be stored electronically for three years.

**Operationalization of Variables**

The variables or attributes measured (Creswell, 2008) in the correlational portion of this study were the teachers’ perceptions of the school goal structure for students, teachers’ approaches to instruction, teachers’ personal teaching efficacy, and the mean scores of the participants’ students’ LAA scores. The results of the PALS scales included in the survey instrument indicated their thoughts and actions toward instruction and assessment. To follow appropriate quantitative data analysis procedures for ordinal values, the numerical data collected from the PALS scales were ranked ordered for correlational measures. The mean scores of the PALS scales were charted on scatterplots and matrices similar to Ben-Eliyahu et al.’s (2017) and Pintrich’s (2000) study.

Scatterplots were used to offer visuals of relationships between variables (Green & Salkind, 2005). The relevance of the scatterplots used in this study was to view which quadrants the participants fell based on their scores to identify high and low mastery and performance orientations. The scatterplots offered a visual of high mastery/high performance, high mastery/low performance, low performance/high mastery, and low performance/low mastery. In addition to the scatterplots, correlation coefficients were placed in a correlation matrix. As previously noted, positive correlations exist when the points move in the same direction and negative correlations exist when the points move in opposite directions. Correlations do not exist when patterns are not evident. A very good relationship would have been determined if the correlations fell between .66 and .85. A slight relationship would have been determined if the correlations fell between .20 and .35. Creswell (2008) explained that correlations between .35
and .65 are considered limited. Therefore, relationships between the tested variables would have been determined statistically significant if the correlations fell between .66 and .85.

**Data Analysis Procedures**

Survey questions use “scales of measurement” (Creswell, 2008) to assign values to responses. The two types of scales of measurement are categorical and continuous. Nominal and ordinal scales are categorical, and interval and ratio scales are continuous. In educational research, quantitative investigators often use a combination of categorical and continuous scales; although, interval scales are known to allow a higher range of responses and strengthens statistical analysis (Creswell, 2008). This study used a combination of categorical and continuous scales in the form of ordinal, nominal, and interval scales.

Ordinal scales are used to rank or categorize information from high to low (Creswell, 2008). Some of the survey questions in this study were designed to ask participants to rank their preferred assessment methods from one to six. Nominal scales allow participants to check categories that describe their qualities, behaviors, or characteristics. Some of the survey questions in this study asked participants to select a specific category such as the type of assessment methods and resources used. Interval scales, also known as rating scales or continuous scales, provide response options with equal distances between choices. According to Creswell (2008), questions that utilize the Likert scale that use categories such as those on the PALS scale ranging from (1) strongly disagree to (5) strongly agree are used for both ordinal and interval data.

When the research design was drafted, the plan was to use statistical measures such as an independent-samples t test, Pearson product-moment correlation coefficient (Pearson’s r), and multiple regression analysis to study relationships between the tested variables. After researching
SPSS and best practice statistical methods, it was determined that other measures were needed due to the combined use of nominal and ordinal variables. The reasoning was that the distance between the intervals could not be guaranteed to be equal. The Spearman rho was selected because it was a statistical measure that could use ranked ordered data instead of the means of the scales. Descriptive statistics were used to analyze data for the descriptive portion of the study. The results of the data that were collected and analyzed were represented in tables and charts.

**Limitations and Delimitations of the Research Design**

The surveys that were administered for this study included the perceptions of sixth and seventh grade social studies teachers as well as the reported mean scores of their students’ performance-based tasks in one school district in the state of Virginia. Future studies may want to consider expanding surveys across multiple school districts and grade levels. The small number of individuals who met the criteria for participation in the study limited the results, including the strength of the relationships between the variables. This study gathered teachers’ perceptions, but collecting surveys from both teachers and students could have strengthened the study. In addition, longitudinal research could be used in future studies to survey students over an extended period of time to see if results would change as students advance through grade levels.

**Issues with analysis.** One issue with analysis was the possibility of retaining or rejecting the hypothesis in error. Creswell (2008) stated, “A Type I error occurs when the population values are truly such that there is no effect” (p. 202). A Type I error could result if the null hypothesis is retained or rejected due to scores that are atypical (Adams & Lawrence, 2015). In that case, the unusual scores would cause an inaccurate decision. Therefore, the small sample
size could affect the strength of the relationship of the variables due to the limited comparison of scores (Adams & Lawrence, 2015).

**Issues with self-reporting.** This study was designed to limit issues with self-reporting. The questionnaire was self-explanatory, with mostly closed-ended questions, which were presented in a clear and orderly format. There were two open questions to allow participants to enter numerical data and other optional information about the LAA assessment. The questions developed for the descriptive portion of the study were designed with attention to wording and arrangement to ensure the most reliable answers.

To maximize validity, the survey items were crafted to address the research questions, and they offered sufficient categories to allow for variation between participants. Nevertheless, the participants were answering subjective questions about their perspectives of goal orientations and authentic assessments. Fowler (1988) explained that questions surveying attitudes and opinions could not be tested for validity. The PALS scales included in the survey instrument contained multiple questions to measure similar subjective states and rule out idiosyncrasies. Finally, the instrument was pretested with a small group of teachers who previously participated in a cohort to learn about performance based tasks and assessments used for the LAA.

**Issues with instrumentation.** The PALS instrument modified by Midgley et al. (2000), which was used in the correlational portion of this study, was previously found valid and reliable. The cross-sectional survey instrument constructed for the descriptive or survey portion of this study was developed by the researcher because there were no existing instruments given the uniqueness of the research question being addressed. The questions for the descriptive portion of the study were specifically formulated; therefore, they would not have already been found valid and reliable through previous research like the PALS scales. Fowler (1988) stated,
“In contrast, when people are asked about subjective states, feelings, attitudes, and opinions, there is no objective way of validating the answers” (p. 85). Hence, only the items from the PALS scales were found valid and reliable as determined by Midgley et al. (2000).

The self-made questions for the descriptive portion of the study contained different types of questions related to implementing and scoring authentic assessments, resources used during times of authentic assessments, and the participants’ viewpoints about their experiences with administering the LAA compared to the state’s framework for alternative assessments. The results or outcomes were acknowledged as accurate because the survey questions collected opinions, attitudes, or beliefs about current practices from the participants. The researcher followed the steps outlined by Creswell (2008) for good question construction. The survey instrument included mostly closed-ended questions regarding the participants’ viewpoints and experiences with authentic outcomes-based assessments. The questions were explicit and relevant to all of the participants. Finally, the instrument was piloted to a small number of teachers who were trained in creating and administering authentic performance-based tests. According to Creswell (2008), the pilot test would ensure the participants were able to comprehend and complete the survey questions. Two open-ended questions were added to the survey at the suggestion of those who piloted the survey to gather any additional suggestions from the participants that could be considered in the implications.

**Issues with sampling and time constraints.** The instruments were administered after the host school district administered their fourth quarterly LAA assessment, which was the last LAA assessment for that particular school year. The participants needed about 20 minutes to complete the survey, which could have been completed on a computer or smart phone. A small target population was utilized in this study. Using a small population was risky, as it could have
weakened the study; however, the pool of available participants was low due to the number of middle school teachers who administered the LAA within the host district. A larger number of participants could have yielded results more appropriate for generalizing to a larger population. The results from this study could be used to warrant a new study using multiple school districts in efforts to survey a larger population.

**Setting and boundary choices.** This study was considerate of the psychological state of participants so they would not feel uncomfortable about providing responses (Adams & Lawrence, 2015). The participants were assured that the data would be reported in a manner to protect their anonymity. The survey items did not contain identifying factors. In regards to boundary limitations, this study respected maintaining professional relationships between the researcher, participants, and gatekeepers of the school institution to avoid unethical or accidental exchanges of confidential information (Creswell, 2008).

**Internal and External Validity**

Midgley et al. (1997) developed the PALS scales for researchers studying achievement goal theory. The survey instruments were designed with five-point scales. According to Creswell (2008), it is important for the scores to be consistent which is achieved when an individual demonstrates consistency between closely related questions. Researchers can use the coefficient alpha to determine internal consistency. The internal consistency of the PALS scales was determined based on the results of Cronbach’s alpha (Midgley, 2002). Reliability ensures dependable and unwavering scores when administered several times in different settings (Creswell, 2008). Validity is established when the scores are reliable and meaningful and allow researchers to draw conclusions. The PALS were found valid by confirmatory factor analysis and multiple indices of fit (Midgley, 2002). Midgley (2002) explained that they tested the scales
among students of different gender and then again with students of different races. They correlated their scales with those used in another study by Nicholls and found “positive and significant” (Midgley, 2002, p. 12) results giving evidence of convergent validity.

Fowler (1988) explained that the validity of subjective questions is viewed in a different sense than objective questions. It was suggested that participants might not provide accurate answers to survey questions if they do not know, recall, or understand the information. In addition, participants may not want to answer questions via interviews. In order to avoid these concerns, the questions were first piloted to make sure they were comprehensible and related to the purpose of the research. Then, the survey questions were administered to the participants shortly after they administered the LAA to their students. The questions were clear with an adequate number of categories to allow variability in answers. Participants answered survey questions electronically to ensure privacy, and their anonymity was protected.

**Expected Findings**

The basic expectations of this study included obtaining results consistent with findings from other studies. While the results demonstrated otherwise, it was originally expected that this study would show that the predictor variables affected the criterion variable because past studies demonstrated relationships between goal structures and achievement. In addition, this researcher expected to gain teachers’ perspectives about the effectiveness of authentic outcomes-based assessments of middle school students in the general education setting. The results of this study added to the knowledge of assessment methods and prompted new questions about the impact of goal orientations and motivation on authentic assessment scores. This study created a pivotal point given the time lapse of studies investigating goal orientations and the novelty of investigating authentic outcomes-based assessments. If another study modeling this study was
conducted on a larger scale, it would be possible for statistically significant relationships to surface, which would add more to the empirical knowledge about methods that could be used to predict outcome-based assessment scores. If another study that modeled this study was conducted on a larger scale and yielded the same results as this study, new research questions would arise enquiring about changing trends in goal orientations and academic motivations.

**Ethical Issues in the Study**

The Institutional Review Board (IRB) approval process contained measures for ensuring that the research was conducted in an ethical manner according to national research ethics and the university’s position on research. Some basic principles that were put in place for conducting research involving human subjects include respecting the rights of participants and protecting them by making the best use of the data and minimizing any risks of harm. The IRB protocol entailed the review of several documents including a research proposal description form, an IRB application, an investigator assurance form, a targeted enrollment table, a participant consent form template, a permission letter from the research site, and the survey form used in the study. Permission was granted from the host research site on June 20, 2017. The participant consent forms were disseminated on April 14, 2018, and they were returned on May 10, 2018. Concordia University–Portland IRB approved the research study on September 27, 2017 with an expiration date set one year thereafter.

Ethical issues considered for this study included safeguarding the participants and the research site (Creswell, 2008). The participants in this study included the researcher’s past professional colleagues. The reasoning for inviting the participants to engage in this study was due to their professional roles as social studies teachers who administer the LAA quarterly assessments to students in the sixth and seventh grades. The LAA assessments are required by
the state of Virginia as a form of an alternative assessment to replace state standardized assessments in the social studies content area. The LAA assessment format the participating school district chose to administer was a performance-based task.

This study followed ethical guidelines and suggestions for collecting data and reporting results. As previously noted, consent was obtained from the participants and gatekeepers prior to engaging in the study. Participants and gatekeepers were made aware of the purpose of the research. Participation was completely voluntary without consequences for nonparticipation. Fowler (1988) stated, “A basic guideline is that the researcher should make sure that no individual suffers any adverse consequences as a result of the survey” (p. 136). The participants included in the study were not considered high risk (Creswell, 2008). Their results were numbered by cases to protect their anonymity. The time that was needed to complete the surveys caused minimal disruption to the participants’ duties, and they did not experience any known risks. The data was collected with Qualtrics statistical software, which is the program Concordia University uses to collect data from human subjects. The data collected for the purpose of this study was reported accurately, and it will be stored in the program for three years.

Possible bias. Possible bias included sampling and nonresponse bias (Adams & Lawrence, 2015). Sampling bias could have occurred due to the inability of the nonprobability sample representing a larger population. Creswell (2008) explained that nonresponse bias could have occurred if the response rate was low. In efforts to reduce nonresponse bias, participants received advance notice of the upcoming survey and reminders via email to complete the survey within a reasonable timeframe (Adams & Lawrence, 2015). Adams and Lawrence (2015) stated, “Self-reports may be inaccurate due to the social desirability bias, meaning that participants may respond based on how they want to be perceived rather than how they actually think or behave”
The participants were assured that the questionnaire would be completed electronically, and their identities would remain anonymous to help reduce or prevent social desirability bias.

Chapter 3 Summary

Purpose of the study. This research study was designed to add to the empirical knowledge of goal theory and authentic outcomes-based assessments. Goal achievement theory was tested by relating middle school social studies teachers’ perceptions of school goal structure, mastery and performance approaches to instruction, and teacher efficacy to the mean scores of the participants’ students’ LAA scores. This study sought relationships between teachers’ perceptions of goal orientations, teacher efficacy, and authentic outcomes-based assessment scores. The descriptive portion of this research study was designed to examine teachers’ perspectives of authentic outcomes-based assessments to determine if alternative assessment formats are adequate measures to evidence middle school students’ mastery of social studies concepts. In addition, it was believed that understanding teachers’ perspectives of outcomes-based assessments could help educational leaders and other stakeholders determine the best methods for measuring mastery of student learning.

Argument of discovery. The literature review presented many claims to support the argument of discovery. First, researchers (Ames & Archer, 1988; Pintrich, 2000) found that instructors’ choices to promote mastery or performance goals influenced students’ approaches to learning. Other researchers (Dweck & Leggett, 1988; Middleton & Midgley, 1997) found that mastery goals are linked to learning and increasing ability, and performance goals are linked to proving and demonstrating ability. The literature evidenced that performance goal oriented individuals avoid challenging tasks (Dweck & Leggett, 1988). They do not want to be perceived as failures (Middleton & Midgley, 1997). They want others to view them as competent (Midgley,
Mastery goal oriented individuals embrace challenges (Dweck & Leggett, 1988) and achievement (Middleton & Midgley, 1997), and they demonstrate self-efficacy skills (Kaplan & Maehr, 2007). Past research evidenced that students in mastery goal oriented classrooms performed better than performance goal oriented classrooms (Midgley, 2002). The empirical literature gives grounds for teachers to structure their classrooms to encourage students to adopt mastery goal orientations.

Second, students need to participate in motivating, engaging, and collaborative learning activities to construct knowledge and master objectives (Biggs & Tang, 2007). Students learn best through high levels of interaction with content (Murray et al. 2012), and they acquire competencies through experiential learning and experience (Baughman, 2012). Experiential learning fosters the stimulation of senses and drives students to engage in meaningful activities (Wiggins & McTighe, 2011). Wiggins and McTighe (2011) insinuated that authentic experiences help individuals store and retrieve information. Outcomes-based learning activities (Crespo et al., 2010) such as problem-based learning (PBL) (Huang & Shan, 2012) and performance-based assessments allow learners to gain knowledge, think critically, and apply skills to real world applications. Finally, assessment practices that foster inquiry, critical thinking, reasoning, and problem solving help students translate skills to other environments (Maki, 2002; Villarroel et al., 2018). The conclusions drawn by Ames and Archer (1988), Baughman (2012), Biggs and Tang (2007), Crespo et al. (2010), Huang and Shan (2012), Maki (2002), Mann et al. (2011), Murray et al. (2012), Pintrich (2000), and Wiggins and McTighe (2011) merited the advancement of assessment practices that evidence learners’ skills in a variety of subjective applications. This study investigated the need for educators to transition to alternative, authentic
assessment practices that reflect students’ mastery of learning outcomes, diverse learning styles, and responsiveness to 21st century skills.

**Argument of advocacy.** Students need opportunities to go beyond the scope of traditional multiple choice and true/false exams to demonstrate their ingenuity, skills, and application of knowledge (Driscoll & Wood, 2007). Authentic assessments such as simulations and projects give students opportunities to apply critical thinking skills (Dunlap et al., 2008; Villarroel et al., 2018), demonstrate their skills in real world applications (Villarroel et al., 2018; Wiggins & McTighe, 2011), and showcase skills (Hardiman & Whitman, 2014). Mann et al. (2011) discussed the long term benefits of participating in PjBL environments. Teachers who encourage trying hard, digging deep into the content, and making every effort possible to understand the material encourage mastery goals (Midgley, 2002). Teachers who emphasize answering correctly, achieving good grades, and showcasing the best work encourage performance goals.

There are several types of outcomes-based assessment forms that could encourage adoption of mastery goals. Alternate assessment forms such as competency-based assessments could help students develop the competencies necessary for gainful employment (Baughman, 2012; CIC, 2015). Competency-based education (CBE) allows students to take charge of their own learning and complete assessments in timeframes that are best for them (Mann et al., 2011; CIC, 2015). Projects nurture communication, collaboration, and application of skills (Holmes, 1997) and hold students accountable for their own learning (Pearlman, 2006). Portfolios allow students to accumulate, assemble, and showcase work in different forms. Simulations require individuals to respond to real world scenarios (Mann et al., 2011). Performance-based assessments help students make meaning and transfer knowledge through authentic performance

**Argument of authority.** This research utilized the argument of authority to determine the conclusion of the study based on the survey responses reported by teachers in the field. The survey instruments that were used for this study gathered participants’ attitudes, beliefs, and opinions related to goal orientations, teacher efficacy, and outcomes-based assessments. This study was considered important because the results added to the existing literature about goal orientations and authentic outcomes-based assessments. Researchers could use the knowledge gained from teachers’ perceptions of outcomes-based assessments to frame hypotheses for future testing (Boundless, n.d.). Known relationships between goal orientations, teacher efficacy, and outcomes-based assessments could be used to predict future behavior. The final analysis of results from this study provided information about the attitudes and opinions of middle school social studies teachers who administer outcomes-based assessments to middle school students, and whether goal orientations serve as predictors of authentic outcomes-based assessment scores.
Chapter 4: Data Analysis and Results

Introduction

The purpose of this study was to survey middle school social studies teachers’ perspectives of authentic outcomes-based assessments and explore possible correlations between the participants’ patterns of adaptive learning and the mean scores of their students’ authentic outcomes-based assessments scores. The rational for conducting this study was to heighten awareness of the impact of goal orientations and patterns of adaptive learning on assessment and achievement. Past research evidenced that teachers’ perceptions of goal structures, approaches to instruction, and personal teaching efficacy contribute to their professional identities (Ames, 1992; Kilday et al., 2016; Midgley, 2002; Miller et al., 2017; Newton & Martin, 2013; Roeser et al., 1996; Wiesman, 2016). In addition, past research has demonstrated that assessment and academic performance are factors that influence the goal orientations individuals adopt (Midgley, 2002). Thus, this study investigated if teacher efficacy and goal orientation tendencies could serve as predictors of authentic outcomes-based assessment scores. As described in the conceptual review, achievement goal theory, Bloom’s taxonomy (Bloom, 1956), Gardner’s (1983) theory of multiple intelligences, and Kolb’s experiential learning theory (Kolb, 2015) were used as the framework for investigating teachers’ professional identities and their perspectives of outcomes-based assessments. The conceptual framework was used to link authentic assessment formats to mastery and performance goal-oriented tendencies.

