TEACHER SELF-EFFICACY IN A CLASSICAL CHRISTIAN ENVIRONMENT VERSUS A TRADITIONAL CHRISTIAN ENVIRONMENT

by

Emily Rose Anderson

Liberty University

A Dissertation Proposal Presented in Partial Fulfillment

Of the Requirements for the Degree

Doctor of Education

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Abstract

Teachers in a classical Christian environment oftentimes are not taught in the classic manner themselves, requiring different training from that in teacher-education programs. This study compared teacher self-efficacy between traditional Christian-education environments and classical Christian-education environments. The purpose of this quantitative study was to discover if teachers' perceptions of student engagement and instructional practices differ between a classical Christian environment and a traditional Christian environment. The research questions in this study explored whether teachers perceptions in traditional or classical education settings significantly differed with regard to student-engagement and instructional-strategies self-efficacy. This study was a causal-comparative quantitative research study with a nonexperimental design. The instrument, the Teacher Self-Efficacy Scale-Long Form (TSES-LF), contains two subscales used to measure the dependent variables of instructional-strategies teacher self-efficacy and student-engagement teacher self-efficacy. Results yielded no statistically significant difference between teachers in a classical Christian environment and a traditional Christian environment in answering the research questions pertaining to student-engagement self-efficacy and instructional-strategies self-efficacy. In conclusion, although no statistically significant differences emerged between the two groups in instructional-strategies teacher self-efficacy or student-engagement teacher self-efficacy, this study will help administrators put forward future professional-development efforts that align with teachers' needs, based on teaching environment and how teachers believe they are performing.

Keywords: teacher self-efficacy, classical Christian education, classical model, traditional Christian education, student engagement.

Dedication

Without the support, patience, and sacrifice of my husband of 13 years, Reverend Garold Anderson, I would never have reached this level in my educational quest. Actually, without him, I would have never begun the program nor had the confidence needed to keep pushing past the hard days. Gerry has been there for me through the tough times and through the inspiring times. He has been my rock, listened to my troubles, and let me cry on his shoulder. He has dedicated the past 3 years of his life to me completing this degree without regret or complaint. He has put children to bed, taken children out of the house, and even let me get out of the house to study and write, simply out of his love for me. Because of you, I have developed my God-given talents and allowed God to use me through my testimony of endurance, and for that, I am thankful. God has blessed me with you, Gerry Anderson.

Additionally, I dedicate this work to my children, my legacy: Austin, Autumn, and Catherine. I hope, through this adventure you have both witnessed and lived, you all will see that no matter how many hurdles you must overcome, you can achieve any goal with God by your side and the encouragement of loved ones around you. You were created perfectly in God's image. Live life as such, so you can accomplish anything you desire, just as He has allowed me to do this very day. If you learn nothing more from me in all of your life, learn that the things worth having are worth working hard for, God is your rock, and Mom loves you for exactly who you are and will become. I love you all!

Acknowledgements

Without the strength of commitment that I inherited from my parents, Tim and Dottie Sneed, I would not have had the fortitude to complete this doctoral dissertation. Having the influence of my parents in my formative years enabled me to keep going forward when I wanted to give up. Many dear friends and colleagues kept me reaching higher through this process as well and I cannot even begin to name you all. Without this inspiration and daily prayer, I might have stopped short.

Special acknowledgement goes to my dissertation committee, especially my Chair, Dr. Charles Schneider, for weathering this storm with me and never giving up hope when I endeavored to meet deadlines that you thought may be implausible.

Above all, I acknowledge the strength of the Lord, Jesus Christ in my life. He gave me the strength to run this race and finish the course. I grew in my walk with Him through the determination needed in completing this study and for that, I am eternally grateful.

Table of Contents

Page

List of Tables

List of Figures

CHAPTER ONE: INTRODUCTION

Background

In recent years, most notably after 2008, Christian education experienced an emergence of the classical Christian educational paradigm (Association of Classical and Christian Schools [ACCS], 2012). Although only 56 classical Christian schools existed in 1997, in 2012, 220 classical Christian schools operated across the United States (ACCS, 2012). Classical Christian education is a combination of Enlightenment thinking coupled with a Christian worldview (Kopff, 2014; J. Veith, 2012). Socratic teaching, debate, subject integration, and written and oral defense provide mental exercise to cultivate powerful minds, which is the basis of classical teaching (Kopff, 2014; D. Wright, 2015). The purpose of classical Christian education is to "teach students to reason, to recognize, and to defend the truth" (Veith, 2012, p. 10). The focus of classical Christian education is to teach a student to think critically and focus on the art of learning: skills required for most professions (Ambrose Group, 2005). Classical instruction involves inspiration, fulfillment, joy, and respect, and empowers teachers to cultivate curiosity in principles and purposes in students, as learning takes place (Ambrose Group, 2005).

Defined by Veith (2012) as "classical and Christ-centered" (p. 11), the classical Christian-education approach focuses on the integration of the *trivium*—grammar, logic, and rhetoric—with more traditional classroom approaches. A classical curriculum develops students by allowing them to see a larger view of the world through integrated teachings of the subjects of the *trivium* and the *quadrivium*: history, philosophy, literature, theology, Latin, Greek, logic, rhetoric, mathematics, and science (Ambrose Group, 2005; D. Wright, 2015). The model of classical education incorporates arts and language with

the moral, natural, and theological branches of knowledge (Veith, 2012), illustrated in Figure 1.