The research conducted for this study took place in one school district in the central Piedmont region of Virginia. The research site was selected due to the administration of Virginia’s Local Alternative Assessments (LAA), which were designed to replace standardized state assessments in certain grade levels and content areas. The format of the LAA follows the
characteristics of authentic outcomes-based assessments addressed in the literature review. The research site was selected due to the administration of one type of authentic outcomes-based assessment known as performance tasks. Respectively, this researcher was familiar with the schools and administration in the school district due to four years of employment as a teacher prior to conducting the study.

The design of this quantitative study included methods of correlational and descriptive survey research. The correlational portion of this study was designed to focus on teachers’ perceptions of mastery and performance school goal structures, approaches to instruction, and teacher efficacy. The descriptive survey portion of this study was designed to investigate teachers’ perspectives of authentic outcomes-based assessments to determine if authentic assessment formats adequately evidence student mastery of intended objectives. The data were analyzed with statistical measures including descriptive statistics and correlational procedures. The results of the surveys and statistical measures were used to answer the research questions. Relationships between variables were analyzed and discussed. The data were displayed in tables and charts to support the writing.

**Research questions.** The following research questions were investigated with the survey instrument developed and administered to the consenting participants:

1. How do middle school social studies teachers’ perceptions of patterns of adaptive learning relate to their students’ authentic outcomes-based assessment scores?

   a. How do middle school social studies teachers’ perceptions of school goal structures relate to their students’ authentic outcomes-based assessment scores?
b. How do middle school social studies teachers’ perceptions of mastery and performance approaches to instruction relate to their students’ authentic outcomes-based assessment scores?

c. How do middle school social studies teachers’ perceptions of teacher efficacy relate to their students’ authentic outcomes-based assessment scores?

H1ₐ: Middle school social studies teachers’ perceptions of patterns of adaptive learning predict their students’ authentic outcomes-based assessment scores.

H1ₒ: Middle school social studies teachers’ perceptions of patterns of adaptive learning do not predict their students’ authentic outcomes-based assessment scores.

2. What are middle school social studies teachers’ perceptions of outcomes-based assessments used to measure student achievement?

Description of the Sample

Enrollment for participation in this research study ran from April 13, 2018 to June 3, 2018. The enrollment included all 11 middle school social studies teachers in the host district who administered the LAA. According to Leedy and Ormrod (2015), it is better to survey the entire population when the population size is less than 100 instead of sampling. Eight participants (72%) completed and submitted their consent forms. Afterward, participants were sent an electronic survey link. Reminder emails were sent to maximize participation. The four individuals who did not return their consent forms during the time of enrollment were sent one additional opportunity to participate by attaching the consent form and a specific question seeking consent within the Qualtrics survey form. In all, seven (88%) of the eight consenting participants completed the survey.
The surveys used for data collection included items from Midgley et al.’s (2000) Patterns of Adaptive Learning Scales (PALS) designed for teachers, which were used for the correlational portion of the study. The remaining questions were self-constructed to collect information for the descriptive portion of the study. Due to the limited number of individuals invited to participate in the study, the survey instrument refrained from questions related to demographics to ensure individual participants could not be identified. The data were collected and contained using the Qualtrics software package as required by Concordia University. Negative influences such as limited opportunity to respond, communication of inadequate response rate, accentuating desired behaviors, or exchange of favors were not used to collect data (Dillman, Smyth, & Christian, 2014).

Summary of Results

The methodological procedures of this research study included using surveys to collect data from the participants. The data collection instrument was designed to survey and analyze the participants’ patterns of adaptive learning and their views about the effectiveness of authentic outcomes-based assessments such as the performance task used by the host district for the Local Alternative Assessment (LAA). Five of Midgley et al.’s (2000) Patterns of Adaptive Learning Scales (PALS) designed for teachers were included in the survey and used for the correlational portion of the study. The PALS scales that were used to inventory teachers’ perceptions of school goal structure, approaches to instruction as related to goal orientations, and personal teaching efficacy were 5-point Likert-type scales. The items ranged from strongly disagree (1) to strongly agree (5).

The remaining questions on the survey instrument were self-constructed and designed to inventory teachers’ thoughts and experiences related to authentic outcomes-based assessments
for the descriptive survey portion of the study. The self-constructed questions focused on teachers’ perceptions of authentic outcomes-based assessments as an effective means of determining student mastery of intended course objectives. The survey questions investigated resources used to assess student knowledge, the challenges educators face when scoring the assessment format, and whether the participants believed authentic assessment methods meet the state’s intended objectives for the LAA. The entire survey instrument was piloted by a small group of expert teachers who were familiar with administering the LAA, but they were not a part of the targeted population. Minor changes were made to the self-constructed questions to improve the survey instrument prior to collecting data from the targeted population.

The data were collected with the Qualtrics software package and analyzed with the SPSS statistical package available through Concordia University. Descriptive statistics were used to examine the reported LAA mean scores in the distribution. Correlations were examined across and between the PALS scales and the reported LAA mean scores. The original research design included using an independent-samples t test to compare the participants’ survey results and the reported LAA mean scores. In addition, the original plan was to use the Pearson product-moment correlation coefficient (Pearson’s r) to seek linear relationships and multiple regression analysis to study the mutual bonds of the tested variables. A deeper investigation into SPSS and statistical measures used for research revealed alternative methods that were more appropriate to answer the research questions given the combined use of nominal and ordinal variables.

According to Gravetter and Wallnau (2017) and University of Strathclyde Humanities and Social Sciences (n.d.), ordinal variables that use values on a Likert scale such as strongly disagree (1) to strongly agree (5) can be ordered, but they cannot be used to determine the exact distance between the scale points. The PALS scales and most of the self-constructed survey
questions were designed using the 5 point-Likert scale ordinal format. Pearson’s $r$ would not have been appropriate because the statistical measure calculates the correlation by looking at the deviances between the individual cases and the means of variables (University of Strathclyde Humanities and Social Sciences, n.d.). The distance between the categories on ordinal scales is undefined. For example, the distance between the categories of disagree and strongly disagree varies among individuals. Therefore, the alternative statistical measure selected to analyze the data was the Spearman’s rho.

Spearman’s rho is a nonparametric version of the Pearson product-moment correlation that uses rank ordered data to calculate a correlation coefficient. It is commonly used to analyze data from questionnaires with Likert scales. The correlation coefficient is represented as $\rho$ or $r_\math{S}$. Researchers use the statistical measure to determine the strength and direction of ranked variables. The statistical measure would indicate if the relationship was monotonic or non-monotonic depending on whether the variables moved in similar or dissimilar directions (Lund Research, Ltd., 2018).

**Detailed Analysis**

**Research question one.** How do middle school social studies teachers’ perceptions of patterns of adaptive learning relate to their students’ authentic outcomes-based assessment scores?

a. How do middle school social studies teachers’ perceptions of school goal structures relate to their students’ authentic outcomes-based assessment scores?

b. How do middle school social studies teachers’ perceptions of mastery and performance approaches to instruction relate to their students’ authentic outcomes-based assessment scores?
c. How do middle school social studies teachers’ perceptions of teacher efficacy relate to their students’ authentic outcomes-based assessment scores?

The null hypothesis that middle school social studies teachers’ perceptions of patterns of adaptive learning do not predict their students’ authentic outcomes-based assessment scores was tested on six criteria including the participants’ reported mean scores from their students’ LAA assessments and the following five teachers’ scales from Midgley et al.’s (2000) Patterns of Adapted Learning Scales: Perceptions of the School Goal Structure for Students-Mastery (see Appendix D), Perceptions of the School Goal Structure for Students-Performance (see Appendix E); Approaches to Instruction-Mastery (see Appendix F); Approaches to Instruction-Performance (see Appendix G), and Personal Teaching Efficacy (see Appendix H). The data were analyzed with the Spearman’s rho to check for correlations between the LAA scores and the PALS scales.

**LAA Scores.** As part of the survey, the participants reported the mean of their students’ LAA scores on a 12-point scale. The reported assessment scores served as the dependent variable for the correlational portion of this study. During data collection, the scores were reported in points according to the assessment rubric. Then, this researcher calculated the points to their 100% equivalents. Descriptive statistics were used to implicitly describe the data. The measures of central tendency and spread in the reported scores were presented Table 1. The cases ($N = 7$) had a mean score of 74.43 ($M = 74.43$, $SD = 11.71$).
Table 1

*Descriptive Statistics for Participants’ Students’ Mean LAA Scores*

<table>
<thead>
<tr>
<th>Statistics</th>
<th>Statistics</th>
<th>Std. Error</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>74.4343</td>
<td>4.42586</td>
</tr>
<tr>
<td>95% Confidence Interval for Mean Lower Bound</td>
<td>63.6046</td>
<td></td>
</tr>
<tr>
<td>95% Confidence Interval for Mean Upper Bound</td>
<td>85.2640</td>
<td></td>
</tr>
<tr>
<td>5% Trimmed Mean</td>
<td>74.4870</td>
<td></td>
</tr>
<tr>
<td>Median</td>
<td>69.2500</td>
<td></td>
</tr>
<tr>
<td>Variance</td>
<td>137.117</td>
<td></td>
</tr>
<tr>
<td>Std. Deviation</td>
<td>11.70972</td>
<td></td>
</tr>
<tr>
<td>Minimum</td>
<td>59.92</td>
<td></td>
</tr>
<tr>
<td>Maximum</td>
<td>88.00</td>
<td></td>
</tr>
<tr>
<td>Range</td>
<td>28.08</td>
<td></td>
</tr>
<tr>
<td>Interquartile Range</td>
<td>20.42</td>
<td></td>
</tr>
<tr>
<td>Skewness</td>
<td>.159</td>
<td>.794</td>
</tr>
<tr>
<td>Kurtosis</td>
<td>-2.346</td>
<td>1.587</td>
</tr>
</tbody>
</table>

*Note. N = 7*

In consideration of the first research question, the participants’ students’ mean LAA scores had to be ranked ordered to prepare them for the designated statistical measures to check for correlations. As previously noted, the test scores were continuous values, but the survey questions addressing the participants’ perceptions about the independent variables were ordinal values. Ranking was achieved by assigning the number one to the lowest LAA mean score and the number seven to the highest LAA mean score. If any of the scores had been identical, they
would have been assigned a mean or average rank, but there were no tied values in this data set (see Table 2).

Table 2

*LAA Scores Converted to z-Scores and Ranked Scores*

<table>
<thead>
<tr>
<th>Case</th>
<th>LAA Mean Scores</th>
<th>LAA Scores Ranked</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>85.92</td>
<td>6.000</td>
</tr>
<tr>
<td>2</td>
<td>59.92</td>
<td>1.000</td>
</tr>
<tr>
<td>3</td>
<td>88.00</td>
<td>7.000</td>
</tr>
<tr>
<td>4</td>
<td>69.25</td>
<td>4.000</td>
</tr>
<tr>
<td>5</td>
<td>85.79</td>
<td>5.000</td>
</tr>
<tr>
<td>6</td>
<td>66.66</td>
<td>3.000</td>
</tr>
<tr>
<td>7</td>
<td>65.50</td>
<td>2.000</td>
</tr>
</tbody>
</table>

**PALS Scales.** The survey instrument included five PALS scales designed for teachers. The PALS scales were categorized according to the following numbers and appendices:

Perceptions of the School Goal Structure for Students-Mastery (PALS scale 1) (see Appendix D), Perceptions of the School Goal Structure for Students-Performance (PALS scale 2) (see Appendix E), Approaches to Instruction-Mastery (PALS scale 3) (see Appendix E), Approaches to Instruction-Performance (PALS scale 4) (see Appendix G), and Personal Teaching Efficacy (PALS scale 5) (see Appendix H). The mean values were reported for the items on each PALS scale, and the values from this study were compared to the larger population used in Midgley et al.’s (2000) study.

The purpose of the questions on PALS scale 1 was to survey teachers’ perceptions that the school conveys to students that the purpose of engaging in academic work is to develop
competence as opposed to the emphasis being placed on the less desired trait of demonstrating competence. While the means of the participants’ responses scored above the midpoint value of 2.5 on the scale ranging from (1) strongly disagree to (5) strongly agree, it is important to note that their collective mean scores fell below those of Midgley et al.’s (2000) larger population (see Table 3).

Table 3

**PALS Scale 1 Descriptive Statistics**

<table>
<thead>
<tr>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>4.44</td>
<td>4.57</td>
</tr>
<tr>
<td>5</td>
<td>4.28</td>
<td>4.29</td>
</tr>
<tr>
<td>14</td>
<td>3.66</td>
<td>2.29</td>
</tr>
<tr>
<td>16</td>
<td>3.73</td>
<td>3.71</td>
</tr>
<tr>
<td>20</td>
<td>4.20</td>
<td>3.71</td>
</tr>
<tr>
<td>22</td>
<td>4.33</td>
<td>4.14</td>
</tr>
<tr>
<td>27</td>
<td>3.86</td>
<td>4.0</td>
</tr>
<tr>
<td>Total</td>
<td>4.07</td>
<td>3.82</td>
</tr>
</tbody>
</table>


PALS scale 2 (see Appendix E) was designed to survey teachers’ perceptions that the school conveys to students that the purpose of engaging in academic work is to demonstrate competence as opposed to emphasis being placed on the more favorable trait of developing competence. Because performance school goal sturctures are less desirable than mastery school
goal structures, it would have been better for the participants to score below the midpoint value. In this case, five of the items scored above the scale items’ midpoint values, and four of the items scored above the mean scores of Midgley et al.’s (2000) study (see Table 4).

Table 4

PALS Scale 2 Descriptive Statistics

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>2.67</td>
<td>3.00</td>
</tr>
<tr>
<td>10</td>
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<td>3.29</td>
</tr>
<tr>
<td>12</td>
<td>3.28</td>
<td>4.00</td>
</tr>
<tr>
<td>15</td>
<td>3.39</td>
<td>2.29</td>
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<tr>
<td>25</td>
<td>3.36</td>
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</tr>
<tr>
<td>29</td>
<td>2.44</td>
<td>3.14</td>
</tr>
<tr>
<td>Total</td>
<td>3.02</td>
<td>2.95</td>
</tr>
</tbody>
</table>


The scale items on the PALS scale 3 (see Appendix F) surveyed perceptions of teacher strategies that convey to students that the purpose of engaging in academic work is to develop competence. The scale items were addressing attitudes of developing competence instead of just demonstrating competence, so ideal scores were located at or above the mean of Midgley et al.’s (2000) larger population (see Table 5).
Table 5

**PALS Scale 3 Descriptive Statistics**

<table>
<thead>
<tr>
<th></th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>4.31</td>
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<tr>
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<tr>
<td>13</td>
<td>3.75</td>
<td>3.00</td>
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<tr>
<td>26</td>
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<td>4.14</td>
</tr>
<tr>
<td>Total</td>
<td>3.42</td>
<td>3.79</td>
</tr>
</tbody>
</table>


Subsequently, the scale items on the PALS scale 4 (see Appendix G) surveyed teacher strategies that convey to students that the purpose of engaging in academic work is to demonstrate competence. Like PALS scale 2, the attitudes of demonstrating competence is less desired compared to attitudes of developing competence; therefore, it would have been ideal to score at or below the mean of Midgley et al.’s (2000) larger population. Instead, the participants scored above Midgley et al.’s (2000) mean on all five questions about perceptions of approaches to instruction with performance goal tendencies (see Table 6).
Table 6

**PALS Scale 4 Descriptive Statistics**

<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>1</td>
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<tr>
<td>17</td>
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<td>19</td>
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<td>2.71</td>
</tr>
<tr>
<td>21</td>
<td>2.42</td>
<td>3.14</td>
</tr>
<tr>
<td>Total</td>
<td>2.21</td>
<td>2.97</td>
</tr>
</tbody>
</table>


Finally, the scale items on the PALS scale 5 (see Appendix H) surveyed teachers’ beliefs that they are contributing significantly to the academic progress of their students and can effectively teach all students. Because these items were addressing positive and negative attributes, it would have been ideal for participants to score at or above Midgley et al.’s (2000) mean score values on items 2, 8, 23, and 28 and at or below their mean score values on items 6, 18, and 24. The participants from this study demonstrated favorable mean score values on some questions and unfavorable mean score values on other questions (see Table 7).
Table 7

**PALS Scale 5 Descriptive Statistics**

<table>
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<tr>
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</thead>
<tbody>
<tr>
<td>2</td>
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</tr>
<tr>
<td>6</td>
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<tr>
<td>8</td>
<td>3.64</td>
<td>4.43</td>
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<tr>
<td>18</td>
<td>2.80</td>
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<tr>
<td>Total</td>
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</tr>
</tbody>
</table>


The participants’ responses in the form of categorical values were recorded and compared to the data collected by Midgley et al. (2000). The means were calculated and plotted in scatterplots. The scale items on the PALS scale 1 were compared to PALS scale 2 to better understand the participants’ perceptions of mastery and performance school goal structures for students. Figure 2 includes crosshairs according to Midgley et al.’s (2000) scale means to see the categories the participants fell in relative to the larger population surveyed by Midgley et al. (2000). Midgley et al. (2000) found a scale mean of 4.07 for PALS scale 1 (see Appendix D) and 3.02 for PALS scale 2 (see Appendix E). Using those findings as a baseline, the participants were placed into the following categories to classify their beliefs about the existing school goal
structures for students: low mastery/high performance (2 participants), high mastery/high performance (0 participants), low mastery/low performance (3 participants), and high mastery/low performance (2 participants).