Classical Education

Teachers of classical education use pedagogical practices guided by specific principles (D. Wright, 2015). Students must learn to use their *five senses to acquire knowledge* (D. Wright, 2015). Learning of materials also requires that students have *strong skills to remember and retain information.* This includes the ability to *discover and discern patterns* in academic subjects, whether they be visual, causal, or structural (D. Wright, 2015). Students need to learn that *practice and repetition, finding associations, understanding the form* and *structure, and parts* of topics can enhance their memory of academic subjects (D. Wright, 2015). Classical education teaches students to place value and importance on *order*, *belief in objective truth*, *invention*, *commitment to universals*, *experimentation*, *evidence and proof*, and *effort and discipline* (D. Wright, 2015). Classical education also places value on *humility*, *imagination*, *deference for tradition*, *faith,* and *love* (D. Wright, 2015).

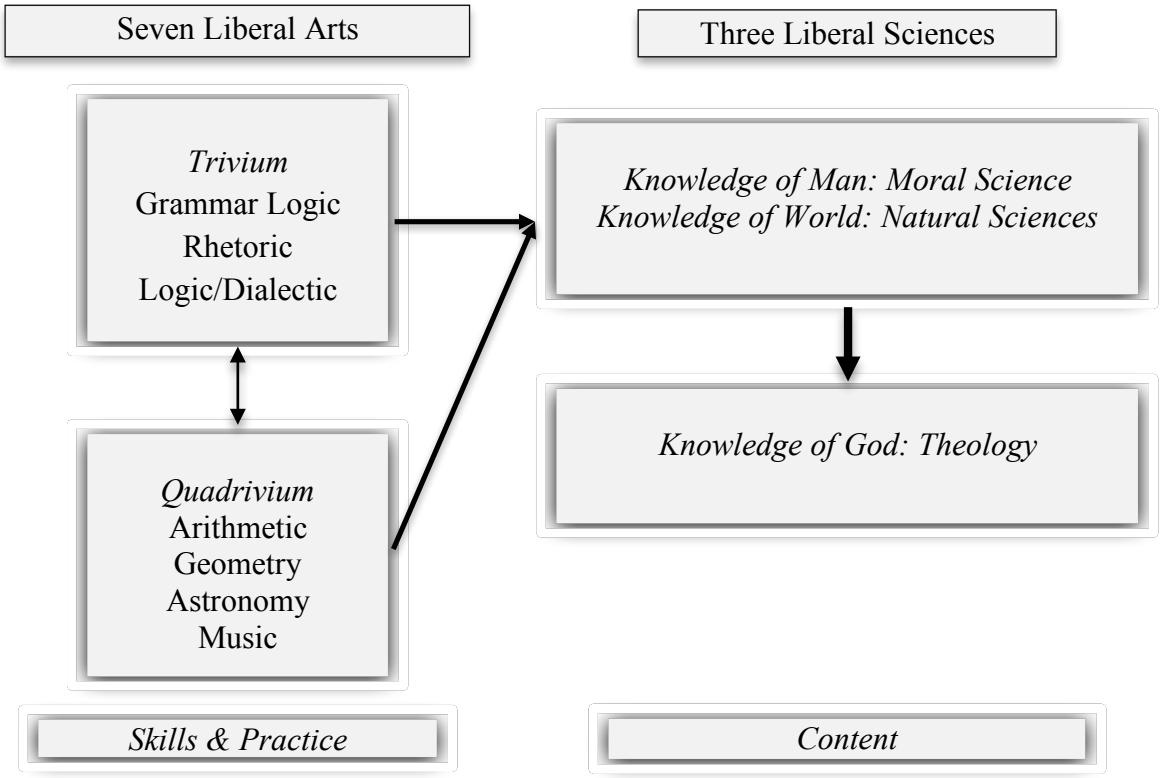


Figure 1. Classical-education approach.

The theories used to frame and guide this study were those pertaining to self-efficacy (Bandura, 1977) and teacher self-efficacy (Tschannen-Moran, Woolfolk Hoy, & Hoy, 1998). Self-efficacy is a component of Bandura's (1977) social-cognitive theory (SCT), defined as a personal belief that one can perform certain behaviors and actions to reach set goals. Self-efficacy is the confidence a person feels about performing a particular activity (Bandura, 1977). Bandura (1977) conjectured that self-efficacy is the most important prerequisite for behavior change, as it influences the level of effort given to a particular task and level of performance attained. Individuals who have strong beliefs in their ability to perform a behavior successfully are more likely to initiate and maintain a behavior, even under difficult circumstances, whereas those who have less self-efficacy will avoid the task (Bandura, 1977). Bandura (1977) argued that four sources create or reinforce self-efficacy: (a) mastery experiences, (b) vicarious experiences, (c) social persuasion, and (d) emotional and physiological states. Mastery experiences tend to be more influential than the other factors in increasing self-efficacy (Bandura, 1977). Self-efficacy can often be domain specific; that is, individuals have certain beliefs or assumptions about achieving a specific goal or behavior (Bandura, 1977). Teacher self-efficacy is one type of domain-specific efficacy, defined by Tschannen-Moran and Woolfolk Hoy (2001) as the ability to produce desired outcomes of student engagement and learning, no matter the student population or struggle.

Sparse literature exists on teacher self-efficacy in the classical Christian-education domain. One study, conducted by Stanek (2013), did call attention to some classical instructional challenges experienced by K–12 teachers, with the author concluding that most teachers displayed low self-efficacy in their classical-education instructional

practices. This low self-efficacy was especially of concern among teachers who came from traditional-education settings where the focus was on standardized testing (Stanek, 2013). The literature on teacher self-efficacy, although not focused specifically on classical Christian pedagogy, informs this study. This body of literature has shown that the self-efficacious teacher is more likely to feel competent in teaching practices, have an identity as a teacher and a sense of mastery in teaching, and is able to motivate and excite students (Alkan & Erdem, 2012; Canrinus, Helms-Lorenz, Beijaard, Buitink, & Hofman, 2012; Holzberger, Philipp, & Kunter, 2013; Jamil, Downer, & Pianta, 2012; Schiefele & Schaffner, 2015). Researchers showed that teachers with higher levels of teaching self-efficacy tend to demonstrate more sensitivity and regard for student perspectives and promote autonomous learning of their students (Hen & Goroshit, 2013; Ozkal, 2014; Sandholtz & Ringstaff, 2014). Autonomous support is an important factor for the classical-education classroom, as teachers with this strength use logic as an instructional tool, teach students different strategies to learn material, provide immediate feedback to students, and value the importance of imagination in learning (D. Wright, 2015). Teacher self-efficacy can profoundly affect students: teachers' sense of self-efficacy in the classroom can dramatically influence student motivation, achievement, and "students' own sense of efficacy" (Tschannen-Moran and Woolfolk Hoy, 2001, p. 783).

Schools' organizational learning and learning climate are strong predictors of teacher self-efficacy, often beyond individual factors (Klassen, Tze, Betts, & Gordon, 2011; Tobin, Muller, & Turner, 2006). A concern in the context of a classical Christian-education classroom has been teachers' mastery experiences in instructional practices, which may differ from the way the teachers themselves were taught or trained to teach

(Stanek, 2013; J. Veith, 2012). Many of today's teachers have been taught through a traditional approach and are not familiar with classical methodologies, making it more difficult to move into a classical environment than a traditional environment. However, teachers who received training or support, when placed in a new pedagogical environment, can increase their sense of self-efficacy in that particular environment (Colby, Clark, & Bryant, 2014; De Neve, Devos, & Tuytens, 2015; Gunning & Mensah, 2011; Holzberger et al., 2013; Yang, Anderson, & Burke, 2014).

Teachers need to have a sense of self-efficacy to perform their job duties with confidence. In one of the few studies on teachers' experiences in a classical Christian setting, the more traditional approaches to teaching were "extremely problematic [in] *trivium* pedagogy" (Stanek, 2013, p. 27) and additional research attention should be given to "the importance of teacher identity through pedagogical content knowledge" (Stanek, 2013, p. 28). Teacher identity refers to the ongoing construction of one's thoughts and actions as a teacher progressing through the career (Akkerman & Meijer, 2011). Therefore, in the current study, I seek to support administrators in providing acceptable professional development and training in areas of low teacher self-efficacy to improve students' learning outcomes.

Problem Statement

Despite the movement of Christian schools toward a classical pedagogical approach, many teachers enter the classical-education setting with little knowledge and understanding of this approach, which may influence their efficacy to use classical instructional tools and their efficacy to engage students in the learning process (Stanek, 2013; J. Veith, 2012). Teachers who lack knowledge of a certain pedagogical approach

are likely to have poor teacher self-efficacy related to instruction and to student engagement (Alkan & Erdem, 2012; Holzberger et al., 2013). Citing Sayers (1947), a leader in classical education, Christian teachers have yet to gain the "lost tools of learning" (para. 1) that are crucial to the classical-education approach, and ultimately, students' life-long learning. Teachers lack the knowledge and skills, and indeed, the self-efficacy to teach using a classical-education approach, as they lack the knowledge of classical-education pedagogy in the modern educational environment (Myers, 2015).

Despite an extensive search of the literature, few studies focused on teacher self-efficacy in a classical environment, including differences between teacher self-efficacy in a classical environment and a traditional environment. This lack of literature poses a problem in itself, as no firm empirical conclusions can guide professional development to enhance teachers' sense of competence in the classical-education environment. As Perrin (2004) noted, education is a vast undertaking, requiring the passing of knowledge and wisdom from one generation to another, and this undertaking requires competent and confident teachers well versed in classical methods.

Purpose Statement

The purpose of this causal-comparative quantitative study was to assess whether differences in teacher efficacy related to instructional practices and student engagement significantly differ between teachers instructing in a traditional Christian setting and teachers instructing in a classical Christian-education setting. I expected classical educators would have significantly lower levels of teacher self-efficacy for instruction and student engagement, as teachers have likely had little exposure to classical-education pedagogical practices (Stanek, 2013). Results from this study have the potential to help

determine the training and professional-development needs of teachers instructing in the classical Christian-education setting.

The theories of self-efficacy (Bandura, 1977) and teacher self-efficacy (Tschannen-Moran et al., 1998) guided the study. Self-efficacy theorists argued that two types of teacher self-efficacy—student-engagement self-efficacy and instructional-practices self-efficacy—significantly differ between teachers who employ classical-education instructional practices and those who employ traditional instructional practices in classrooms (Tschannen-Moran et al., 1998). Results from this study inform educators on appropriate professional development and training for teachers in both environments, but especially those in the classical-education setting.