![Scatterplot of PALS Scale 2 Mean Scores by PALS Scale 1 Mean Scores](image)

*Figure 2. Scatterplot of PALS scale 2 mean scores by PALS scale 1 mean scores.*

The results of PALS scales 3 and 4 were compared in the same manner to categorize the participants’ perceptions of their approaches to instruction as presented in Figure 3. Midgley et al. (2000) found a scale mean of 3.44 for PALS scale 3 (see Appendix F) and 2.21 for PALS scale 4 (see Appendix G). Following the previous format, those findings were used to apply crosshairs to the scatterplot. The participants were placed into the following categories to classify their beliefs about their approaches to instruction: low mastery/high performance (0 participants), high mastery/high performance (6 participants), low mastery/low performance (0 participants), and high mastery/low performance (1 participant).
The participants’ scores from the PALS scales were ranked ordered in SPSS according to their responses on each PALS scale. The participants’ responses were ranked to provide a measure that could be used for statistical testing since the distance between ordinal categories is undefined. The data was entered into SPSS software and ranked ordered to prepare for correlational analysis. The highest scores earned the highest rankings (see Table 8).
Table 8

_Ranked Ordered Values of PALS Scales by Case Number_

<table>
<thead>
<tr>
<th>Case No.</th>
<th>PALS Scale 1</th>
<th>PALS Scale 2</th>
<th>PALS Scale 3</th>
<th>PALS Scale 4</th>
<th>PALS Scale 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>5</td>
<td>2</td>
<td>2.5</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>6</td>
<td>4</td>
<td>2.5</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>3</td>
<td>1</td>
<td>7</td>
<td>5.5</td>
<td>7</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>2</td>
<td>3</td>
<td>5.5</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>5</td>
<td>3.5</td>
<td>5.5</td>
<td>4</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>6</td>
<td>3.5</td>
<td>5.5</td>
<td>1</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>7</td>
<td>7</td>
<td>1</td>
<td>7</td>
<td>5</td>
<td>5</td>
</tr>
</tbody>
</table>

The ranked ordered values from the PALS scales were plotted against the reported LAA mean scores with lines of fit to view the relationships between the ranked values of the PALS scales and the mean LAA scores. The ranked values of the PALS scales were placed along the X-axis, and the mean LAA scores were placed along the Y-axis. A review of PALS scale 1 as presented in Figure 4 reflected that as the LAA scores went up, the participants’ perceptions of mastery school goal structures went down. Conversely, a review of PALS scale 2 as presented in Figure 5 reflected that as the LAA scores went up, the participants’ perceptions of performance school goal structures also went up. The scatterplots of PALS scales 3 and 4 presented in Figures 6 and 7 showed similar increases in the participants’ perceptions of their approaches to instruction according to mastery and performance characteristics. Figure 8 reflected the relationship of the mean LAA scores and the participants’ perceptions of teaching efficacy. As the LAA scores went up, the participants’ perceptions of teaching efficacy went down.
Figure 4. Scatterplot of mean LAA scores by PALS scale 1.

Figure 5. Scatterplot of mean LAA scores by PALS scale 2.
Figure 6. Scatterplot of mean LAA scores by PALS scale 3.

Figure 7. Scatterplot of mean LAA scores by PALS scale 4.
The purpose for conducting correlational analysis was to identify the relationships between the variables. The use of continuous variables would have allowed this researcher to use the Pearson’s $r$ to determine the correlation coefficient; however, the data collected for this study used a combination of continuous and ordinal variables. Since the distance between ordinal categories could not be isolated as previously mentioned, another statistical measure had to be used that could measure the ordering of ordinal variables. The Spearman’s rho was able to calculate a correlation coefficient based on the ranked ordered data from the PALS scales and the LAA scores. According to University of Strathclyde Humanities and Social Sciences (n.d.), the Spearman’s rho is similar to the Pearson’s $r$ in the sense that the correlations will vary between –1, a perfect negative correlation, and +1 a perfect positive correlation.

The first subquestion investigated if teachers’ perceptions of school goal structures are predictors of outcomes-based assessments of sixth and seventh grade students. There were no significant relationships between the mean LAA scores and the participants’ perceptions of
school goal structures (see Table 9). The second subquestion investigated if middle school social studies teachers’ perceptions of mastery and performance approaches to instruction are predictors of achievement of outcomes-based assessments of sixth and seventh grade students. PALS scales 3 and 4 demonstrated a strong positive correlation between the scales, $r_s = .764, n = 7, p < .05$; however, there were no significant relationships between the mean LAA scores and PALS scales 3 and 4 as investigated by the research question. The third subquestion investigated if teachers’ perceptions of teacher efficacy are predictors of achievement of outcomes-based assessments of sixth and seventh grade students. Once again, there were no significant relationships between the mean LAA scores and PALS scale 5. Therefore, the results of the three subquestions did not evidence any relationships between the independent (PALS scales) and dependent (LAA scores) variables. Based on the results of the analyses, the null hypothesis that middle school social studies teachers’ perceptions of patterns of adaptive learning do not predict their students’ authentic outcomes-based assessment scores was retained (see Table 9).
Table 9

*Spearman’s rho Correlations*

<table>
<thead>
<tr>
<th>Variables</th>
<th>n</th>
<th>Statistic</th>
<th>PALS Scale</th>
<th>Rank Ordered LAA Scores</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>P1</td>
<td>P2</td>
</tr>
<tr>
<td><strong>P1</strong></td>
<td>7</td>
<td>Correlation Coefficient</td>
<td>1.000</td>
<td>-.709</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td></td>
<td>.074</td>
<td>.907</td>
<td>.504</td>
</tr>
<tr>
<td><strong>P2</strong></td>
<td>7</td>
<td>Correlation Coefficient</td>
<td>-.709</td>
<td>1.000</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td></td>
<td>.074</td>
<td>.550</td>
<td>.908</td>
</tr>
<tr>
<td><strong>P3</strong></td>
<td>7</td>
<td>Correlation Coefficient</td>
<td>-.055</td>
<td>-.275</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td></td>
<td>.907</td>
<td>.550</td>
<td>.046</td>
</tr>
<tr>
<td><strong>P4</strong></td>
<td>7</td>
<td>Correlation Coefficient</td>
<td>-.306</td>
<td>-.054</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td></td>
<td>.504</td>
<td>.908</td>
<td>.046</td>
</tr>
<tr>
<td><strong>P5</strong></td>
<td>7</td>
<td>Correlation Coefficient</td>
<td>.450</td>
<td>.198</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td></td>
<td>.310</td>
<td>.670</td>
<td>.328</td>
</tr>
<tr>
<td><strong>Ranked Ordered LAA Scores</strong></td>
<td>7</td>
<td>Correlation Coefficient</td>
<td>-.685</td>
<td>.396</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td></td>
<td>.090</td>
<td>.379</td>
<td>.816</td>
</tr>
</tbody>
</table>

*Note.*. p < .05, two-tailed.

**Research question two.** What are middle school social studies teachers’ perceptions of outcomes-based assessments used to measure student achievement?

Descriptive statistics were used to describe the participants’ responses and answer the research question generated for the descriptive survey portion of the study. Related questions
were grouped together. The mean values of the ordinal scale questions were presented in Appendices H-J. The data from all of the ordinal scales were represented in charts and graphs. The results were analyzed to determine trends and patterns of thought.

**Perceptions about the effectiveness of authentic outcomes-based assessments.**

Questions 30–32 (see Appendix C) on the survey were designed to question the participants’ viewpoints about the effectiveness of authentic outcomes-based assessments used to demonstrate student mastery of intended objectives. Their responses (see Appendix I) reflected their beliefs that authentic outcomes-based assessments, such as the performance-based tasks used for the local alternative assessment (LAA), are more effective than traditional summative assessments. The participants also scored above the scale’s midpoint value in favor of a hybrid approach to combine or alternate the use of authentic outcomes-based assessments and traditional summative assessments to ensure student mastery of intended learning outcomes. Refer to Figure 9.

![Assessment Preferences](image)

**Figure 9.** Assessment preferences.

**Authentic outcomes-based assessments and VDOE’s framework.** Questions 41–47 (see Appendix C) were designed to survey participants’ viewpoints about the alignment between authentic outcomes-based assessments such as the performance task they used for the LAA and
Virginia Department of Education’s framework for alternative assessments used to replace state assessments. The scale items were written to survey the participants’ beliefs about outcomes-based assessments as an adequate means of evaluating student learning. The items were also drafted to survey the participants beliefs about demonstrating student progress relative to intended state learning outcomes, making formative decisions that inform instruction, preparing students for career and college readiness skills and 21st century skills, strengthening interdisciplinary integration and alignment, showcasing student work, and connecting assessment and pedagogy to develop instructional methods and strategies as described in VDOE’s (2016) framework for implementing LAAs in Virginia.

The participants’ responses to questions 41–47 (see Appendix I) generated an average mean scale score of 2.35, which was just below the scale’s midpoint value of 2.5 for each question. The question that surveyed the participants’ beliefs about the LAA serving as a basis of connecting assessment and pedagogy to develop instructional methods and strategies as described in VDOE’s (2016) framework scored a mean of 2.57, which exceeded the midpoint value of 2.5. The participants’ responses were presented in Figure 10. The survey questions were designed with following Likert scale values to represent the affiliated categories: (1) strongly disagree, (2) disagree, (3) neither agree nor disagree, (4) agree, (5) strongly agree.
Figure 10. Alignment of LAA and VDOE’s framework.

Preferred assessment format. Question 33 (see Appendix C) was designed to ask participants to rank their preferred assessment format for middle school students to demonstrate mastery of concepts. Based on the results of question 33 (see Appendix I), the format with the highest reported frequency was simulations (43%). The next three preferred assessment formats were performance-based task (29%), traditional summative standardized assessments (14%), and portfolio assessments (14%). See Figure 11.
Figure 11. Percentage of preferred authentic outcomes-based assessment formats.

**Resources used during times of authentic outcomes-based assessments.** Question 37 (see Appendix C) was designed to survey the participants’ perspectives of the resources used during times of authentic outcomes-based assessments. The item included a list of resources students might need to use during times of authentic outcomes-based assessments. Based on the responses (see Appendix L), the resources reported with the highest frequency were lined paper, primary resources, writing instruments, and computers with word processing and spell check software. Resources that did not receive any selection included iPads, novels, and graph paper. Figure 12 reflects the frequency counts of the selected resources.
Figure 12. Resources used during times of authentic outcomes-based assessments.

Performance-based tasks for future consideration of LAA assessments. The host district has been alternating their administration of performance-based tasks and summative assessments for LAA assessments. Question 38 (see Appendix C) was designed to ask the participants what performance task their educational institution used for the LAA. Based on the results (see Appendix I), 43.75% reported they administered essay prompts. The remaining selections were short answer questions (31.25%), blog/journal (6.25%), interview (6.25%), slideshow (6.25%), and project (6.25%). Question 39 (see Appendix C) was designed to ask the participants to select six tasks they believed students could complete to demonstrate mastery of intended learning outcomes. The item contained list of possible tasks students could participate in for the LAA. The responses (see Appendix C) with the highest frequency were essay, project, and short answer questions. A visual representation of their responses is presented in Figure 13.
Possible Performance-Based Tasks to Demonstrate Mastery

<table>
<thead>
<tr>
<th>Task</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>story/play</td>
<td>1</td>
</tr>
<tr>
<td>portfolio</td>
<td>1</td>
</tr>
<tr>
<td>flow chart</td>
<td>1</td>
</tr>
<tr>
<td>enactment</td>
<td>1</td>
</tr>
<tr>
<td>dramatic reading</td>
<td>1</td>
</tr>
<tr>
<td>concept map</td>
<td>1</td>
</tr>
<tr>
<td>research paper</td>
<td>2</td>
</tr>
<tr>
<td>interview</td>
<td>2</td>
</tr>
<tr>
<td>fill-in-the-blank</td>
<td>2</td>
</tr>
<tr>
<td>blog/journal</td>
<td>2</td>
</tr>
<tr>
<td>3-D model</td>
<td>2</td>
</tr>
<tr>
<td>slideshow</td>
<td>3</td>
</tr>
<tr>
<td>oral presentation</td>
<td>3</td>
</tr>
<tr>
<td>debate</td>
<td>3</td>
</tr>
<tr>
<td>short answer questions</td>
<td>5</td>
</tr>
<tr>
<td>project</td>
<td>6</td>
</tr>
<tr>
<td>essay</td>
<td>6</td>
</tr>
</tbody>
</table>

Figure 13. Possible performance-based tasks to demonstrate mastery.

Challenges with scoring authentic outcomes-based assessments. Question 40 (see Appendix C) was designed to survey the participants’ perspectives about possible challenges they might incur when scoring performance-based tasks used for assessments. The item contained a list possible challenges teachers might incur when scoring performance-based tasks used for assessments. Based on the responses (see Appendix I), the categories selected with the highest frequency were inconsistencies between teachers scoring the assessment, lack of time, and frustrations with rubric design. The categories with a moderate number of selections dealt with challenges understanding the rubric design and the number of rubric categories. Only one participant selected the category asking about too many assessed objectives as a challenge when scoring the assessments. The categories that did not receive any selections were lack of resources and lack of assessed objectives. Their responses were presented in Figure 14.
Finally, question 48 (see Appendix C) was designed to give the participants an opportunity to insert additional thoughts, comments, or concerns based on their experiences with administering authentic outcomes-based assessments such as the performance task chosen by the host district to use for the LAA. Two of the respondents stated the assessment format offers students a variety of ways to demonstrate knowledge in a low stress environment, employ critical thinking skills, and apply knowledge to real world scenarios. Two other respondents stated scoring authentic assessments is subjective and inconsistent. One last participant expressed a concern about authentic assessments being scored by other teachers because the participant believed there could be a disconnect between recorded scores and actual student knowledge. The participants’ responses were presented in Table 10.

Figure 14. Challenges with scoring authentic assessment (performance-based task).
Table 10

Participants’ Added Comments

<table>
<thead>
<tr>
<th>Case no.</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>I believe these tasks demonstrate student mastery more than summative assessments, such as an SOL, because it allows students to express their knowledge in a less stressful environment; it is also beneficial because there are multiple assessments throughout the year in a variety of forms.</td>
</tr>
<tr>
<td>2</td>
<td>None</td>
</tr>
<tr>
<td>3</td>
<td>None</td>
</tr>
<tr>
<td>4</td>
<td>None</td>
</tr>
<tr>
<td>5</td>
<td>Inconsistency in scoring is a problem. It is too subjective. At least with the essay LAA.</td>
</tr>
<tr>
<td>6</td>
<td>LAA challenges students to think and create in order to apply what they know to real-world situations vs. what they can memorize and recall</td>
</tr>
<tr>
<td>7</td>
<td>Others scored my student and the scores did not reflect the student’s knowledge of the material.</td>
</tr>
</tbody>
</table>

Chapter 4 Summary

The purpose of this study was to investigate middle school social studies teachers’ perspectives of authentic outcomes-based assessments administered to sixth and seventh grade students and to determine if correlations existed between the participants’ perceptions of patterns of adaptive learning and their students mean LAA scores. The correlational portion of the study was designed to see if patterns of adaptive learning could serve as predictors of authentic outcomes-based assessment scores. The participants used in the study were employed in one school district in the state of Virginia. The research site was selected because Virginia replaced some of their state standardized assessments with local alternative assessments that match the descriptions characteristic of authentic outcomes-based assessments. The school district that
served as the host site used performance tasks for the LAA, which was one form of authentic outcomes-based assessments as described in the literature review.

Correlational and descriptive survey research designs were used in this study. The correlational portion of this study was designed to investigate teachers’ perceptions of mastery and performance school goal structures, approaches to instruction, and personal teaching efficacy. The independent variables for the correlational portion of the study were teachers’ perceptions of mastery school goal structure for students, perceptions of performance school goal structure for students, mastery approaches to instruction, performance approaches to instruction, and personal teaching efficacy. The dependent variable was the mean LAA student scores reported by each participant. The survey instrument included five PALS scales that were designed to investigate each independent variable in the correlational portion of the study. The data were analyzed with correlational and descriptive statistics, and the results were used to answer the research questions. The data were displayed in tables and charts.

The descriptive survey portion of this study investigated middle school social studies teachers’ perspectives of authentic outcomes-based assessments as a method to evidence mastery of intended learning objectives. The survey instrument designed for this study included some self-constructed questions, which were piloted by an expert group of teachers prior to conducting research with the participants. The data collected from the participants were analyzed with descriptive statistics, and the results were reported with the support of graphs, tables, and charts.

Out of the 11 middle school social studies teachers targeted for this study, 72% consented to participating in the study. The official response rate from the eight consenting participants was 88%. The researcher asked one main research question with three subquestions for the correlational portion of the study, which was tested with a null hypothesis. The results of the data
collected to answer the research questions were nonsignificant. Therefore, the null hypothesis was retained because the statistical calculations did not evidence any significant relationships between the independent variables and the dependent variable. The researcher asked one question for the descriptive portion of the study, which was answered with the help of descriptive statistics.

The patterns that emerged from analyzing and describing the results of the survey questions generated for the descriptive portion of the study were assessment format, effectiveness of authentic assessments, and challenges with scoring authentic assessments. When given a choice about the different types of authentic outcomes-based assessments, the participants indicated their preference for simulations (43%). Subsequently, they opted for the following assessment formats at the following rates: performance-based tasks (29%), traditional summative standardized assessments (14%), and portfolio assessments (14%). In consideration of the performance-based task the participants have been administering for the LAA, they were given a list of possible tasks that could be used to demonstrate mastery of intended learning outcomes. Their responses reflected preferences for administering essay prompts, projects, and short answer questions under the category of performance-based tasks.

The survey results indicated their preferences for authentic outcomes-based assessments such as performance-based tasks instead of traditional summative or standardized assessments. When the participants were asked to answer questions about the alignment between the authentic outcomes-based assessment format and the state’s framework for alternative assessments, they failed to score above the scale’s midpoint value on six out of the seven questions. Therefore, they scored slightly above the scale’s midpoint value in response to believing that the assessment method drove pedagogical methods, but they fell just below the midpoint value on questions
about authentic outcomes-based assessments being an adequate means of the following characteristics: evaluating student learning, demonstrating student progress relative to intended learning outcomes, making formative decisions that inform instruction, preparing students for career, college, and 21st century skills, strengthening interdisciplinary integration and alignment, and showcasing student work. Finally, the participants indicated they incur challenges when scoring authentic outcomes-based assessments such as inconsistencies between individuals scoring the assessment, a lack of time, and frustrations with rubric designs. They did not have any issues with a lack of assessed objectives or a lack of resources to aid the scoring process.