Significance of the Study

This study had empirical and applied significance. The body of research literature on classical-education practices is minimal, and a dearth of studies exist on teacher perceptions, attitudes, and behaviors vis-à-vis classical education. The current study addresses a gap in the literature regarding teacher self-efficacy in the classical-education setting, and adds to the small body of literature (Stanek, 2013) on this topic. Perhaps more important is the applied significance of this study. It was unclear if teachers at classical schools have developed a sense of mastery in their classical-education pedagogy. Furthermore, it was unclear if these teachers significantly differed in their level of teacher self-efficacy in comparison to teachers in the traditional school setting. This study sheds light on teacher self-efficacy issues that can be addressed through the creation and implementation of teacher professional-development and training opportunities as they relate to classical-education pedagogy.

Research Questions

In the study, I worked to understand the differences in two types of teacher self-efficacy across two teacher groups.

Research Question 1

Is there a statistically significant difference in student-engagement teacher self-efficacy between teachers in a classical Christian education school setting and teachers in a traditional Christian-school setting, controlling for covariates (i.e., teacher gender, years of experience teaching at traditional Christian schools and classical Christian-education schools, previous training/professional development in classical-education pedagogy and practices, student experiences in a classical Christian-education setting, and grade level taught)?

Research Question 2

Is there a statistically significant difference in instructional-strategies teacher self-efficacy between teachers in a classical Christian school setting and teachers in a traditional Christian-school setting, controlling for covariates (i.e., teacher gender, years of experience teaching at traditional Christian schools and classical Christian-education schools, previous training/professional development in classical Christian-education pedagogy and practices, student experiences in a classical Christian-education setting, and grade level taught)?

Null Hypotheses

The study had two null hypotheses that correspond to the research questions.

Null Hypothesis 1

H_o1: There is no statistically significant difference in student-engagement teacher self-efficacy between teachers in a classical Christian-education school setting and teachers in a traditional Christian-school setting, controlling for covariates (i.e., teacher gender, years of experience teaching at traditional Christian schools and classical Christian-education schools, previous training/professional development in classical Christian-education pedagogy and practices, student experiences in a classical Christian-education setting, and grade level taught).

Null Hypothesis 2

H_o2: There is no statistically significant difference in student-engagement teacher self-efficacy between teachers in a classical Christian-education school setting and teachers in a traditional Christian-school setting, controlling for covariates (i.e., teacher gender, years of experience teaching at traditional Christian schools and classical Christian-education schools, previous training/professional development in classical Christian-education pedagogy and practices, student experiences in a classical Christian-education setting, and grade level taught)?

Definitions

Self-efficacy. Self-efficacy refers to the level of confidence one has about one's own ability to perform a certain task (Bandura, 1977). Self-efficacy is specific to the task being targeted (Bandura, 1977). Bandura (1977) termed self-efficacy as the "beliefs in one's capabilities to organize and execute the courses of action required to produce given attainments" (p. 2).

Traditional Christian school. A traditional Christian school in this study is a school that teaches subject matter similar to that taught in a local public school with students taught the material with a biblical worldview. All courses emphasize biblical truths. Educators present a traditional pedagogy and methodology in the traditional Christian school, along with a similar daily schedule and course offering to those of public schools. Schultz (1998) defined Christian education as "kingdom education," which means people living lives as evidence of God's reign throughout everything around them. It is not only a physical kingdom but a spiritual kingdom and should impact the totality of a Christian's life (Schultz, 1998).

Classical Christian school. The concept of classical education incorporates arts and language with the moral, natural, and theological branches of knowledge (J. Veith, 2012). A classical Christian school intertwines the belief in a classical model with a biblical worldview in which students are taught to use scriptures as a lens through which one should see all parts of life. Therefore, classical Christian education is a practical Christian approach to education that emphasizes language arts through the *trivium* and the *quadrivium* and is rich in teaching students how to think (J. Veith, 2012).

Student engagement. Student engagement means students' motivation to learn, especially with regard to students who demonstrate little interest in schoolwork (Tschannen-Moran & Woolfolk Hoy, 2001, 2007). Tschannen-Moran and Woolfolk Hoy (2001, 2007) theorized that one type of teacher self-efficacy is the ability to engage students, motivating them to learn.

Teachers Self-Efficacy Scale. The Teachers Self-Efficacy Scale (TSES) measures three components of teacher self-efficacy: (a) efficacy for instructional strategies (i.e., the

teacher's ability to use different instructional modalities that align with students' different learning styles and levels), (b) efficacy for student engagement (i.e., the teacher's ability to motivate students to learn), and (c) efficacy for classroom management (i.e., the teacher's ability to create a classroom that is conducive to learning; Tschannen-Moran et al., 1998).

Chapter Two: Literature Review

The intent of this study was to determine if two types of teacher self-efficacy—student-engagement teacher self-efficacy and instructional-strategies teacher self-efficacy—differ significantly between teachers at classical Christian schools compared to those who teach in traditional Christian schools. Despite educators' recognition that classical Christian education demands from its teachers not only knowledge of its philosophy but also its pedagogical practices, little empirical knowledge exists regarding teacher self-efficacy in the context of classical Christian education (Jain, 2015). As the classical Christian education movement only gained momentum in the early 1990s, it is unlikely that teachers at classical Christian schools were themselves students at Christian or secular schools that taught from a classical approach. Teachers were also unlikely to experience classical Christian-education pedagogical practices as part of their university curriculum (Jain, 2015). By understanding if teacher efficacy is lower in teachers at classical Christian-education schools compared to teachers at traditional Christian schools, school administrators can implement professional-development opportunities and training to enhance teacher self-efficacy, which in turn can enhance the knowledge imparted to students (Tschannen-Moran et al., 1998).

The following literature review starts with the definition, historical background, components, and theoretical framework of the classical Christian-education paradigm. The literature review continues with an overview of classical Christian education, including sections on it characteristics, curriculum, and pedagogical approaches. An exhaustive search for research on the classical Christian-education model and teacher self-efficacy yielded few results using the largest and most respected academic libraries,

databases, and search engines: ERIC, JSTOR, EBSCO*host,* Academic Research Complete, and others. The discussion, therefore, on teacher self-efficacy focuses on its definition, theoretical foundations, and the minimal research pertaining to teacher mastery of pedagogical practices and teacher self-efficacy. Because researchers wrote dissertations on similar topics, I also review results of these.

Definition and Historical Precursors of Classical Christian Education

Although classical Christian education has been in practice for centuries, it is a relatively new educational approach, having been embraced by U.S. Christian educators in the late 1990s (Leithart, 2008; Splittgerber, 2010). According to ACCS (2012) the number of classical schools in the United States has grown from 56 in 1997 to 220 in 2013. The concept of classical education is a means to "recover the moral dimensions of education" through the incorporation of arts and language, coupled with the moral, natural, and theological branches of knowledge (Leithart, 2008, p. 5). Classical education, in the context of this research, is a practical approach to education that emphasizes language arts and building students' critical-thinking skills (Perrin, 2004; J. Veith, 2012). The overarching goal of classical education is to create life-long learners and to give students the tools to learn any occupation and to undertake any task by teaching them to think (Perrin, 2004; Randall, 2004).

Classical Christian education currently used in church schools, inner-city schools, elite college-preparatory schools, public charter schools, and home schools has a 2,500-year history, first conceived during the classical period of civilization (circa 600 BCE to 476 CE) in Greek and Roman societies (Perrin, 2004). In the simplest of terms, classical education is the educational philosophy of Greek and Roman societies (Perrin, 2004).

The central postulates of classical education are that the learner should (a) value knowledge as a unique quality of being human—that people have the capacity to think critically; (b) live and promote the ideals of logic, beauty, and truth; (c) be morally virtuous; and (d) strive to better society as responsible citizens (T. O. Moore, 2014). Classical education originated with the greatest minds of Greek and Roman civilizations (R. Wright, 2014). Components of the classical education curriculum have been attributed to specific philosophers.

Socrates

A primary goal of classical Christian education is the development of students' critical-thinking skills, and the mechanism toward the development of these skills is the Socratic method, based on the practices of Socrates (469–399 BCE; Morrison, 2010). From Socrates came the first-recorded process of educating others, and was, hence, the beginning of classical education (R. Wright, 2014). Many believe that the Socratic Method was one of the greatest contributions of classical education (Paul & Elder, 2013).

The Socratic method of teaching is still the most powerful critical-thinking method, as it involves instruction through teacher–student dialogue and the use of interactive inquiry. The educators guides the student to find conclusions by answering a series of questions that the teacher intentionally focuses. Teachers ask thoughtful, deep questions and students derive truth on their own by answering such questions, based on knowledge gained from reading, studying, and life experiences. The teacher never directly answers a question for a student but leads them to their own knowledge in finding an answer. This method is perceived as a highly disciplined process on the part of

the teacher and the student because one must consider all implications and consequences of situations in deriving what is true and just from a situation. This method requires participants to thoughtfully consider all ideas during discussions, and students gain knowledge through disciplined reasoning that can only come from this philosophical approach (Paul & Elder, 2013).

Plato

Along with Plato's teacher, Socrates, Plato (428–348 BCE) was a primary figure in the development of philosophy in the Western tradition (R. Wright, 2014). Plato argued that education was a way of life, not meant for a certain season of life or part of the day (Jowett, 1952). Greeks perceived classical education as one that taught character, what is just and unjust, and how to be honorable and holy, centered on three major areas: the *grammatistes,* the *kirharistes,* and the *gumnastike* (Cubberley, 1920). These were the mind, imagination, and body. Educators taught the body through apprenticeships, hands-on learning, doing rather than simply hearing, and daily living (R. Wright, 2014). Plato was a student of Socrates and, therefore, also supported the acquisition of knowledge through discovery (R. Wright, 2014). Plato taught in very similar ways to Socrates with a unique alteration: combining education with everyday living with the mind, imagination, and body was integral parts of each subject (R. Wright, 2014).

A significant contribution to classical education was Plato's concept of *paideia*—in Latin *humanitas*, or the humanities—which was the classic Greek system of education; a system that later informed the philosophy of liberal arts education in the 20th century United States (Perrin, 2004). The *paideia*-driven system of education emphasized the

study of the language arts including grammar, rhetoric, poetry and the quantitative arts such as mathematics, geography, and the physical sciences, philosophy, and ethics (Perrin, 2004). Naugle (2013) cited Tamas's (1991) definition of *paideia* as "the complete pedagogical course of study necessary to produce a well-rounded, fully educated citizen" (para. 2). The concept of *paideia* continues as a driving force in modern classical-education perspectives, averring that education is the making of people and not merely the training of people for a certain vocation (Perrin, 2004). Its early contributions to classical education later primed the central concepts of classical education, the *trivium* and the *quadrivium*, which emerged during the Middle Ages (circa 500–1460 CE; Perrin, 2004).

Aristotle

Aristotle (384–322 BCE), a student of Plato, provided much to classical education, contributing to almost all subjects of the time including the sciences, such as biology, zoology, physics, biology, and medicine, as well as mathematics, dance, and theatre (Hicks, 1999). Aristotle is, however, best known as the originator of the field of logic (R. Wright, 2014), recognized in classical education as establishing the connection between logic and the sciences through the scientific method. Historians often credit Aristotle with developing the scientific method, which is the foundation of empirical research (R. Wright, 2014).