The data revealed the participants’ thoughts and viewpoints in relation to patterns of adaptive learning and authentic outcomes-based assessments. The results of the data collected with the PALS scales were not consistent with the studies featured in the review of literature; although, the data collected still revealed important perceptions of school goal structures and the participants’ perceptions of their professional identities. The participants indicated differences between their perceptions of school goal structures and their approaches to instruction. Equally important, the participants indicated preferences for authentic assessments over standardized tests, but their thoughts about the association between their experiences of administering authentic assessments and the state’s framework for creating and administering the LAA was below the scale’s midpoint value. They also indicated some difficulties with scoring authentic assessments. Despite any negative viewpoints, the participants continued to indicate they preferred authentic outcomes-based assessments over traditional standardized assessments. The results, which were supported with graphs detailed their preferences for specific forms of authentic assessments and resources that students could use to evidence mastery of intended learning outcomes.
Chapter 5: Discussion and Conclusion

Introduction

School goal structures, goal orientations, and personal teaching efficacy can impact the way students engage in learning processes (Ames & Archer, 1988; Dweck & Leggett, 1988; Ford et al., 1998; Kaplan & Maehr, 2007; Midgley, 2002; Pintrich, 2000; Roeser et al., 1996). As discussed in the literature review, individuals have goal orientations that drive their learning behaviors. Goal theorists determined through research that students’ goal orientations are influenced by educational settings including the classroom culture and features of the entire school (Midgley, 2002; Roeser et al., 1996). Therefore, it is believed that students develop achievement goals according to school goal structures, learning activities, methods of evaluation, and their own cognitive abilities such as knowledge, self-regulatory skills, and behavior.

Assessment methods affect students’ learning choices and how they demonstrate mastery of intended learning outcomes. Past researchers (Biggs & Tang, 2007, Huba & Freed, 2000; Maki, 2002) advocated for different types of authentic assessment methods that could be used to deepen learning, strengthen skills, demonstrate competencies, and increase achievement. Authentic outcomes-based assessments are methods used to evaluate student learning that take theory to practice and require learners to complete challenging tasks. The assessment designs, including simulations, competency-based assessments, portfolios, project-based assessments, and performance-based assessments, model experiential learning and reflect characteristics of mastery goal orientations, which are believed to develop competence and increase achievement (Dweck & Leggett, 1988; Kaplan & Maehr, 2007; Middleton & Midgley, 1997; Midgley, 2002). Previous researchers (Ames & Archer, 1988; Ford et al., 1998; Pintrich, 2000) found relationships between patterns of adaptive learning such as classroom structures, self-efficacy,
and goal orientations, but the empirical literature lacked research seeking relationships between patterns of adaptive learning and authentic outcomes-based assessments.

A considerable amount of literature about authentic outcomes-based assessments refers to post-secondary education. Educators at the primary and secondary levels may be more willing to explore alternative forms of assessments if they knew more about teachers’ perceptions of authentic outcomes-based assessments and how they relate to school goal structures, approaches to instruction, and personal teaching efficacy. Therefore, the purpose of this quantitative research study was to determine teachers’ perceptions of authentic outcomes-based assessments and to relate teachers’ perceptions of school goal structures, approaches to instruction, and personal teaching efficacy to outcomes-based assessment scores of middle school students. This study investigated the following research questions:

1. How do middle school social studies teachers’ perceptions of patterns of adaptive learning relate to their students’ authentic outcomes-based assessment scores?
   a. How do middle school social studies teachers’ perceptions of school goal structures relate to their students’ authentic outcomes-based assessment scores?
   b. How do middle school social studies teachers’ perceptions of mastery and performance approaches to instruction relate to their students’ authentic outcomes-based assessment scores?
   c. How do middle school social studies teachers’ perceptions of teacher efficacy relate to their students’ authentic outcomes-based assessment scores?

H1a: Middle school social studies teachers’ perceptions of patterns of adaptive learning predict their students’ authentic outcomes-based assessment scores.
H1₀: Middle school social studies teachers’ perceptions of patterns of adaptive learning do not predict their students’ authentic outcomes-based assessment scores.

2. What are middle school social studies teachers’ perceptions of outcomes-based assessments used to measure student achievement?

**Summary of the Results**

The first research question was investigated by surveying the participants reported mean scores from their students’ LAA assessments and the following five teachers’ scales from Midgley et al.’s (2000) Patterns of Adapted Learning Scales: Perceptions of the School Goal Structure for Students-Mastery (see Appendix D), Perceptions of the School Goal Structure for Students-Performance (Appendix E); Approaches to Instruction-Mastery (see Appendix F); Approaches to Instruction-Performance (see Appendix G), and Personal Teaching Efficacy (see Appendix H). The first subquestion examined relationships between teachers’ perceptions of school goal structures and the reported mean LAA scores of the participants’ middle school students. The second subquestion examined relationships between teachers’ perceptions of mastery and performance approaches to instruction and the reported mean LAA scores of the participants’ middle school students. The third subquestion examined relationships between teachers’ perceptions of teacher efficacy and the reported mean LAA scores of the participants’ middle school students. The results demonstrated that all of the investigated relationships were nonsignificant. There was a statistically significant relationship between the mastery and performance approaches to instruction scales; however, the research question was seeking relationships between the PALS scales and achievement scores as opposed to relationships between the scales. The null hypothesis that middle school social studies teachers’ perceptions of
patterns of adaptive learning do not predict their students’ authentic outcomes-based assessment scores was retained because the results were nonsignificant.

The second research question was investigated by using self-constructed questions to survey the participants’ beliefs and attitudes of authentic outcomes-based assessments with specific attention to the assessment format, effectiveness of authentic assessments, and challenges with scoring authentic assessments. The chief outcome was that the participants indicated their preferences for authentic outcomes-based assessments with a mean score of 4.0 out of 5 as opposed to traditional summative or standardized assessments, which scored a mean of 2.14. It is worth mentioning that the participants also indicated their interest for a hybrid approach of the two formats with a mean score of 3.71 out of 5. When given an optional opportunity to add additional comments about authentic outcomes-based assessments, two of the participants responded favorably noting that the assessment format affords some flexibility in the ways students can demonstrate knowledge. They also noted that the authentic assessments allow students to employ critical thinking skills and apply knowledge to real world scenarios in a low stress environment. The two participants who responded negatively expressed concerns about subjective and inconsistent scoring of the student products.

Descriptive statistics were used to reveal the following breakdown of preferred assessment formats on behalf of the participants: simulations (43%), performance-based tasks (29%), portfolio assessments (14%), and traditional summative standardized assessments (14%). Because the district used a performance-based task as a format for the LAA, the participants were asked to select tasks under that particular category that could be used for middle school students to demonstrate mastery of intended learning outcomes. Their responses indicated their
preferences of administering essay prompts (86%), projects (86%), and short answer questions (71%) to measure student achievement.

The biggest concern based on the results of the study was that the participants did not indicate strong beliefs about the alignment of the authentic outcomes-based assessment format their district was using compared to the state’s framework for alternative assessments. For the most part, they scored below the scale’s midpoint value on the questions inquiring about authentic outcomes-based assessments being an adequate means of gauging student learning, signifying student progress towards learning outcomes, making formative decisions, incorporating higher level learning skills, demonstrating cross-curricular integration, and publicly displaying student work. The only question that scored above the scale’s midpoint value in that seven-question group asked if the assessment method could be used to connect assessment and pedagogy to develop instructional methods and strategies.

The participants’ results were similar to Driscoll and Wood’s (2007) study in the sense that authentic outcomes-based assessments were considered valuable. The concern with this study was that the participants’ survey results did not offer robust scores in relation to the specific criteria established by VDOE. Their responses challenged this study’s predictions because the literature review indicated that authentic assessments such as such as the district’s use of the performance task reflected students’ ingenuities and college and career readiness skills. Some positive remarks found in the literature review about performance-based tasks and assessments included stimulating experiential learning (Wiggins & McTighe, 2011), revealing academic aptitudes (VanTassel-Baska, 2013), transferring knowledge (McIntosh & Milam, 2016), and holding students accountable for their own learning (Baker et al., 2016). The results demonstrated that the school district might need to dig deeper into the reasons why the
participants did not believe they were fulfilling VDOE’s framework at a higher rate of satisfaction despite their preferences for authentic outcomes-based assessments.

Another key finding was that the participants indicated they incurred challenges when scoring authentic outcomes-based assessments such as inconsistencies between individuals scoring the assessment, lack of time, and frustrations with rubric designs. The participants’ concerns about scoring the assessments were consistent with the literature. Brindley (2001) and Midgley (2002) acknowledged concerns with time and inconsistent scoring of alternative assessments; however, Holmes (1997) and Huba and Freed (2000) claimed authentic outcomes-based assessments further student learning and drive students to expand their viewpoints despite the noted concerns. The finding from this study infers the need for the school district to revisit their scoring rubrics and provide more professional development to help the teachers be more consistent when scoring the assessments.

The literature conveyed the importance of assessment practices relating to methods of teaching and learning (Brindley, 2001). According to Maki (2002), relating assessment to instructional practices could help students increase learning and achievement. Essentially, authentic outcomes-based assessments drive students to transfer skills to real world applications, which could serve as vehicles for college and career readiness skills (Driscoll & Wood, 2007). In this study, the participants did not express concerns with a lack of assessed objectives or a lack of resources to aid the scoring process. Therefore, they seemed confident that the authentic assessments were covering enough of the state’s objectives in the social studies content area.

Even though the participants did not score as high on the questions relating authentic assessment to VDOE’s framework, the participants still favored authentic assessments with a mean score of 4.0 over traditional summative or standardized assessments with a mean score of
2.14 on a scale of one to five. The review of literature did not offer much discussion about hybrid assessment approaches; although, the participants demonstrated interest in assessing student mastery of intended learning outcomes with a hybrid of authentic outcomes-based assessments and traditional summative assessments. They scored a mean of 3.71 on a scale of one to five when asked about the hybrid approach to assessment. Perhaps more attention to a hybrid approach would strengthen the participants’ viewpoints about the association between their experiences with authentic assessments and VDOE’s framework.

Discussion of the Results

Research question one. The first research question investigated if middle school social studies teachers’ perceptions of patterns of adaptive learning predicted achievement of their students’ outcomes-based assessments. Midgley (2002) explained the importance of understanding teachers’ professional identities and how they contribute to student learning. Understanding teachers’ beliefs and attitudes towards learning can help educational leaders nurture favorable motivational orientations that lead to increased academic achievement and decrease less desirable motivational orientations that are connected to learning difficulties. Several researchers (Ames & Archer, 1988; Ben-Eliyahu et al., 2017; Ford et al., 1998, Miller et al., 2017; Newton & Martin, 2013; Pintrich, 2000; Roeser et al., 1996; Vansteenkiste et al., 2014) investigated students’ perceptions of patterns of adaptive learning, but studies about teachers’ perceptions of patterns of adaptive learning was lacking. These thoughts and attitudes about learning and teachers’ professional identities warranted a study to investigate the independent variables of teachers’ perceptions of mastery and performance school goal structures, teachers’ perceptions of mastery and performance approaches to instruction, and teachers’ perceptions of teacher efficacy. The results from the PALS scales were correlated with
the participants’ students’ mean LAA scores to determine if the independent variables could be predictors of the dependent variable.

The first research question was broken down into three subquestions. The subquestions investigated relationships between the reported mean LAA scores of the participants’ middle school students and the participants’ perceptions of school goal structures, approaches to instruction, and perceptions of personal teaching efficacy. The data collected from the five PALS scales designed to survey teachers’ perspectives indicated some discrepancies between perceptions of school goal structures and approaches to instruction. The questions about school goal structures surveyed the participants’ thoughts about what the school conveyed to students as the purpose of engaging in academic work. The questions about approaches to instruction surveyed the participants’ thoughts about what their instructional strategies conveyed to students as the purpose of engaging in academic work.

Midgley (2002) explained that individuals make use of both performance and mastery goals, but one orientation is usually more prevalent than the other orientation. Educators perceived as low mastery oriented believe that learning requires distinct bodies of knowledge, precise procedures, direct instruction, independent practice, and the ability to remember and recall information. In contrast, educators perceived as high mastery believe students learn through questioning, reflecting, and interacting with knowledge. These beliefs and methods of learning and instruction cycle within and throughout the school goal structure, approaches to instruction, personal teaching efficacy, and individual goal orientations.

When Ames and Archer (1988) and Pintrich (2000) studied students’ goal orientations, they placed the participants into four groups according to scores. Based on that knowledge, the participants in this study were classified into high and low perceptions of school goal structure.
categories using Midgley et al.’s (2000) population means as a baseline. Two participants fell in the low mastery/high performance (Lo-Hi) category, three participants fell in the low mastery/low performance (Lo-Lo) category, and two participants fell in the high mastery/low performance (Hi-Lo) category. None of the participants fell in the high mastery/high performance (Hi-Hi) category. Yet when questioned about their approaches to instruction, six participants fell in the high mastery/high performance (Hi-Hi) category and one participant fell in the most desired category of high mastery/low performance (Hi-Lo). Based on the information learned from the review of literature, the school district should be pleased to know that none of the participants’ perceptions of approaches to instruction fell in the less desired categories of low mastery/high performance (Lo-Hi) or low mastery/low performance categories (Lo-Lo).

**Perceptions of school goal structures.** The participants scored above the midpoint value of 2.5 on the PALS scale 1 (see Appendix D) questions investigating if teachers believe the school conveys to students that the purpose of engaging in academic work is to develop competence. A closer inspection of the data showed that even though the participants scored above the midpoint value of the scale items, they scored lower than Midgley et al.’s (2000) population on three critical questions of PALS scale 1. The questions of concern and the participants’ mean scores from the 5-point Likert scales were as follows:

16. Students are frequently told that learning should be fun ($M = 3.71$).

20. The emphasis is on really understanding schoolwork, not just memorizing it ($M = 3.71$).

22. A real effort is made to recognize students for effort and improvement ($M = 4.14$).

PALS scale 2 (see Appendix E) surveyed teachers’ perceptions that the school expresses to students that the reason for participating in academic work is to demonstrate competence.
Because developing competence is more beneficial than merely demonstrating competence, it would have been better if the participants scored below the midpoint value on the PALS scale 2 questions. In this case, the questions of concern that scored above the mean scores of Midgley et al.’s (2000) larger population were as follows:

7. It’s easy to tell which students get the highest grades and which students get the lowest grades ($M = 3.0$).

10. Students who get good grades are pointed out as an example to others ($M = 3.29$).

12. Students hear a lot about the importance of getting high test scores ($M = 4.0$).

29. Students are encouraged to compete with each other academically ($M = 3.14$).

Therefore, the questions that scored above the midpoint value indicate that emphasis is placed on knowing who earns the highest grades ($M = 3.0$), singling out high achievers as examples to others ($M = 3.29$), students knowing the importance of achieving high scores ($M = 4.0$), and boosting competition between students for the best grades ($M = 3.14$).

The participants’ perceptions of school goal structures were concerning due to the role middle schools play in contributing to adolescents’ academic and emotional development. According to Roeser et al. (1996), problems arise when middle schools emphasize students’ abilities in comparison to others. Middle school students need supportive relationships with their teachers and educational professionals. School environments that encourage improvement, growth, and mastery of intended learning outcomes foster positive self-efficacy and promote academic achievement. Alternatively, school environments that encourage competition and social comparison of relative abilities foster feelings of discouragement and diminished self-worth (Roeser et al., 1996).
Other researchers (Ames, 1992; Midgley, 2002) have expressed concerns about these schoolwide behaviors that involve making social comparisons. Publicly announcing high and low scores, posting charts of scores and progress, and displaying selective student products and achievements are detrimental factors that affect motivation. A performance oriented competitive school environment places more emphasis on ability instead of placing emphasis on continuous effort over a period of time. To improve teachers’ perceptions of school goal structures, the school district administration could focus on behaviors that would reflect a mastery-oriented schoolwide environment such as recognizing student effort, progress towards short-term goals, and important milestones of academic performance.

**Approaches to instruction.** PALS scale 3 (see Appendix F) surveyed perceptions of teacher strategies that express to students that the reason for participating in academics is to develop competence. As previously stated, viewpoints of developing competence are preferred over viewpoints of merely demonstrating competence. The participants scored at or above the mean of Midgley et al.’s (2000) larger population on three out of four questions, which explained why all seven of the participants fell into one of the two high mastery categories for their perceptions of approaches to instruction. The only question that scored below Midgley et al.’s (1998) larger population dealt with students considering student improvement when recording report card grades as follows:

13. I consider how much students have improved when I give them report card grades ($M = 3.0$).

PALS scale 4 (see Appendix G) surveyed teacher strategies that express to students that the reason for participating in academics is to demonstrate competence. Demonstrating competence is not as favorable as developing competence; therefore, scores at or
below the mean of Midgley et al.’s (1998) larger population would have been preferred. The participants scored above Midgley et al.’s (1998) mean on all of the scale’s questions as follows:

1. I give special privileges to students who do the best work ($M = 2.57$).
2. I display the work of the highest achieving students as an example ($M = 3.57$).
3. I help students understand how their performance compares to others ($M = 2.86$).
4. I encourage students to compete with each other ($M = 2.71$).
5. I point out those students who do well as a model for the other students ($M = 3.14$).

The participants’ responses explained why five participants fell in the high mastery/high performance category (Hi-Hi), and one participant fell in the low mastery/high performance category (Lo-Hi).

Achievement goal theory emphasizes developing competence instead of just demonstrating competence. Given the discussion of the results of PALS scale 2, these performance goal related behaviors used by teachers at the classroom level might exist because evaluation and reward is more salient at the school or district level. Methods of evaluation and reward at are at the forefront of attributes that affect student motivation (Ames, 1992). Focusing on effort, improvement, progress towards goals, and mastery of concepts are the preferred behaviors that are reflective of a mastery-oriented classroom environment. Evaluations should be private and allow opportunities for improvement. In addition, researchers (Ames, 1992; Kaplan & Maehr, 2007; Middleton & Midgley, 1997; Midgley, 2002) who have studied goal theory encouraged educators and learners to view mistakes as part of the learning process.

**Personal teaching efficacy.** Lastly, PALS scale 5 (see Appendix H) was designed to survey teachers’ opinions about their contributions towards the academic growth and development of their students. The items were also drafted to survey the participants’ beliefs
about their ability to successfully teach all students. Compared to the mean scores of Midgley et al.’s (2000) larger population, the participants scored favorably on five questions and unfavorably on two questions. The questions that scored positively were as follows:

2. If I try really hard, I can get through to even the most difficult student \((M = 3.71)\).

8. I am good at helping all the students in my classes make significant improvement \((M = 4.43)\).

23. I am certain that I am making a difference in the lives of my students \((M = 4.71)\).

28. I can deal with almost any learning problem \((M = 3.14)\).

The two questions that expressed negative concerns read as follows:

6. Factors beyond my control have a greater influence on my students’ achievement than I do \((M = 3.43)\).

18. Some students are not going to make a lot of progress this year, no matter what I do \((M = 3.0)\).

As stated in the literature review, teacher self-efficacy (TSE) ties together teacher motivation, beliefs, and pedagogical practices (Kilday, Lenser, & Miller, 2016, Midgley, 2002). Teachers’ professional identities influence their instructional methods, which affect student motivation and learning. Teachers who are self-efficacious tend to employ mastery classroom goal structures and demonstrate higher student achievement (Kilday et al., 2016; Miller et al., 2017). Midgley (2002) explained that teachers with high self-efficacy believe they can teach difficult students and increase achievement despite internal or external negative influences. Teachers who demonstrate mastery orientations tend to be aware of students’ social-emotional tendencies, recognize improvement, and manage a wide range of students’ needs. By doing so, students view their teachers as caring and try harder to advance their learning.
What was puzzling about the data gathered from PALS scale 5 was that as the scores for personal teaching efficacy went up, the LAA mean scores went down. The correlation was nonsignificant; however, the literature suggested the opposite of what was depicted in the scatterplot (see Figure 8). The literature supported that teachers with high self-efficacy beliefs are archetypal for mastery classroom goal structures (Miller et al., 2017), which usually demonstrate higher achievement (Covington, 2000; Pintrich, 2000). Another research study with a larger population of participants could provide clarity if the researcher investigated correlations between personal teaching efficacy and mastery and performance goal structures.