Quintilian

Marcus Fabius Quintilianus, known as Quintilian (35 CE–100? CE), is the architect of rhetoric, or the art of persuasive language (R. Wright, 2014). *The Institutio*

Oratoria was a series of 12 books by Quintilian, published just after his death (Reinhardt, & Winterbottom, 2006). Quintilian is known for the invention of formal parts of speech and belief that knowledge is of little use unless coupled with sound judgment (Jowett, 1952). Quintilian was not only received a classical education, but believed in classical methods with the inclusion of the study of Latin (R. Wright, 2014).

St. Augustine of Hippo

St. Augustine of Hippo (354–430 CE), the philosopher known for infusing Christian doctrine with Neoplatonism, believed that human knowledge was not possible without the illumination of the mind by God, thereby making understanding of information possible (Collins & Halverson, 2010). St. Augustine is thus often seen as the founder of classical Christian education. St. Augustine was a strong proponent of education centered on one's understanding of God and, like Plato, believed ideas are immutable or unchanging, once understood (Collins & Halverson, 2010).

Classical Education in the 20th Century

The classics created by the Greeks and Romans "have occupied a place in defining American culture exceeded in importance only by the Enlightenment and Christianity" (Howe, 2015, para. 20). Indeed, the classics defined Western civilization, providing "educated people the world over with a common frame of reference" (Howe, 2015, para. 16). Classical education "paralleled the march of civilization," enduring through the Medieval, Renaissance, and Reformation periods to influence the U.S. educational systems of the 21st century (T. O. Moore, 2014, p. 1).

The classics were very much part of U.S. society and its educational system until the end of the 19th century, during the time of the Second Industrial Revolution (1870–1914; Collins & Halverson, 2010). The profound changes in society during the Second Industrial Revolution cannot be understated; the advances in "connections" (e.g., railroads and electricity) and "communications" (e.g., the telephone) paralleled the Internet era of today (Collins & Halverson, 2010, p. 21). The United States shifted from an agrarian society to a culture of industry and corporate business during the Second Industrial Revolution. With the shift in society came a shift in the way Americans were educated from a classical to vocational approach. Society placed value on uniform learning and standardized assessments, replacing the Socratic method with passive learning, with the teacher as the holder of knowledge (Collins & Halverson, 2010).

Since the beginning of the 20th century, proponents of classical Christian education have argued that modern education has stripped truth and humanity from learning, which has been the fundamental failure in education (Collins & Halverson, 2010). The U.S. school system has not fundamentally changed from the system established during the Second Industrial Revolution. However, progressive education reform movements in the United States since that era have recognized the importance of a well-rounded liberal arts education (Collins & Halverson, 2010). Few reform movements, however, focused on classical education, with the exception of the classical Christian-educational movement (Jain, 2015). Just as classical education grew over the ages and was a collective creation, built on a foundation established by the greatest Greek, Roman, and early Christian philosophers, many Christian education thinkers of the 20th and 21st centuries informed classical Christian education (Jain, 2015). These early classical

educators provided unique elements and contributions to the current classical movement (Jain, 2015).

Contemporary Theoretical Frameworks of Classical Christian Education

Among the leaders of the classical movement were Adler (1982), known for the *Great Books* theory, and Hicks (1999), who wrote the seminal work, *Norms and Nobility*, igniting a new vision of an education paradigm that promoted virtue and truth in a "value-less" modern education system (p. 13). Another founder of the classical Christian education movement was Wilson (1996, 2003), who founded the *Logos* school, with a curriculum that emphasizes the *trivium* and *quadrivium* and includes formal Latin instruction while being distinctively Christian. Wilson also established the ACCS, an organization supporting the classical Christian-education system (Wilson, 1996). The classical Christian-education movement developed in the 21st century by two women: Sayers and Wise Bauer (T. O. Moore, 2014). As an Oxford student, Sayers (1947) presented the essay, *The Lost Tools of Learning*, considered a seminal work in the field of classical Christian education. Known in the Christian-education community for homeschooling theories grounded in the classical Christian education philosophy was Wise Bauer, considered a leader in the Christian classical-education movement. I discuss these leaders in the following sections.

Adler

Adler was one of the early classical Christian-education reformers; a scholar who advocated for the reinstitution of this paradigm into Christian education (Aquinas Learning, 2014; Robins, 2012). Adler's (1982) greatest contribution to classical Christian

education was the *paideia* proposal, a model for a Christian liberal education, and the *Declaration of Principles* and *Three Pillars of Education* (Aquinas Learning, 2014; Robins, 2012). Adler's *paideia* proposal was a reaction against vocational education, oriented primarily to the "training of slaves" (Robins, 2012, p. 126). As part of the *paideia* proposal, Adler (as cited in Robins, 2012), posited five principles: (a) learning begins in the child's mind and "it cannot therefore be created by a teacher," (b) all children are educable, (c) learning is a lifelong process, (d) the teacher must use multiple teaching methods to best enhance the child's learning of subjects, and (e) the goal of education should not be to prepare a child for a later vocation (p. 126). Adler (as cited by Robins, 2012, p. 126), also suggested that the school principal should not be an outside observer in the classroom, concerned primarily with the conduct of the child, but instead should be a "leading teacher" who engages with teachers and students to make the school a learning community.