Overall, the results to the subquestions were nonsignificant. There was a statistically significant relationship between the mastery and performance approaches to instruction scales, but that was an additional finding that was not targeted in the research questions. The research question sought relationships between the results of the PALS scales and the participants’ students’ mean LAA scores. The null hypothesis that middle school social studies teachers’ perceptions of patterns of adaptive learning do not predict their students’ authentic outcomes-based assessment scores was retained because the results were nonsignificant.

**Research question two.** The second research question used self-constructed questions to investigate the participants’ beliefs and attitudes of authentic outcomes-based assessments. The participants indicated they preferred authentic outcomes-based assessments with a mean score of 4.0 on a scale ranging from (1) strongly disagree to (5) strongly agree. They scored a mean score of 2.14 when asked about their preference for using traditional summative or standardized assessments to evaluate mastery of concepts; although, they scored a 3.71 when asked about using a hybrid approach of authentic outcomes-based assessments and traditional summative or standardized assessments.
The participants’ responses to this study were indicative of the information contained in the literature about authentic assessments allowing students to demonstrate 21st century skills. Some optional comments that were offered about authentic outcomes-based assessments included students could demonstrate knowledge in a variety of ways, demonstrate critical thinking skills, and apply knowledge to real world scenarios in a low stress environment. Those views were similar to NCTE’s (2017) study. Two participants expressed negative concerns about scoring the student products due to evaluators being too subjective and inconsistent in their methods of scoring. Their concerns were consistent with findings and counterclaims addressed by Midgley (2002) and Brindley (2001). Assessment practices need to relate to instructional methods, which could be remedied with professional development (Brindley, 2001). Professional training practices that teach educators how to include the use of authentic outcomes-based assessments in schools could have a positive impact on learners.

**Preferred assessment types.** The review of literature discussed how authentic outcomes-based assessments such as projects, essays, presentations, portfolios, and performance tasks could be used to evidence knowledge and demonstrate critical thinking skills. When asked about preferred types of authentic assessments, the participants’ chose simulations (43%) at the highest rate. Their next preferred method was performance-based tasks (29%). Portfolio assessments and traditional summative standardized assessments tied as their final two preferred methods (14%) of assessments.

First, the participants selected simulations as their most preferred authentic assessment format. Simulations are authentic forms of assessment that involve some type of demonstrations conducted by students to apply theories, representations, and ideas to real world problems (Dunlap et al., 2008; Mann et al., 2011). Students learn through the experiences they simulate.
Simulations require them to interpret information and take some type of action. Individuals could also participate in simulations for training purposes. In today’s world of technology, students could participate in virtual simulations to explore, plan, and solve problems (Mann et al., 2011; McGonigal, 2010; Prensky, 2012).

The second preferred authentic assessment format was performance-based tasks, which was the host district’s LAA format. Performance tasks require students to take action to address a presented concept (Abbott & Wren, 2016). They are considered authentic when they make real world connections (Bergen, 1993). Wiggins and McTighe (2011) explained that performance tasks lend themselves to experiential learning opportunities that drive students to retrieve stored information and apply it to task. Using Bloom’s taxonomy as their model, Wiggins and McTighe (2011) developed the framework Understanding by Design (UbD) to help educators guide students in transferring knowledge through authentic performances. First, educators review their intended learning outcomes, and then they develop activities and assessments that serve as acceptable methods for students to demonstrate mastery of concepts. According to VanTassel-Baska (2013), performance based assessments are frequently used as assessment methods for the Common Core State Standards (CCSS). The host district for this study used a performance-based task as one format for the LAA, which was the most recent format they administered at the time of the study. Therefore, participants were asked to select specific tasks under the performance task category that could be used for middle school students to measure student achievement. The types of assessments the participants chose with the highest frequency were essay prompts (86%), projects (86%), and short answer questions (71%).

The third most preferred assessment format was tied between portfolio assessments and traditional summative or standardized assessments. Portfolios evidence learning by allowing
students to gather, assemble, and present their products (Lam, 2016). Like the other assessment formats, intended learning outcomes guide students in selecting which products to include in their portfolios. Portfolios allow students to exercise student autonomy as learners have some independence in the provision of artifacts. Often times, portfolios include rationales and reflections of their knowledge and experiences (Driscoll & Wood, 2007).

*Perceptions of authentic assessment format.* The results demonstrated that the participants favored authentic outcomes-based assessments more so than traditional standardized assessments. One significant concern that came about by a review of the results was that the participants did not express strong beliefs about the alignment of the authentic outcomes-based assessment format used by their district and the state’s framework for alternative assessments. One out of seven questions scored above the scale’s midpoint value, which was that the assessment method could connect assessment and pedagogy to develop instructional methods and strategies. The mean scores on six of the seven questions about VDOE’s (2016) framework fell below the scale’s midpoint value. The participants’ scores indicated they were hesitant to agree that the authentic outcomes-based assessment format they most recently used for the LAA was a satisfactory method of measuring student learning, representing student progress towards state standards, making formative decisions, demonstrating higher level learning skills, integrating cross-curricular content knowledge, and exhibiting student work as intended by VDOE.

This finding contradicted the literature. Wiesman (2016) believed alternative assessments that offer real world applications would increase student motivation. McIntosh and Milam (2016) found that performance-based assessments such as debates satisfy competencies related to leadership, analysis, critical thinking, and knowledge transfer across multiple disciplines.
Holmes (1997) found that project-based assessments drive student learning and raise positive academic attitudes and behaviors. Coulby et al. (2011) determined that digital devices accentuated the learning processes. Baker et al. (2016) determined that virtual performance assessments (VPA) were useful methods of monitoring students’ methods of scientific inquiry. Dabbagh and English (2015) were able to demonstrate how portfolios developed in competency-based programs could be used to demonstrate learning, skills, and curriculum areas that need development. The finding from this study indicated that the school district administrators need to reassess their authentic assessment designs and consider the participants’ preferences for assessment formats, resources, and tasks that could help students cohesively evidence mastery of content and VDOE’s authentic assessment framework objectives.

Scoring of authentic outcomes-based assessments. The participants expressed they were challenged when scoring authentic outcomes-based assessments. The problems they expressed with the highest frequency were inconsistencies between individuals scoring the assessment, time constraints, and hindrances with rubric designs. The participant’s results did not indicate any concerns with assessing a lack of objectives or having a lack of resources to aid the scoring process. The information contained within the literature review supported the roles of outcome statements and authentic outcomes-based assessments as means of evidencing student learning; however, the participants’ concerns were consistent with the findings of Brindley (2001) and Midgley (2002) who found that teachers varied in assessment complexity, had different ways of carrying out their assessment designs, and demonstrated inconsistency with scoring.

Discussion of the Results in Relation to the Literature

The research methods used in this quantitative study were uniform with the literature. This researcher gained proper consent from the participants and the host district. The survey
instrument the participants were surveyed with contained five PALS scales found valid and reliable (Midgley, 2002). The PALS scales were designed to gather teachers’ perspectives of school goal structures, approaches to instruction, and personal teaching efficacy. The survey instrument also contained researcher constructed questions that were used to gather perspectives of authentic outcomes-based assessments. The survey instrument was piloted with an experienced group of educators prior to conducting the study. Measures were used to ensure confidentiality, and the results were reported without bias.

The Patterns of Adaptive Learning Study (Midgley et al., 2000), which was a longitudinal study, was used as a method of comparison. The researchers in that study surveyed 263 teachers for PALS scales 1–2 (see Appendices D and E). Midgley et al.’s (2000) sample for PALS scale 1 (see Appendix D) included 90 elementary school teachers and 173 middle school teachers. Their sample for PALS scale 2 (see Appendix E) included 90 elementary school teachers and 170 middle school teachers. They surveyed 646 teachers over the course of three years for PALS scales 3–5 (see Appendices F and H). Their sample for PALS scales 3–5 included 217 elementary teachers from 20 schools, 179 middle school teachers from 10 schools, and 250 high school teachers in 5 schools. Their results demonstrated that the correlation between mastery and performance approaches to instruction was nonsignificant. They determined that performance-oriented approach to instruction was unrelated to teacher efficacy, but mastery-oriented approach to instruction was positively related to teacher efficacy. In regards to school goal structures, they found a significant relationship between mastery school goal structures and personal teaching efficacy, but the relationships between perceptions of performance goal structures and personal teaching efficacy were nonsignificant.
This study was conducted on a much smaller scale. The participants were limited to middle school teachers in one school district in the content of social studies. The school goal structure scales were designed to survey the participants’ perceptions of goal orientations driven by the culture of the school such as focusing on competition, test scores, achievement, investment in learning, learning from mistakes, and making meaningful connections. The approaches to instruction scales assessed the extent of self-reported teaching practices that stress competition, comparison, mastery of content, and authentic tasks that are meaningful to students’ lives. The personal teaching efficacy scale measured the participants’ beliefs that they are effective in their roles as teachers. Within the scope of this study, perceptions of mastery and performance school goal structures (see Appendices D and E), perceptions of mastery and performance approaches to instruction (see Appendices F and G), and personal teaching efficacy (see Appendix H) are not predictors of authentic outcomes-based assessments as the results were nonsignificant.

The participants in this study were placed in high and low mastery and performance categories based on the results of Midgley et al.’s (2000) study by using the means from their larger population to classify the current participants. The results showed that the participants’ perceptions of school goal structure contained a mixture of mastery and performance characteristics. Two of the participants demonstrated low mastery/high performance viewpoints, three participants demonstrated low mastery/low performance viewpoints, and two participants demonstrated high mastery/low performance viewpoints. The participants’ perceptions of school goal structures did not necessarily align with their preferred approaches to instruction as none of the participants demonstrated high mastery/high performance school goal structure perceptions; yet, six of the seven participants demonstrated high mastery/high performance perceptions of
approaches to instruction. The results disclosed the teachers’ preferences for a combination of both goal orientations in their approaches to instruction.

The results of the Spearman’s rho statistical measure were unveiled in Table 9. The spearman’s rho was used seek statistically significant relationships between the ranked ordered values of the PALS scales serving as the independent variables and the ranked ordered values of the participants’ students’ mean LAA scores serving as the dependent variable. The results showed that the relationships between school goal structures were nonsignificant, but the relationship between the mastery and performance approaches to instruction was positively statistically significant. Midgley et al. (2000) found a relationship between the mastery-oriented approach to instruction and personal teaching efficacy, but this study did not demonstrate a statistically significant relationship between mastery and performance approaches to instruction and personal teaching efficacy. In addition, the results of this study did not demonstrate a statistically significant relationship between school goal structures and personal teaching efficacy. In all, the correlations between each PALS scale and the LAA scores were nonsignificant. These results suggest that teachers’ professional identity beliefs including perceptions of school goal structures, approaches to instruction, and personal teaching efficacy do not impact authentic assessment scores of their students. Even though there were no statistically significant findings in relation to the research question in this study, the empirical literature contains convincing information evidencing the impact of goal structures, goal orientations, and personal teaching efficacy on achievement.

In relation to the literature, personal teaching efficacy is resultant of a teacher’s professional identity, which is shaped by professional learning communities, knowledge of content, attitudes towards education, and pedagogical awareness (Midgley, 2002). The way
teachers run their classrooms, design instruction, and evaluate students portray their preferences for mastery or performance oriented classrooms. Performance orientations emerge when teachers encourage, expect, and reward students when they prove or demonstrate their abilities to their peers. Midgley (2002) stated, “Use of within-class ability grouping, rewards for superior achievement, public evaluative feedback, and uni-dimensional tasks in which student-to-student comparisons are easy to make are examples of performance-oriented instructional practices” (p. 208). In contrast, mastery orientations emerge when teachers encourage, expect, and privately praise students for gradually mastering content material and working hard to increase skills. These goal oriented approaches to instruction influence the way students view classroom goal structures. Midgley (2002) stated teachers who believe they can teach and impact all students regardless of environmental roadblocks such as socioeconomic factors tend to relay this worldview to their students leading to invested effort on both parts. Other researchers (Kilday et al., 2016; Miller et al., 2017) found that teachers with high levels of self-efficacy achieve greater student outcomes. Conversely, the results of the PALS scale 5 questions administered in this study were not consistent with the aforementioned information.

This study was somewhat unique because Ames and Archer (1988), Ben-Eliyahu et al. (2017), Ford et al. (1998), Newton and Martin (2013), and Pintrich (2000) were able to demonstrate how classroom climate influenced students to adopt mastery goal orientations, but they were investigating students’ perspectives of goal orientations. They were not seeking correlations between teachers’ perspectives of goal orientations and authentic outcomes-based assessments as conducted in this study. In addition, they did not survey instructors’ perspectives of assessment practices that build upon mastery goal traits. Moreover, Ford et al. (1998) used post-secondary students, and Ben-Eliyahu et al. (2017) used gifted youth as opposed to this study
utilizing general education middle school teachers as participants. Therefore, even though Ben-Eliyahu et al. (2017) found that mastery goal orientations predicted course performance and Newton and Martin (2013) found that participants’ deep learning approach scores predicted exam responses, the findings in this study could not be expected to compare to the other studies because of the exclusive design of this study.

Wiesman’s (2016) study revealed the need for educators to learn about effective motivational strategies that encourage students to learn and increase achievement. Ames and Archer (1988), Ben-Eliyahu et al. (2017), Ford, et al. (1998), Newton and Martin (2013), Pintrich (2000), and Vansteenkiste et al. (2014) added information about intellectual processes used for learning and achievement, but in the end, individuals make their own choices that affect achievement. Educators may be able to structure the overall school and classroom environment to foster mastery goal orientations, but it is each individual’s choice to follow. While the empirical literature may contain more insight about cognitive processes, more research needs to be conducted to understand choices behind goal orientations.

Miller et al. (2017) expressed a concern that standardized testing impeded teachers’ abilities to employ mastery goal structures within the classroom environment. Numerous required learning outcomes and state and district mandated instruction could become so prominent that teachers incorporate certain academic learning goals such as drill and practice into their own pedagogical practices. Midgley (2002) explained that school-level policies could also influence teachers to utilize more performance-orientated characteristics in their pedagogy. Public recognition by schools for outstanding achievement and honor roll assemblies are examples of school-level practices that weaken the mindset of recognizing student effort, improvement, and promoting learning from mistakes. This may account for the 86% of the
participants’ who fell in the high mastery/high performance category as opposed to the 14% (1 participant) who fell in the high mastery/low performance category. Therefore, the participants in this study could have been directly or indirectly influenced to adopt approaches to instruction or personal teaching efficacy traits based on state and district mandated testing. In addition, the LAA was an authentic assessment developed and administered across the district. Perhaps if each teacher constructed and administered an authentic assessment replica of that individual’s professional identity, the scores may have demonstrated more relationships.

In regards to middle school social studies teachers’ perspectives of authentic outcomes-based assessments, the participants’ indicated preferences for continued use of authentic outcomes-based assessments, even if it is part of a hybrid approach combined with traditional summative or standardized tests. Their responses to this study were indicative of the information contained in the literature regarding authentic outcomes-based assessments as methods of evaluation that allow students to think critically and creatively as well as apply knowledge to real world applications. Past researchers (Dweck & Leggett, 1988; Kaplan & Maehr, 2007; Middleton & Midgley, 1997; Midgley, 2002) noted that the authentic assessment methods reflect mastery achievement goals and motivate learners to create products that foster skill development and mastery of concepts. The authentic assessments take theory to practice by incorporating experiential learning as discussed in Kolb’s experiential learning model (Baglin et al., 2013). They give students opportunities to demonstrate the objectives of knowledge, comprehension, application, analysis, synthesis, and evaluation (Bloom, 1956) as they complete the assessment criteria.

Two of seven participants expressed concerns about inconsistent and subjective scoring. Midgley (2002) noted that one reason why stakeholders have been slow to adopt authentic
outcomes-based assessments as a primary assessment format is because the assessment results may lack validity. Some other concerns that could be argued include issues with cost, time, and limited assessment tools. After investigating outcomes-based assessments in two different educational settings in Australia, Brindley (2001) found that teacher developed alternative assessments varied in their construction, procedures, and scoring. It was noted that assessment practices need to correspond to methods of teaching and learning. In addition, institutions need to provide proper professional development related to constructing and administering authentic alternative assessments. As Brindley (2001) inferred, it would be a shame to abandon the authentic assessment format because of a few hiccups before knowing the potential impact authentic outcomes-based assessments could have on learners. The district level administrators may need to evaluate their use of rubrics and offer additional professional development to strengthen the scoring process. In addition, the school district may want to consider allowing faculty members instead of administrators to use national standards and taxonomies as guides to develop learning objectives and assessment criteria as discussed by Driscoll and Wood (2007). Finally, Ames (1992) made recommendations for students to have choices in their assessment criteria and for evaluation methods to be free of social comparison to reduce student competition of authentic products.

In addition to traditional assessments, the host school district has administered performance-based tasks as a form of authentic assessment; although, the participants selected simulations as their preferred assessment format with a frequency of 43%. According to Dunlap et al. (2008) and Mann et al. (2011), simulations allow learners to make discoveries and plans to solve presented problems. The next highest scoring authentic assessment the participants selected was performance-based tasks at 29%. Performance tasks, which are commonly used for
Common Core State Standards (CCSS) (VanTassel-Baska, 2013), give students opportunities to react to presented concepts and challenges. They involve making real world connections (Bergen, 1993) and experiential learning (Wiggins & McTighe, 2011). Portfolio assessments and traditional assessments were tied, each scoring 14%. Portfolios are typically assembled over a course of time. Students are given criteria such as learning outcomes for gathering materials, but they are able to make choices in their product selections (Lam, 2016). Portfolios frequently include written reflections of learning (Driscoll & Wood, 2007).

While the participants responded favorably to the use of authentic assessment in their district, they were apprehensive about their responses to the questions about the alignment between the district’s administration and the state’s framework for alternative assessments. Their responses also indicated they were challenged when scoring authentic outcomes-based assessments. Their concerns were consistent with Brindley (2001) and Midgley (2002) who found that teachers varied in their creation, administration, and scoring of assessments, while stakeholders were concerned with costs, time, and limited assessment tools. It is possible that a careful review of intended learning objectives, enhanced rubric designs, and professional development as mentioned by Brindley (2001) could relieve the participants’ concerns.

Limitations

The correlational portion of this study resulted in nonsignificant findings. The results may have been nonsignificant because there truly were no relationships between the investigated variables, or there could have been low power due to the small sample size leading to a small effect size. In this case, the small population ($N = 7$) size needs to be considered because the data reported from similar research demonstrated relationships between the variables. The nonsignificance found in this study could be due to a Type I error. Another study with a larger
sample size could result in different findings that are more consistent with previous research, or it could support the findings from this study, which may warrant new paths of research.

**Implication of the Results for Practice, Policy, and Theory**

The results from this study did not demonstrate statistically significant relationships; therefore, the independent variables were not found to predict the dependent variable. The review of literature evidenced a variety of findings by other researchers. For example, Ames and Archer (1988) found that mastery goal-oriented individuals tend to use learning strategies, take on difficult tasks, demonstrate satisfactory learning attitudes, and carry out strong work ethic. Ben-Eliyahu et al. (2017) found that students’ mastery goal orientations predicted course performance. Newton and Martin (2013) found that students’ deep learning approach scores predicted exam responses. Kilday et al. (2016) found a significant positive relationship between self-efficacy for student-oriented teaching (SE-SOT) and ratings of self-efficacy on measures for motivation and engagement. They also found a statistically significant relationship between teachers’ mastery goals and SE-SOT as well as between teachers’ general sense of efficacy and their teaching goals. The work of the aforementioned researchers suggests relationships between the variables could be possible if tested in a subsequent study with modifications.

The findings from this study served as a basis for forming implications for revisiting school culture and methods of evaluation. To begin with, the school district may want to consider finding ways to reward a mixture of abilities instead of just recognizing high scoring students. Ames (1992) explained that evaluation and reward affect student motivation (Ames, 1992). Implications included educators focusing on effort, improvement, and progress towards goals. Another suggestion is fostering an environment that encourages teachers to utilize

Next, continued used of authentic outcomes-based assessments is encouraged as the participants favored them over traditional summative or standardized assessments. Ford et al. (1998) believed that high-level metacognitive activities were characteristic of mastery-oriented classrooms. Smith (2016) found that authentic projects inspire students and boost collaboration, creativity, experiential learning, and self-efficacy. Those characteristics are unnoticed in standardized assessments. According to Midgley (2002), standardized assessments focus on facts and influence teachers to teach test-taking strategies instead of 21st century skills. Standardized assessments are adequate for indicating what students can recall (Huba & Freed, 2000), but they do not equip students with college and career readiness skills.

There are many reasons why it would be beneficial for educators to participate in professional development to improve the authentic assessment process instead of abandoning the assessment method. Other researchers (Baker et al., 2016; Coulby et al., 2011; Dabbagh & English, 2015; Holmes, 1997; McIntosh & Milam, 2016) found authentic outcomes-based assessments as satisfactory methods of evidencing learning, progress, and mastery of intended learning outcomes. They applauded the assessment formats for allowing students to utilize higher level learning skills, apply knowledge across contents, and showcase products. Ensuing professional development in designing comprehensive rubrics and scoring student products could reduce some of the concerns expressed by participants.

Finally, professional development in Bloom’s taxonomy (Bloom, 1956), Gardner’s (1983) theory of multiple intelligences, Kolb’s experiential learning theory (Kolb, 2015), and achievement goal theory could help teachers and administrators take theory to practice by using
real-world scenarios and college and career readiness skills when designing authentic outcomes-based assessments. More specifically, educators could use achievement goal theory to guide them in establishing learning environments reflective of mastery goal orientations that meet students’ needs and enhance teachers’ professional identities. Pintrich (2000) concluded that one goal structure should not be developed and the other ignored. Instead, educators should design activities that tap into both preferences of learning goals. Midgley (2002) inferred that a high mastery/low performance (Hi-Lo) would be the ideal model. The model developed by Ames (1992) could be used to help educators create mastery-oriented environments.

Baughman (2012) found that students gain desired learning outcomes through a culmination of processes, resources, and experiences. Bloom’s (1956) taxonomy could be used to tap into cognitive and affective learning behaviors as students work through the stages of knowledge, comprehension, application, analysis, and synthesis in preparation for authentic evaluations. Alternative assessments could foster deep learning as students move through Bloom’s (1956) hierarchal levels (Newton & Martin, 2013). Gardner’s (1983) multiple intelligence theory could be used to guide students in experiencing different strengths as students engage in a variety of competencies related to linguistic, musical, logical-mathematical, spatial, bodily-kinesthetic, and personal intelligences. Lastly, Kolb’s (2015) experiential learning theory could drive learners to build upon concepts and strengthen skills as students learn through their experiences and reflections.

**Recommendations for Further Research**

This study was limited to general education middle school social studies teachers in one public school district. Consideration of school goal structures, goal orientations, and personal teaching efficacy across multiple grade levels, content areas, gender, and professional roles could
heighten awareness of goal orientations and pedagogical methods that impact student motivation and achievement. In addition, this study focused on gathering teachers’ perspectives; however, surveying both teachers’ and students’ goal orientations could strengthen future studies by linking teachers’ motivations to teach and students’ motivations to learn. Much of the empirical literature about motivation and patterns of adaptive learning featured survey research that gathered students’ and teachers’ perspectives. There is limited mixed method research linking classroom observations to self-reported perceptions of goal structures, goal orientations, and personal teaching efficacy. Mixed method research investigating teachers’ and students’ goal choices may highlight thought processes that encourage individuals to make the instructional and learning choices they make. Finally, in consideration of the data collected about the alignment between the state’s framework for alternate assessments and the district’s use of performance-based tasks, gathering more data about the impact of school policies, state and federal mandates, and community expectations may strengthen understandings about the reasoning for instructional and assessment decisions.

**Conclusion**

The empirical literature evidenced the impact of goal structures and teachers’ professional identities on student motivation. Ames and Archer (1988), Ben-Eliyahu et al. (2017), Ford et al. (1998), Kilday et al. (2016), Miller et al. (2017), Newton and Martin (2013), Pintrich (2000), Vansteenkiste et al. (2014), and Wiesman (2016) demonstrated relationships between cognitive processes and achievement. Some of the results found in this study regarding goal orientations and personal teaching efficacy contradicted the results found in other studies, which may be due to the small population of participants; therefore, the results are presented
with caution. The discussion of the correlational portion of this study was based on circumstantial thoughts replica of the unique conditions and criteria that were investigated.

If the previous studies were considered normal circumstances in which the results presented evidences of truth, the correlational portion of this study would represent an exception to the truth. The finding of the following research question was nonsignificant: How do middle school social studies teachers’ perceptions of patterns of adaptive learning relate to their students’ authentic outcomes-based assessment scores? The null hypothesis that middle school social studies teachers’ perceptions of patterns of adaptive learning do not predict their students’ authentic outcomes-based assessment scores was retained because no statistically significant relationships resulted from the following subquestions: (a) How do middle school social studies teachers’ perceptions of school goal structures relate to their students’ authentic outcomes-based assessment scores? (b) How do middle school social studies teachers’ perceptions of mastery and performance approaches to instruction relate to their students’ authentic outcomes-based assessment scores? (c) How do middle school social studies teachers’ perceptions of teacher efficacy relate to their students’ authentic outcomes-based assessment scores?

A major finding in the correlational portion of this study was that the participants’ perceptions of approaches to instruction fell in the two high mastery categories, but the larger majority of their perceptions of school goal structures fell in the performance categories. Therefore, there appears to be a disconnect between what the school conveys is the purpose of learning and what the teachers convey is the purpose of learning. In consideration of the descriptive portion of the study, some major findings were that the participants preferred authentic outcomes-based assessments to traditional summative or standardized assessments; although, they also favored a hybrid approach of the two formats. Even though the participants
preferred authentic assessments, they indicated uncertainty about the alignment between their
district’s use of authentic assessment and the state’s framework for alternative assessments.
Finally, the participants indicated concerns with inconsistent scoring of authentic assessments,
time constraints, and rubric designs. Some limitations that need to be kept in mind in considering
those results include the limited number of cases in this study. They were limited to middle
school social studies teachers in one school district. Because the participants were contained
within one school district at the middle school level, their responses may not be representative of
a larger, more diverse population. Their responses, however, could still benefit the host district
and other school districts under similar circumstances.

The results of the descriptive research portion of this study focused on authentic
outcomes-based assessments, which were consistent with previous literature about authentic
forms of assessment. Previous researchers explained that authentic outcomes-based assessments
echo mastery achievement goals, which encourage learners to delve deep into the learning
process to develop skills and master concepts (Dweck & Leggett, 1988; Kaplan & Maehr, 2007;
Middleton & Midgley, 1997; Midgley, 2002). The authentic assessments such as projects,
portfolios, and performance tasks incorporate experiential learning, challenging tasks, reflection,
collaboration, and critical thinking (Brindley, 1998).

The participants’ responses were similar to some of the key points found in the empirical
literature such as authentic outcomes-based assessments replicating real-world problems and
offering students opportunities for creativity. Scoring authentic assessments with rubrics was an
area of concern reported by the participants. The literature also discussed similar concerns about
authentic assessment results lacking validity (Brindley, 1998; Brindley, 2001; Maki, 2002). In
addition, the participants indicated the time consumed in scoring authentic assessments was a
problem. Their concerns were comparable to Midgley’s (2002) discussion recognizing issues with scoring alternative assessments such as amount of time, the need for expert skills, and the lack of consistency. To remedy these problems, suggestions were made for ample training through professional development.

Despite the challenges, the participants still favored authentic outcomes-based assessments over traditional assessments because students can demonstrate creativity, critical thinking, and application of skills to real world scenarios. Their overall views supported Huba and Freed’s (2000) argument for authentic assessments because the evaluation methods drive students to engage in learning and demonstrate mastery of content. Similar to Driscoll and Wood’s (2007) findings, the agreement among participants was that authentic assessments helped students demonstrate 21st century skills. Therefore, the findings in the descriptive portion of this study supported the work of other researchers discussed in the literature review.

The literature review offered examples of simulations, competency-based assessments, portfolio assessments, and project-based assessments that impacted or showed significant relationships to student achievement. The participants in this study, who were comprised of teachers, indicated they preferred engaging assessments replica of real world situations that require problem solving and feedback to extend learning. Specific types of assessments the participants were fond of were simulations (43%), performance-based tasks (29%), portfolio assessments (14%), and traditional summative or standardized assessments (14%). Simulations allow learners to engage in real world scenarios and solve problems. Performance tasks allow students to think critically and apply knowledge to presented tasks replica of real world scenarios. Portfolios allow students to gather authentic artifacts over time with some degree of student choice.
The assessment methods support Bloom’s taxonomy (Bloom, 1956), Gardner’s (1983) theory of multiple intelligences, Kolb’s (2015) experiential learning theory, and goal achievement theory, which contributed to the framework used in this study to understand the connections between motivation and learning. Hence, the conclusions drawn in this study were respectful of the theoretical principles and previously tested relationships evident in the empirical literature. The well-established theories could serve as beacons to guide teachers in establishing mastery-oriented learning environments, creating assessments that take theory to practice, and providing students with college and career readiness skills. Achievement goal theory can help educators improve their professional identities and school and classroom goal structures. Bloom’s taxonomy could hold teachers and students accountable for moving sequentially through the stages of knowledge, comprehension, application, analysis, synthesis, and evaluation. Gardner’s (1983) multiple intelligence theory could be used to encourage learning through a variety of competencies related to linguistic, musical, logical-mathematical, spatial, bodily-kinesthetic, and personal intelligences. Finally, Kolb’s (2015) experiential theory could be used to drive learning through experiences and reflections.

The participants in this study did not totally discount traditional assessments. While the traditional assessment format scored lower than the participants’ mean score for authentic outcomes-based assessments, the participants responded favorably to the thought of a hybrid approach to evaluation by combining authentic and traditional assessments. Traditional assessments could be teacher, department, or district made summative exams or standardized tests. They are usually designed to include multiple choice or true/false questions. The argument presented by the literature was that while they continue to be common forms of assessments, they do not reflect students’ creativity, problem-solving skills, or critical thinking skills.
Therefore, this researcher advocated for supplementing or combining traditional assessments with a variety of authentic assessments that would allow students to exhibit 21st century skills and transfer knowledge to authentic products.

This research paved the way for new ideas by answering the proposed research questions and giving suggestions for new areas of focus. One suggestion that was made for new research based on the results of this study included repeating the research design across multiple grade levels, content areas, gender, and professional roles to heighten awareness about relationships between goal orientations and achievement. Surveying both teachers and students could demonstrate connections between motivations to teach, motivations to learn, and perceptions of authentic assessments. Mixed method research could allow new researchers to dig deeper into goal structures, goal orientations, personal teaching efficacy, and authentic assessments. Finally, learning more about relationships between goal structures, assessment practices, school policies, state and federal mandates, and community expectations could pinpoint why individuals make the instructional and learning choices they make.
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*Graduate Theses and Dissertations.* Paper 12592.


doi: 10.1177/026553229801500103


Murray, Perez, Geist, & Hedrick (2012). Student interaction with online course content: Build it and they might come. *Journal of Information Technology Education: Research, 11*, 125–140.


Appendix A: Research Site Consent

June 19, 2017

Tamela W. Hoak
[contact information redacted]

[redacted]

Dear [redacted]:

I am writing this letter to seek permission to conduct a study for the purpose of a dissertation I am writing as an educational doctoral candidate. The study I would like to conduct includes correlational and descriptive research designs. The purpose of the correlational portion of this study is to relate teachers’ perceptions of school goal structure, mastery and performance approaches to instruction, and teacher efficacy to outcomes-based assessment scores of middle school students. The purpose of the descriptive or survey portion of this study is to investigate teachers’ perceptions of outcomes-based assessments as effective means of measuring student knowledge. The descriptive portion of this research study will examine how outcomes-based assessments differ from traditional summative assessments in regards to demonstrating mastery of intended outcomes. This study will explore the scope of outcomes-based assessments, the challenges educators face when scoring outcomes-based assessments, and the resources students use during times of outcomes-based assessments.

The target population for this study includes [school] teachers who teach sixth and seventh grade social studies courses. The reasoning for selecting this research site is due to my employment from August 2013 to July 2017 with the school district as a special education teacher. The instrument or tool used to measure the variables for the correlational portion of this study was derived from the Patterns of Adaptive Learning Survey (PALS). This study will utilize the scales designed for teachers as opposed to the scales designed for students. An instrument will be designed for the descriptive, or survey, portion of this study to collect data about teachers’ perceptions of outcomes-based assessments. The questions constructed for the descriptive portion of the study will be clear and self-explanatory. Most of the questions will be closed questions. The questions will address the research questions, and they will offer sufficient categories to allow for variation between participants. The instrument will be pretested. Teachers will complete the survey questions electronically using Qualtrics software after the participants’ students have completed the performance-based task component of the quarterly LAA assessment. Qualtrics is the statistical program Concordia University uses to collect survey data from human subjects. Qualtrics will be used to develop, administer, and analyze surveys and responses. All of the information will be coded to ensure confidentiality.

The participants I wish to collect data from are my professional colleagues. I do not supervise them, and we do not co-teach together. We teach in different departments. My reasoning for inviting them to participate in this study is due to their professional roles as social studies teachers who administer the LAA quarterly assessments to students in the 6th and 7th grades.
The LAA assessment format [the school district] chose to administer was a performance-based task, which falls under outcomes-based assessments. I will establish boundary limitations for this study to maintain professional relationships with the participants and gatekeepers of the school institution to avoid unethical or accidental exchanges of confidential.

This study will include procedures for obtaining consent from the gatekeepers and the participants of the research location. They will be made aware of the purpose of the research, and their participation will be completely voluntary without consequences for nonparticipation. Participants will be assigned numbers to protect their anonymity. The time that will be needed to complete the surveys will cause minimal disruption to the participants’ duties, and there will be minimal to no psychological or social risks.

I look forward to hearing your decision.

Sincerely,

Tamela W. Hoak
Appendix B: Survey Consent

Concordia University–Portland Institutional Review Board
Approved: September 27, 2017; will Expire: September 19, 2018

Research Study Title: Middle School Teachers’ Perceptions of Goal Orientations, Teacher Self-Efficacies, and Authentic Outcomes-Based Assessments
Principal Investigator: Ms. Tamela W. Hoak
Research Institution: [Redacted]
Faculty Advisor: Dr. John Mendes

Purpose and what you will be doing:
The purpose of the correlational portion of this study is to relate teachers’ perceptions of school goal structure, mastery and performance approaches to instruction, and teaching efficacies to outcomes-based assessment scores of middle school students. The purpose of the descriptive or survey portion of this study is to investigate teachers’ perceptions of outcomes-based assessments as an effective means of measuring student knowledge. This study will investigate how outcomes-based assessments differ from traditional summative assessments in regards to demonstrating mastery of intended outcomes. This study will explore the scope of outcomes-based assessments, the challenges educators face when scoring outcomes-based assessments, and the resources students use during times of outcomes-based assessments. It is expected that eleven volunteers will participate in this study. No one will be paid to be in the study. Enrollment will begin on April 13, 2018 and end June 3, 2018.

The target population for this study includes the teachers in [the host school district] who teach middle school social studies courses and administer the Local Alternative Assessment (LAA). The reasoning for inviting social studies teachers to participate in this study is due to the administration of the LAA. The LAA assessment format [the host school district] chose to administer was a performance-based task, which is a type of an authentic outcomes-based assessment. Teachers will complete the survey questions electronically using Qualtrics software after the participants’ students have completed the performance-based task component of the quarterly LAA assessment. Qualtrics is the statistical program Concordia University uses to collect survey data from human subjects. Qualtrics will be used to develop, administer, and analyze surveys and responses. Participation in this study will be completely voluntary without consequences for nonparticipation.
Risks:
The survey questions will not contain any identifying factors. The survey questions should take less than 15–20 minutes of your time; therefore, the time necessary to complete the surveys will cause minimal disruption to your duties with little to no psychological or social risks. The survey questions will address your beliefs about whether students engage in academic work to demonstrate or develop competence, if you believe you contribute significantly to the academic progress of your students, if you believe the local alternative assessment is an effective measure of student learning, the challenges you face in scoring the LAA, and forms of technology students use when completing the LAA.