Adler (1982) also recognized the importance of teaching according to the child's level of cognitive development, best seen in his five-stage curriculum and his three pillars of education. The first three stages of Adler's five-stage curriculum align with the *trivium* and *quadrivium* (Aquinas Learning, 2014; Robins, 2012). In the first stage, teachers teach children language, literature, and the fine arts (Aquinas Learning, 2014). Children progress to the second stage, where they learn mathematics and natural science, and then to the third, which focuses on history, geography, and social science (Aquinas Learning, 2014). Aligned with *trivium*- and *quadrivium*-driven curriculum was the three pillars of education: (a) fact-based acquisition of organized knowledge, (b) development of

intellectual skills, and (c) an enlarged understanding of ideas and values (Aquinas Learning, 2014; Robins, 2012).

Adler argued for a progression from facts, or components of ideas that a child is learning, to skills, which include not only reading, writing, thinking, listening, and speaking, but also "beholding, illustrating, or experimenting" with ideas, which were the foundation of truth (Aquinas Learning, 2014, para. 2). Adler further demanded a class schedule to best promote children's learning: (a) didactic (or lecture) for the first 15% of class, (b) guided work, aligned with the student's stage of cognitive development, for the middle 70% of the class, and (c) collaborative discussion that used the Socratic method (Aquinas Learning, 2014; Robins, 2012). Adler complemented the three pillars with a list of "great books," inclusive of works of fiction, history, poetry, science, mathematics, and other topics that all students should read at particular points in their education (Aquinas Learning, 2014; Robins, 2012). Among these great books were the works of Roman and Greek philosophers, Hobbes, Shakespeare, Smith, Melville, Marx, and Freud: all of the works established for a liberal arts education (Aquinas Learning, 2014; Robins, 2012).

Hicks

Hicks believed the ultimate purpose of education was to produce right and righteous actions (Hicks, 1999). Hicks's (1999) theory applied only to secondary school, as those of elementary age did not yet need distinctively different teaching strategies. Hicks's (1999) model was to integrate mathematics and sciences and to integrate language arts and humanities. Then educators give fine arts extended periods of time so teachers can spend that time learning from each other and collaborating during the school

day. Memorization was a high priority in language arts courses along with classic readings (Hicks, 1999).

Wilson

Wilson (2003) opened the *Logos* School and helped found the ACCS, based on understanding of Sayers' essay on *The Lost Tools for Learning.* Wilson believed not only the stages of development guided in the *trivium,* but all education also was to be under the "Lordship of Jesus Christ," which led Wilson to concentrate effort on classical Christian education. Wilson's mission was to recover the lost tools of learning and return education to its ancient roots for the betterment of the world and the kingdom of God. Wilson was of an Augustinian mindset due to insistence on relating what is taught to scripture and a Christian worldview (G. A. Veith & Kern, 2001). Schools in the ACCS teach Latin, logic, and rhetoric—courses specific to classical curriculum—aiming to produce well-rounded students (Wilson, 1996).

Sayers

Sayers (1947) was one of the earliest advocates of classical Christian education (Wood, 2014). Next to Lewis (1947), S. Elliot, and Temple, Sayers was the most well-known Christian in England during World War II, due to the author's parents' success (Wood, 2014). Sayers was an intellectual who had been sheltered from peers as a child. Sayers's parents held a very high regard for learning and Sayers's education, and provided Sayers with the best resources possible at the time. Sayers later attended a boarding high school and Oxford University and attended Oxford University at a time when women could attend classes but could not receive degrees. She became a great

novelist, writer, and defender of faith, while struggling to be relational with people. She married later in life yet still devoted her life to her work. Sayers wrote an essay out of frustration about the current educational system that gained her recognition that continues today. Most recognition of the essay came after her death.

Sayers's (1947) essay entitled *The Lost Tools of Learning* is a seminal work in the field of classical education (Wood, 2014). In this essay, Sayers (1947) argued that critical-thinking skills were the "lost tools of learning" and that education should not attempt to teach students information they should know, but rather teach students how to learn (p. 2). If students are taught to learn, Sayers (1947) believed they would then be successful in life because of their ability to synthesize information, discern between good and bad, and use the information that is worth knowing. Sayers believed that not all children will learn the same things at the same time or move to the stages at the same time, but that they should be taught how to think and they would always reach their full potential. Central to her educational model was the *trivium* concept, which, as stated previously, means tailoring the educational curriculum to the child's stage of cognitive development (Sayers, 1947; J. Veith, 2012). Sayers (1947) blamed not only teachers for not recognizing the need for *trivium* education, but for the combined folly of modern civilization.

Wise Bauer

Wise Bauer discovered homeschooling methods of classical education and wrote a handbook for parents to follow if they preferred classical education in the constructs of homeschooling. The book, *The Well-Trained Mind* (Wise Bauer, 1999), walks parents

through a developed curriculum that emphasizes the grammar of all subjects from Grades 1 through 4, logical thinking of those subjects in Grades 5 through 8, and rhetorical expression in Grades 9 through 12. This thinking was based on Sayers's (1947) original theory of the stages of education: grammar, dialectic, and rhetoric.