Benefits:
The information you provide will help educators understand teachers’ thoughts about the LAA as a means to measure student knowledge and if teachers’ perceptions of school goal structure, mastery and performance approaches to instruction, and teaching efficacies have any relationship to outcomes-based assessment scores of middle school students. Your participation in this study will be a significant contribution.

Confidentiality:
As a participant, you will be given a code that only I, the principal researcher, will know. This code will be used for the recording of data, which will protect your privacy and keep your responses confidential. This information will not be distributed to any other agency and will be kept private and confidential. The only exception to this is if you tell us about abuse or neglect that makes us seriously concerned for your immediate health and safety.

Right to Withdraw:
Your participation is greatly appreciated, but we acknowledge that the questions we are asking are personal in nature. You are free at any point to choose not to engage with or stop the study. You may skip any questions you do not wish to answer. This study is not required and there is no penalty for not participating. If at any time you experience a negative emotion from answering the questions, we will stop asking you questions.

Contact Information:
You will receive a copy of this consent form. If you have questions, you can talk to or write the principal investigator, Ms. Tamela W. Hoak at [redacted]. If you want to talk with a participant advocate other than the investigator, you can write or call the director of our institutional review board, Dr. OraLee Branch (email branch@cu-portland.edu or call 503-493-6390).
**Your Statement of Consent:**
I have read the above information. I asked questions if I had them, and my questions were answered. I volunteer my consent for this study.

_______________________________       _________
Participant Name                   Date

_______________________________       _________
Participant Signature              Date

_______________________________       _________
Investigator Name                  Date

_______________________________       _________
Investigator Signature             Date

Investigator: Tamela W. Hoak email: [redacted]
c/o: Professor John Mendes
Concordia University–Portland
2811 NE Holman Street
Portland, Oregon  97221
Appendix C: Survey

Patterns of Adaptive Learning Scales (PALS) for Teachers

PALS Scales 1-5 / Questions 1-30

1. I give special privileges to students who do the best work.
   
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2. If I try really hard, I can get through to even the most difficult student.

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3. In this school, the importance of trying hard is really stressed to students.

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4. I make a special effort to recognize students’ individual progress, even if they are below grade level.

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5. In this school, students are told that making mistakes is OK as long as they are learning and improving.

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6. Factors beyond my control have a greater influence on my students’ achievement than I do.

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7. In this school: It’s easy to tell which students get the highest grades and which students get the lowest grades.

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8. I am good at helping all the students in my classes make significant improvement.

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9. I display the work of the highest achieving students as an example.

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10. In this school, students who get good grades are pointed out as an example to others.

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11. During class, I often provide several different activities so that students can choose among them.

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12. In this school, students hear a lot about the importance of getting high test scores.

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13. I consider how much students have improved when I give them report card grades.

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14. In this school, a lot of the work students do is boring and repetitious.

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15. In this school, grades and test scores are not talked about a lot.

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16. In this school, students are frequently told that learning should be fun.

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17. I help students understand how their performance compares to others.

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18. Some students are not going to make a lot of progress this year, no matter what I do.

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19. I encourage students to compete with each other.

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20. In this school, the emphasis is on really understanding schoolwork, not just memorizing it.

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21. I point out those students who do well as a model for the other students.

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22. In this school, a real effort is made to recognize students for effort and improvement.

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23. I am certain that I am making a difference in the lives of my students.

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24. There is little I can do to ensure that all my students make significant progress this year.

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25. In this school, students hear a lot about the importance of making the honor roll or being recognized at honor assemblies.

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26. I give a wide range of assignments, matched to students’ needs and skill level.

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27. In this school, a real effort is made to show students how the work they do in school is related to their lives outside of school.

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28. I can deal with almost any learning problem.

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29. In this school, students are encouraged to compete with each other academically.

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**Self-Constructed Survey Questions**

30. I believe outcomes-based assessments, such as the performance-based task used for the local alternative assessment (LAA), are more effective than traditional summative assessments.

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31. I believe traditional summative or standardized assessments are more effective than authentic outcomes-based assessments to demonstrate student mastery of the educational institution’s intended outcomes.

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32. I believe educational systems need to implement a hybrid of authentic outcomes-based assessments and traditional summative assessments to ensure student mastery of intended learning outcomes.

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33. Rank your preference from 1 (first choice) to 6 (last choice) of assessments middle school students could participate in to demonstrate mastery of concepts.

- ______ traditional summative/standardized assessments
- ______ project-based assessments (project board, presentation, book, e-book, video, blog, etc.)
- ______ performance-based tasks or assessments (graph, writing sample, experiment)
- ______ portfolio assessments (traditional portfolios, electronic portfolios)
- ______ competency-based assessments (tasks to evaluate workforce related skills/competencies)
- ______ simulations (role-play, virtual gaming style environments)
34. Scoring authentic outcomes-based assessments is challenging because it is difficult to follow prescribed rubrics.

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35. Scoring authentic outcomes-based assessments is challenging because it is time-consuming.

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36. Scoring authentic outcomes-based assessments is challenging because teachers are inconsistent in the way they interpret or follow prescribed rubrics.

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<tbody>
<tr>
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<td>NEITHER AGREE NOR DISAGREE</td>
<td>SOMEWHAT AGREE</td>
<td>STRONGLY AGREE</td>
</tr>
</tbody>
</table>

37. What resources do middle school students use during times of outcomes-based assessments?

- Computer with word processing software including spell check
- Computer with word processing software excluding spell check
- Computer with presentation software (slideshow/video)
- IPads
- Posters
- Coloring instruments (markers/crayons/colored pencils)
- Graph paper
- Lined paper
- Writing instruments
- Highlighters
- Primary resources
- Secondary resources
- Textbooks
- Novels
- Notes
- Project boards

38. What performance task is currently used by your educational institution for the LAA?

- 3-D model
- blog/journal
- concept map
- dance/movement
- debate
- dramatic reading
- enactment
- essay
- fill-in-the-blank
- flow chart
- iMovie
- interview
- lab report
- label a diagram
- learning log
- learning log
- matrix
- music performance
- oral presentation
- portfolio
- slideshow presentation
- project
- research paper
- short answer questions
- story/play
39. In your personal opinion, what six performance tasks could students at your educational institution participate in to demonstrate mastery of intended learning outcomes in the social studies content area? Rank your preference from 1 (first choice) to 6 (last choice).

3-D model
fill-in-the-blank
music performance
blog/journal
flow chart
oral presentation
concept map
iMovie
portfolio
dance/movement
interview
slideshow
debate
lab report
project
D model
fill-in-the-blank
music performance

40. What challenges do you incur when scoring performance-based tasks/assessments?

understanding the rubric
frustrations with rubric design
lack of rubric categories
too many rubric categories
lack of assessed objectives
too many assessed objectives
lack of resources
lack of time to score the assessments
inconsistencies between teachers scoring the assessment (one scores harder or easier than another)

41. Do you believe the LAA is an adequate means of evaluating student learning as described in VDOE’s (2016) framework for implementing LAAs in Virginia?

STRONGLY
SOMETHAT
NEITHER AGREE
SOMETHAT
STRONGLY
DISAGREE
DISAGREE
NOR DISAGREE
AGRE
AGRE

42. Do you believe the LAA is an adequate means of demonstrating student progress relative to intended learning outcomes as described in VDOE’s (2016) framework for implementing LAAs in Virginia?

STRONGLY
SOMETHAT
NEITHER AGREE
SOMETHAT
STRONGLY
DISAGREE
DISAGREE
NOR DISAGREE
AGRE
AGRE

43. Do you believe the LAA is an adequate means of making formative decisions that inform instruction as described in VDOE’s (2016) framework for implementing LAAs in Virginia?

STRONGLY
SOMETHAT
NEITHER AGREE
SOMETHAT
STRONGLY
DISAGREE
DISAGREE
NOR DISAGREE
AGRE
AGRE
44. Do you believe the LAA is an adequate means of preparing students for career and college readiness skills and 21st century skills (critical thinking, creativity, communication, collaboration, and citizenship) as described in VDOE’s (2016) framework for implementing LAAs in Virginia?

<table>
<thead>
<tr>
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<th>5</th>
</tr>
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<td>NEITHER AGREE NOR DISAGREE</td>
<td>SOMEWHAT AGREE</td>
<td>STRONGLY AGREE</td>
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</tbody>
</table>

45. Do you believe the LAA is an adequate means of strengthening interdisciplinary (multiple contents) integration and alignment as described in VDOE’s (2016) framework for implementing LAAs in Virginia?

<table>
<thead>
<tr>
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<th>5</th>
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<td>SOMEWHAT AGREE</td>
<td>STRONGLY AGREE</td>
</tr>
</tbody>
</table>

46. Do you believe the LAA could be used to provide public exhibitions/showcases of students’ performances and products as described in VDOE’s (2016) framework for implementing LAAs in Virginia?

<table>
<thead>
<tr>
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<th>3</th>
<th>4</th>
<th>5</th>
</tr>
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<tbody>
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<td>NEITHER AGREE NOR DISAGREE</td>
<td>SOMEWHAT AGREE</td>
<td>STRONGLY AGREE</td>
</tr>
</tbody>
</table>

47. Do you believe the LAA could be used to connect assessment and pedagogy to develop instructional methods and strategies as described in VDOE’s (2016) framework for implementing LAAs in Virginia?

<table>
<thead>
<tr>
<th>1</th>
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<th>4</th>
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</tr>
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<tbody>
<tr>
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<td>NEITHER AGREE NOR DISAGREE</td>
<td>SOMEWHAT AGREE</td>
<td>STRONGLY AGREE</td>
</tr>
</tbody>
</table>

48. According to the scoring rubric, what is the maximum number of points a student could earn on the LAA you administered during the 1st nine weeks of the 2017/2018 school year?

49. According to the scoring rubric, what was the mean score of all of your students’ LAA assessments? The mean score can be calculated by adding the scores of all of the LAA assessments administered to your classes, and then divide that number by the total number of assessments administered. If you teach six classes, you will report the mean score for all of the students in the six classes combined.

Mean Score:

50. What was the calculated mean LAA score converted to a percentile on a 100 point scale?
51. Optional: What additional comments would you like to offer related to your thoughts, experiences, and/or concerns about using authentic outcomes-based assessments such as a performance task as an evaluation method for the LAA?
Appendix D: Perceptions of the School Goal Structure for Students Survey (Scale 1)

Patterns of Adaptive Learning Scales (PALS)

Perceptions of the School Goal Structure for Students: Mastery

This refers to teachers’ perceptions that the school conveys to students that the purpose of engaging in academic work is to develop competence. In this school:

3. The importance of trying hard is really stressed to students.
5. Students are told that making mistakes is OK as long as they are learning and improving.
14. A lot of the work students do is boring and repetitious (reversed).
16. Students are frequently told that learning should be fun.
20. The emphasis is on really understanding schoolwork, not just memorizing it.
22. A real effort is made to recognize students for effort and improvement.
27. A real effort is made to show students how the work they do in school is related to their lives outside of school.


Table 11

Hoak’s Rank Ordered Scores and Means per Question on PALS Scale 1

<table>
<thead>
<tr>
<th>Case</th>
<th>Item Number</th>
<th>M</th>
<th>Rank Order</th>
<th>LAA M</th>
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<td>4 5</td>
<td>85.92</td>
<td></td>
</tr>
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</tr>
<tr>
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<td>M</td>
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</table>
Appendix E: Perceptions of the School Goal Structure for Students Survey (Scale 2)

Patterns of Adaptive Learning Scales (PALS)

Perceptions of the School Goal Structure for Students: Performance

This refers to teachers’ perceptions that the school conveys to students that the purpose of engaging in academic work is to demonstrate competence. In this school:

7. It’s easy to tell which students get the highest grades and which students get the lowest grades.
10. Students who get good grades are pointed out as an example to others.
12. Students hear a lot about the importance of getting high test scores.
15. Grades and test scores are not talked about a lot.
25. Students hear a lot about the importance of making the honor roll or being recognized at honor assemblies.
29. Students are encouraged to compete with each other academically.


Table 12

Hoak’s Rank Ordered Scores and Means per Question on PALS Scale 2

<table>
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<tr>
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Appendix F: Approaches to Instruction-Mastery Approaches Survey Scale 3

Patterns of Adaptive Learning Scales (PALS)

Approaches to Instruction: Mastery Approaches

This refers to teacher strategies that convey to students that the purpose of engaging in academic work is to develop competence. In my classroom:

4. I make a special effort to recognize students’ individual progress, even if they are below grade level.
11. During class, I often provide several different activities so that students can choose among them.
13. I consider how much students have improved when I give them report card grades.
26. I give a wide range of assignments, matched to students’ needs and skill level.


Table 13

Hoak’s Rank Ordered Scores and Means per Question on PALS Scale 3

<table>
<thead>
<tr>
<th>Case</th>
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<th>13</th>
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<td>Item</td>
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<td>3</td>
<td>4.14</td>
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<td>74.43</td>
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</table>
Apprendix G: Approaches to Instruction-Performance Approaches Survey Scale 4

Patterns of Adaptive Learning Scales (PALS)

Approaches to Instruction: Performance Approaches

This refers to teacher strategies that convey to students that the purpose of engaging in academic work is to demonstrate competence. In my classroom:

1. I give special privileges to students who do the best work.
9. I display the work of the highest achieving students as an example.
17. I help students understand how their performance compares to others.
19. I encourage students to compete with each other.
21. I point out those students who do well as a model for the other students.


Table 14

Hoak’s Rank Ordered Scores and Means per Question on PALS Scale 4

<table>
<thead>
<tr>
<th>Case</th>
<th>Item Number</th>
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<th></th>
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</tr>
<tr>
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<td></td>
<td></td>
<td></td>
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<td>4</td>
<td>59.92</td>
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</tr>
<tr>
<td>3</td>
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<td>7</td>
<td>88.00</td>
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<td>69.25</td>
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<td></td>
<td></td>
<td>2.6</td>
<td>2</td>
<td>85.79</td>
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Appendix H: Personal Teaching Efficacy Survey (Scale 5)
Patterns of Adaptive Learning Scales (PALS)

Personal Teaching Efficacy

This refers to teachers’ beliefs that they are contributing significantly to the academic progress of their students, and can effectively teach all students.

2. If I try really hard, I can get through to even the most difficult student.
6. Factors beyond my control have a greater influence on my students’ achievement than I do.
8. I am good at helping all the students in my classes make significant improvement.
18. Some students are not going to make a lot of progress this year, no matter what I do.
23. I am certain that I am making a difference in the lives of my students.
24. There is little I can do to ensure that all my students make significant progress this year.
28. I can deal with almost any learning problem.


Table 15

Hoak’s Rank Ordered Scores and Means per Question on PALS Scale 5

<table>
<thead>
<tr>
<th>Case</th>
<th>Item Number</th>
<th>M</th>
<th>Rank Order</th>
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</table>
Appendix I: Results of Survey Questions 31–51

Q31-32: Effectiveness of Authentic Outcomes-Based Assessments

These questions refer to the effectiveness of authentic outcomes-based assessments used to demonstrate student mastery of intended objectives.

30. I believe outcomes-based assessments, such as the performance-based tasks used for the local alternative assessment (LAA), are more effective than traditional summative assessments.

31. I believe traditional summative or standardized assessments are more effective than authentic outcomes-based assessments to demonstrate student mastery of the educational institution’s intended outcomes.

32. I believe educational systems need to implement a hybrid of authentic outcomes-based assessments and traditional summative assessments to ensure student mastery of intended learning outcomes.

Descriptive Statistics: Items 30-32

<table>
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<th>Items</th>
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Note: (N = 7)
### Q33: Teachers’ Perspectives of Authentic Assessments to Demonstrate Mastery of Concepts

This question refers to teachers’ perspectives of authentic outcomes-based assessments that could be used to demonstrate mastery of concepts.

33. Rank your preference from 1 (first choice) to 6 (last choice) of assessments middle school students could participate in to demonstrate mastery of concepts.

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<th>Assessment Type</th>
<th>Statistic</th>
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<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>Ranked 1&lt;sup&gt;st&lt;/sup&gt; choice to 6&lt;sup&gt;th&lt;/sup&gt; choice</th>
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<tbody>
<tr>
<td>Traditional summative or standardized assessments</td>
<td>Preferred assessment %</td>
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<td>2</td>
<td>1</td>
<td>0</td>
<td>3</td>
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<tr>
<td>Project-based assessments (project board, presentation, book, e-book, video, blog, etc.)</td>
<td>Preferred assessment %</td>
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<td>57.14</td>
<td>14.29</td>
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<td>0</td>
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<td></td>
</tr>
<tr>
<td>Performance-based tasks or assessments (graph, writing sample, experiment)</td>
<td>Preferred assessment %</td>
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<td>42.86</td>
<td>14.29</td>
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<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Portfolio assessments (traditional portfolios, electronic portfolios)</td>
<td>Preferred assessment %</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>28.57</td>
<td>57.14</td>
<td>14.29</td>
<td></td>
</tr>
<tr>
<td></td>
<td>n</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>4</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Competency-based assessments (tasks to evaluate workforce related skills/competencies)</td>
<td>Preferred assessment %</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>42.86</td>
<td>42.86</td>
<td>14.29</td>
<td></td>
</tr>
<tr>
<td></td>
<td>n</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>3</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Simulations (role-play, virtual gaming style environments)</td>
<td>Preferred assessment %</td>
<td>14.29</td>
<td>0.00</td>
<td>42.86</td>
<td>14.29</td>
<td>0.00</td>
<td>28.57</td>
<td></td>
</tr>
<tr>
<td></td>
<td>n</td>
<td>1</td>
<td>0</td>
<td>3</td>
<td>1</td>
<td>0</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>
Q34-36: Perspectives of Scoring Authentic Outcomes-Based Assessments

These questions refer to teachers’ perspectives of scoring authentic outcomes-based assessments.

34. Scoring authentic outcomes-based assessments such as the performance task used for the LAA is challenging because it is difficult to follow prescribed rubrics.

35. Scoring authentic outcomes-based assessments such as the performance task used for the LAA is challenging because it is time-consuming.

36. Scoring authentic outcomes-based assessments such as the performance task used for the LAA is challenging because teachers are inconsistent in the way they interpret or follow prescribed rubrics.

Descriptive Statistics: Items 34-36

<table>
<thead>
<tr>
<th>Items</th>
<th>$M$</th>
</tr>
</thead>
<tbody>
<tr>
<td>34</td>
<td>3.43</td>
</tr>
<tr>
<td>35</td>
<td>4.14</td>
</tr>
<tr>
<td>36</td>
<td>4.29</td>
</tr>
</tbody>
</table>

Note: ($N = 7$)
Q37: Teachers’ Perspectives of Resources Used During Authentic Assessments

This question refers to teachers’ perspectives of the resources students use during times of authentic outcomes-based assessments.

37. What resources do middle school students use during times of authentic outcomes-based assessments such as the performance task used for the LAA? (Select all that apply)

<table>
<thead>
<tr>
<th>Resource</th>
<th>%</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coloring instruments (markers/crayons/colored pencils)</td>
<td>5.56</td>
<td>2</td>
</tr>
<tr>
<td>Computer with presentation software (slideshow/video)</td>
<td>5.56</td>
<td>2</td>
</tr>
<tr>
<td>Computer with word processing software excluding spell check</td>
<td>8.33</td>
<td>3</td>
</tr>
<tr>
<td>Computer with word processing software including spell check</td>
<td>11.11</td>
<td>4</td>
</tr>
<tr>
<td>Graph paper</td>
<td>0.00</td>
<td>0</td>
</tr>
<tr>
<td>Highlighters</td>
<td>8.33</td>
<td>3</td>
</tr>
<tr>
<td>IPads</td>
<td>0.00</td>
<td>0</td>
</tr>
<tr>
<td>Lined paper</td>
<td>13.89</td>
<td>5</td>
</tr>
<tr>
<td>Notes</td>
<td>5.56</td>
<td>2</td>
</tr>
<tr>
<td>Novels</td>
<td>0.00</td>
<td>0</td>
</tr>
<tr>
<td>Posters</td>
<td>5.56</td>
<td>2</td>
</tr>
<tr>
<td>Primary resources</td>
<td>11.11</td>
<td>4</td>
</tr>
<tr>
<td>Project boards</td>
<td>2.78</td>
<td>1</td>
</tr>
<tr>
<td>Secondary resources</td>
<td>5.56</td>
<td>2</td>
</tr>
<tr>
<td>Textbooks</td>
<td>5.56</td>
<td>2</td>
</tr>
<tr>
<td>Writing instruments</td>
<td>11.11</td>
<td>4</td>
</tr>
<tr>
<td>Total</td>
<td>100.00</td>
<td></td>
</tr>
</tbody>
</table>
Q38: Teachers’ Perspectives of Performance Tasks Used for LAA

Question 38. What performance task is currently used by your educational institution for the LAA?

<table>
<thead>
<tr>
<th>Performance Task</th>
<th>%</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-D model</td>
<td>0.00%</td>
<td>0</td>
</tr>
<tr>
<td>blog/journal</td>
<td>6.25%</td>
<td>1</td>
</tr>
<tr>
<td>concept map</td>
<td>0.00%</td>
<td>0</td>
</tr>
<tr>
<td>dance/movement</td>
<td>0.00%</td>
<td>0</td>
</tr>
<tr>
<td>debate</td>
<td>0.00%</td>
<td>0</td>
</tr>
<tr>
<td>dramatic reading</td>
<td>0.00%</td>
<td>0</td>
</tr>
<tr>
<td>enactment</td>
<td>0.00%</td>
<td>0</td>
</tr>
<tr>
<td>essay</td>
<td>43.75%</td>
<td>7</td>
</tr>
<tr>
<td>fill-in-the-blank</td>
<td>0.00%</td>
<td>0</td>
</tr>
<tr>
<td>flow chart</td>
<td>0.00%</td>
<td>0</td>
</tr>
<tr>
<td>iMovie</td>
<td>0.00%</td>
<td>0</td>
</tr>
<tr>
<td>interview</td>
<td>6.25%</td>
<td>1</td>
</tr>
<tr>
<td>lab report</td>
<td>0.00%</td>
<td>0</td>
</tr>
<tr>
<td>label a diagram</td>
<td>0.00%</td>
<td>0</td>
</tr>
<tr>
<td>learning log</td>
<td>0.00%</td>
<td>0</td>
</tr>
<tr>
<td>matrix</td>
<td>0.00%</td>
<td>0</td>
</tr>
<tr>
<td>music performance</td>
<td>0.00%</td>
<td>0</td>
</tr>
<tr>
<td>oral presentation</td>
<td>0.00%</td>
<td>0</td>
</tr>
<tr>
<td>portfolio</td>
<td>0.00%</td>
<td>0</td>
</tr>
<tr>
<td>slideshow presentation</td>
<td>6.25%</td>
<td>1</td>
</tr>
<tr>
<td>project</td>
<td>6.25%</td>
<td>1</td>
</tr>
<tr>
<td>research paper</td>
<td>0.00%</td>
<td>0</td>
</tr>
<tr>
<td>short answer questions</td>
<td>31.25%</td>
<td>5</td>
</tr>
<tr>
<td>story/play</td>
<td>0.00%</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
<td></td>
</tr>
</tbody>
</table>
Q39: Teachers’ Perspectives of Possible Performance Tasks to Demonstrate Mastery of Concepts

This question refers to teachers’ perspectives of performance tasks students could participate in to demonstrate mastery of intended learning outcomes in the social studies content area.

39. In your personal opinion, what six performance tasks could students at your educational institution participate in to demonstrate mastery of intended learning outcomes in the social studies content area? Rank your preference from 1 (first choice) to 6 (last choice) by dragging your selections towards the top.

<table>
<thead>
<tr>
<th>Ranked order</th>
<th>Case 1</th>
<th>Case 2</th>
<th>Case 3</th>
<th>Case 4</th>
<th>Case 5</th>
<th>Case 6</th>
<th>Case 7</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>short answer questions</td>
<td>essay</td>
<td>essay</td>
<td>debate</td>
<td>project</td>
<td>project</td>
<td>debate</td>
</tr>
<tr>
<td>2</td>
<td>essay</td>
<td>blog or journal</td>
<td>slideshow</td>
<td>essay</td>
<td>portfolio</td>
<td>essay</td>
<td>enactment</td>
</tr>
<tr>
<td>3</td>
<td>project</td>
<td>slideshow</td>
<td>project</td>
<td>project</td>
<td>oral presentation</td>
<td>blog or journal</td>
<td>story/play</td>
</tr>
<tr>
<td>4</td>
<td>research paper</td>
<td>project</td>
<td>fill-in-the-blank</td>
<td>flow chart</td>
<td>essay</td>
<td>debate</td>
<td>slideshow</td>
</tr>
<tr>
<td>5</td>
<td>fill-in-the-blank</td>
<td>short answer questions</td>
<td>short answer questions</td>
<td>interview</td>
<td>short answer questions</td>
<td>3-D model</td>
<td>dramatic reading</td>
</tr>
<tr>
<td>6</td>
<td>oral presentation</td>
<td>research paper</td>
<td>oral presentation</td>
<td>short answer questions</td>
<td>3-D model</td>
<td>concept map</td>
<td>interview</td>
</tr>
</tbody>
</table>
**Teachers’ Perspectives of Possible Performance Tasks to Demonstrate Mastery of Concepts**

The participants’ responses from question 39 were redistributed in the table below to review the frequency of responses.

Table 16

*Possible Performance Tasks to Demonstrate Mastery of Concepts*

<table>
<thead>
<tr>
<th>Performance Task Type</th>
<th>Frequency of responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Essay</td>
<td>6</td>
</tr>
<tr>
<td>Project</td>
<td>6</td>
</tr>
<tr>
<td>Short answer questions</td>
<td>5</td>
</tr>
<tr>
<td>Debate</td>
<td>3</td>
</tr>
<tr>
<td>Oral presentation</td>
<td>3</td>
</tr>
<tr>
<td>Slideshow</td>
<td>3</td>
</tr>
<tr>
<td>3-D model</td>
<td>2</td>
</tr>
<tr>
<td>Blog/journal</td>
<td>2</td>
</tr>
<tr>
<td>Fill-in-the-blank</td>
<td>2</td>
</tr>
<tr>
<td>Interview</td>
<td>2</td>
</tr>
<tr>
<td>Research paper</td>
<td>2</td>
</tr>
<tr>
<td>Concept map</td>
<td>1</td>
</tr>
<tr>
<td>Dramatic reading</td>
<td>1</td>
</tr>
<tr>
<td>Enactment</td>
<td>1</td>
</tr>
<tr>
<td>Flow chart</td>
<td>1</td>
</tr>
<tr>
<td>Portfolio</td>
<td>1</td>
</tr>
<tr>
<td>Story/play</td>
<td>1</td>
</tr>
</tbody>
</table>
Q40: Challenges Teachers Incur When Scoring Performance-Based Tasks/Assessments

Question 40. What challenges do you incur when scoring performance-based tasks/assessments?

**Figure 14.** Challenges with scoring authentic assessment (performance-based task).
Q41-47: Teachers’ Perspectives of the Alignment Between Authentic Outcomes-Based Assessments and VDOE’s Framework

41. Do you believe authentic outcomes-based assessments such as the performance task used for the LAA is an adequate means of evaluating student learning as described in VDOE’s (2016) framework for implementing LAAs in Virginia?

42. Do you believe authentic outcomes-based assessments such as the performance task used for the LAA is an adequate means of demonstrating student progress relative to intended learning outcomes as described in VDOE’s (2016) framework for implementing LAAs in Virginia?

43. “Do you believe authentic outcomes-based assessments such as the performance task used for the LAA is an adequate means of making formative decisions that inform instruction as described in VDOE’s (2016) framework for implementing LAAs in Virginia?”

44. Do you believe authentic outcomes-based assessments such as the performance task used for the LAA is an adequate means of preparing students for career and college readiness skills and 21st century skills (critical thinking, creativity, communication, collaboration, and citizenship) as described in VDOE’s (2016) framework for implementing LAAs in Virginia?

45. “Do you believe authentic outcomes-based assessments such as the performance task used for the LAA is an adequate means of strengthening interdisciplinary (multiple contents) integration and alignment as described in VDOE’s (2016) framework for implementing LAAs in Virginia?”

46. “Do you believe authentic outcomes-based assessments such as the performance task used for the LAA could be used to provide public exhibitions/showcases of students’ performances and products as described in VDOE’s (2016) framework for implementing LAAs in Virginia?”

47. Do you believe the LAA could be used to connect assessment and pedagogy to develop instructional methods and strategies as described in VDOE’s (2016) framework for implementing LAAs in Virginia?
Table 17

Descriptive Statistics: Questions 41–47

<table>
<thead>
<tr>
<th>Items</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>41</td>
<td>2.43</td>
</tr>
<tr>
<td>42</td>
<td>2.14</td>
</tr>
<tr>
<td>43</td>
<td>2.43</td>
</tr>
<tr>
<td>44</td>
<td>2.43</td>
</tr>
<tr>
<td>45</td>
<td>2.14</td>
</tr>
<tr>
<td>46</td>
<td>2.29</td>
</tr>
<tr>
<td>47</td>
<td>2.57</td>
</tr>
</tbody>
</table>
Q48: Means of Participants’ Students’ LAA Rubric Values

Question 48. According to the scoring rubric, what is the maximum number of points a student could earn on the most recent performance task you administered as part of the LAA during the 2017/2018 school year? See Table 18.

Table 18

*Teachers’ Perspectives of Maximum Points a Student Could Earn on the LAA*

<table>
<thead>
<tr>
<th>Case</th>
<th>Number of points student could earn on LAA</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>don’t recall</td>
</tr>
<tr>
<td>2</td>
<td>12</td>
</tr>
<tr>
<td>3</td>
<td>12</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>100</td>
</tr>
<tr>
<td>6</td>
<td>12</td>
</tr>
<tr>
<td>7</td>
<td>12</td>
</tr>
</tbody>
</table>
Q49: Means of Participants’ Students’ LAA Scores

Question 49. According to the scoring rubric, what was the mean score of all of your students’ scores for the most recent LAA assessment that was administered with the use of a performance task? The mean score can be calculated by adding the scores of all of the targeted LAA assessments administered to all of your students in all of your classes, and then divide that number by the total number of assessments administered. If you teach six classes, you will report the mean score for all of the students in the six classes combined. See Table 19.

Table 19

Participant Report of Mean LAA Scores

<table>
<thead>
<tr>
<th>Case</th>
<th>Mean of Students’ LAA Scores</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>don’t have access to scores</td>
</tr>
<tr>
<td>2</td>
<td>8/12</td>
</tr>
<tr>
<td>3</td>
<td>10.295</td>
</tr>
<tr>
<td>4</td>
<td>I had no way to get this information out of Powertest.</td>
</tr>
<tr>
<td>5</td>
<td>88</td>
</tr>
<tr>
<td>6</td>
<td>7.19</td>
</tr>
<tr>
<td>7</td>
<td>123.7</td>
</tr>
</tbody>
</table>
Q50: Means of Participants’ Students’ LAA Scores Converted to 100 Point Scale

50. What was the calculated mean LAA score converted to a percentile on a 100 point scale? See Table 20.

Table 20

*Means of LAA Scores Converted to Percentile on 100 Point Scale*

<table>
<thead>
<tr>
<th>Case</th>
<th>Mean LAA Score Converted to a Percentile on a 100 Point Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>65.50 per district testing administrator</td>
</tr>
<tr>
<td>2</td>
<td>66.66</td>
</tr>
<tr>
<td>3</td>
<td>85.79</td>
</tr>
<tr>
<td>4</td>
<td>69.25 per district testing administrator</td>
</tr>
<tr>
<td>5</td>
<td>88</td>
</tr>
<tr>
<td>6</td>
<td>59.92</td>
</tr>
<tr>
<td>7</td>
<td>85.92</td>
</tr>
</tbody>
</table>
Appendix J: IRB Approval Letter

DATE: September 27, 2017

TO: Tamela Hoak
FROM: Concordia University–Portland IRB (CU IRB)

PROJECT TITLE: [1111653-1] Middle School Teachers’ Perceptions of Goal Orientations, Teacher Self-Efficacies, and Authentic Outcomes-Based Assessments

REFERENCE #: EDD-20170808-Mendes-Hoak
SUBMISSION TYPE: New Project
ACTION: APPROVED
APPROVAL DATE: September 27, 2017
EXPIRATION DATE: September 19, 2018
REVIEW TYPE: Facilitated Review

Thank you for your submission of New Project materials for this project. The Concordia University–Portland IRB (CU IRB) has APPROVED your submission. This approval is based on an appropriate risk/benefit ratio and a project design wherein the risks have been minimized. All research must be conducted in accordance with this approved submission.

This submission has received review based on the applicable federal regulations and applicable exempt categories (see below). The CU IRB conducted an Expedited IRB review and approved your project. At the same time, the CU IRB noted that the project could fit the criterion of Exempt Research because the study is primarily for Educational Research* for classroom management (see below). Whether or not to grant this exemption is at the discretion of the local IRB(s), so do not presume that another IRB would give this exemption. That is, if you are conducting research within another institution, you will have to present this research to that institution and have permission before you can begin your research in that other institution.

You are responsible for contacting and following the procedures and policies of Concordia University and any other institution where you conduct research.

Attached is a stamped copy of the approved consent form. You must use this stamped consent form. Please remember that informed consent is a process beginning with a description of the project and insurance of participant understanding followed by a signed consent form. Informed consent must continue throughout the project via a dialogue between the researcher and research participant. Federal regulations require that each participant receives a copy of the consent document.

Please note that any revision to previously approved materials must be approved by this committee prior to initiation. The form needed to request a revision is called a Modification Request Form, which is available at www.cu-portland.edu/IRB/Forms.
All UNANTICIPATED PROBLEMS involving risks to subjects or others and SERIOUS and UNEXPECTED adverse events must be reported promptly to this office. Please email the CU IRB Director directly, at obranch@cu-portland.edu, if you have an unanticipated problem or other such urgent question or report.

All NON-COMPLIANCE issues or COMPLAINTS regarding this project must be reported promptly to this office.

This project requires continuing review by this committee on an annual basis. Please use the appropriate forms for this procedure. Your documentation for continuing review must be received with sufficient time for review and continued approval before the expiration date of September 19, 2018.

You must submit a close-out report at the expiration of your project or upon completion of your project. The Close-out Report Form is available at www.cu-portland.edu/IRB/Forms.

Please note that all research records must be retained for a minimum of three years after the completion of the project.

If you have any questions, please contact Dr. OraLee Branch at 503-493-6390 or irb@cuportland.edu. Please include your project title and reference number in all correspondence with this committee.

* Federal Regulations 45 CFR 46 Exemption Category: Educational and/or Classroom Research. 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. As noted above, research must be conducted in “established or commonly accepted educational settings” and involve “normal educational practices” to be exempt under this category. The study must not contrast one group with and the other without the instructional strategy, and must not divide into subpopulations based upon race, gender, or other protected class. The study must not have a risk greater than everyday risk for the population under study; that is, the study must be a “minimal risk” study. Whether or not to extend this exemption is at the discretion of the local IRB(s).

(Summary of this exemption was written by the CU IRB)

This letter has been electronically signed in accordance with all applicable regulations, and a copy is retained within Concordia University–Portland IRB (CU IRB)’s records. September 27, 2017
Appendix K: Statement of Original Work

The Concordia University Doctorate of Education Program is a collaborative community of scholar-practitioners, who seek to transform society by pursuing ethically-informed, rigorously-researched, inquiry-based projects that benefit professional, institutional, and local educational contexts. Each member of the community affirms throughout their program of study, adherence to the principles and standards outlined in the Concordia University Academic Integrity Policy. This policy states the following:

Statement of academic integrity.

As a member of the Concordia University community, I will neither engage in fraudulent or unauthorized behaviors in the presentation and completion of my work, nor will I provide unauthorized assistance to others.

Explanations:

What does “fraudulent” mean?

“Fraudulent” work is any material submitted for evaluation that is falsely or improperly presented as one’s own. This includes, but is not limited to texts, graphics and other multi-media files appropriated from any source, including another individual, that are intentionally presented as all or part of a candidate’s final work without full and complete documentation.

What is “unauthorized” assistance?

“Unauthorized assistance” refers to any support candidates solicit in the completion of their work, that has not been either explicitly specified as appropriate by the instructor, or any assistance that is understood in the class context as inappropriate. This can include, but is not limited to:

- Use of unauthorized notes or another’s work during an online test
- Use of unauthorized notes or personal assistance in an online exam setting
- Inappropriate collaboration in preparation and/or completion of a project
- Unauthorized solicitation of professional resources for the completion of the work.
Statement of Original Work (Continued)

I attest that:

1. I have read, understood, and complied with all aspects of the Concordia University–Portland Academic Integrity Policy during the development and writing of this dissertation.

2. Where information and/or materials from outside sources has been used in the production of this dissertation, all information and/or materials from outside sources has been properly referenced and all permissions required for use of the information and/or materials have been obtained, in accordance with research standards outlined in the Publication Manual of The American Psychological Association.

[Tamela W. Hoak]
Digital Signature

[Tamela W. Hoak]
Name (Typed)

December 14, 2018
Date