Overview of Classical Christian Education

The classical Christian-education movement has a relatively short history in the United States. Educators increasingly established Christian schools that embraced classical education in the 1990s, and this movement has since grown substantially (Jain, 2015). In 1997, 56 classical Christian schools functioned in the United States. burgeoning by 2015 to 220 schools (Jain, 2015). This model of education was used in the Medieval church, the Renaissance, and the Enlightenment. Today, church schools, inner-city schools, elite college-preparatory schools, public schools, and homeschools employ this classical model (G. A. Veith & Kern, 2001). Simply stated, classical Christian education incorporates classical-education approaches initiated by the ancient Greeks and Romans with a Christian worldview that aligns the classical education curriculum with the developmental stage of the child (Clark & Jain, 2013; Wilkins, 2004). Wilkins (2004) provided a more eloquent definition:

> When we speak about classical Christian education, we are speaking about equipping our children with the tools of learning and exposing them to the "classics" … and doing all this in the context of a self-conscious submission to the infallible revelation given us in the Bible. (p. 2)

Classical education differs from modern educational strategies: it is not a vocational curriculum focused on the training of students for work; rather, it emphasizes the importance of knowledge. Classical Christian schools teach students "how to think

and what to know" (Jain, 2015, p. 2). Classical Christian education promotes the importance of logic, encourages creative and critical thinking, and places great importance on academic rigor so students can reach their highest potential throughout life. The goal of classical education is not merely to create life-long learners, but also to provide students the tools to learn any occupation and to undertake any task by teaching them to think (Jain, 2015).

Characteristics of Classical Christian Education

The classical Christian-education paradigm differs from traditional educational paradigms in six ways (Clark & Jain, 2013). The first two distinctions are its commitment to the cultivation of student wisdom and virtue—"critical and charitable thinking"—and its pursuit of *logos*, which is the rational principle that governs the universe and the divine word of God (Jain, 2015, p. 2). The third distinction is that classical Christian education is a stewardship, responsible and accountable to students as God's children, in alignment with its missionary role, the fourth distinction (Clark & Jain, 2013). The fifth distinction pertains to pedagogy, with emphasis on the *trivium* disciplines of grammar, logic, and rhetoric and the *quadrivium* disciplines of mathematics, music, astronomy, and geometry, which align with the cognitive stage of the child (Clark & Jain, 2013). The sixth distinction involves the use of a variety of pedagogical approaches, with emphasis on the Socratic method, experiential-learning activities, and idea-focused teaching that encourages among students "a hunger and thirst for knowledge and righteousness" (Wilkins, 2004, p. 5). In contemporary classical Christian education, instructional

practices used to learn these subjects align with the development of knowledge, understanding, and wisdom (Clark & Jain, 2013).

Wilkins (2004) identified characteristics of classical Christian education: classical Christian education is liberal and "distinctively Biblical" (p. 2). A distinctively Christian and distinctively classical model of education seeks to foster an environment that cultivates wisdom and virtue. Classical Christian education is orthodox, interpreted in two ways: knowledge comes from God and as such, truth "cannot be separated out completely into separate subjects" (Wilkins, 2004, p. 2). Through this interpretation, theology and science "are brothers, not enemies" (Wilkins, 2004, p. 3). Students, when taught according to the classical Christian-education paradigm, should understand that, as knowledge comes from God, it is not a means in itself but must be synthesized into a higher purpose (Clark & Jain, 2013). Moreover, the focus of teaching is not only analyzing and critiquing, but connecting all the particular elements of life in a meaningful way (Wilkins, 2004).

Wilkins's (2004) final characteristics of classical Christian education are that it is reverent and humbling. Wilkins (2004) worked from the premise that the goal of education is not ultimately knowledge alone, which cultivates pride, but wisdom, beginning and ending with the living God. The result is students who apply knowledge appropriately and with humility. The immediate product of wisdom and virtue is the recovery of meaning and purpose in all of life, which applies to the seventh characteristic of evangelicalism of classical Christian education (Clark & Jain, 2013). The ultimate goal of the classical Christian-education paradigm is that students understand that "salvation is not through education:" education is only complete if it ends in a purposeful existence

that finds satisfaction and enjoyment, culminating in God's truth (Anderson, 2014; Wilkins, 2004).

Classical Christian Education Curriculum: *Trivium*

The word *trivium* means "three ways," and the subjects of the *trivium* are grammar, logic (dialectic), and rhetoric. Grammar is the system and structure of languages, and educators expect classical Christian-education students to master the various components of grammar, including "etymology, prosody, … and allusions" (Circe Institute, 2014, para. 19). Logic is the study of reasoning. This subject is quite complex, as there are various types of logic, including deductive reasoning, which is the foundation for the scientific method, as well as paradox and fallacy (Circe Institute, 2014). Three components comprise logic: consistency in the argument, soundness, and completeness (Circe Institute, 2014). Rhetoric is the art of persuasive speaking/writing. Some rhetorical devices include hyperbole, irony, and alliteration (Circe Institute, 2014).

The *trivium* is structured to align with the natural development of language in children (see Figure 2; Clark & Jain, 2013). Children learn language through the process of understanding grammar or the learning of words, then developing logic for words where the child tries to make sense of its meaning, to rhetoric where the child "makes sense of words eloquently" (Clark & Jain, 2013, p. 29). Classical Christian educators posited that the *trivium* focuses on three goals: (a) acquiring truth, (b) mastering sound reason, and (c) communicating successfully (Wilkins, 2004).

Grammar stage. In the first stage of grammar, students focus on building knowledge (Clark & Jain, 2013; T. O. Moore, 2014). Educators introduce students to the

fundamental art of reading and writing, but also the rules and facts of language, such as spelling, syntax, and grammar (Clark & Jain, 2013). The goal of the grammar stage is to "develop a vocabulary of facts and rules" (Bluedorn & Bluedorn, 2002, para. 5). The student must learn the grammar of a subject before dialogue can take place in it, after which its presentation may be refined (Aquinas Learning, 2014).

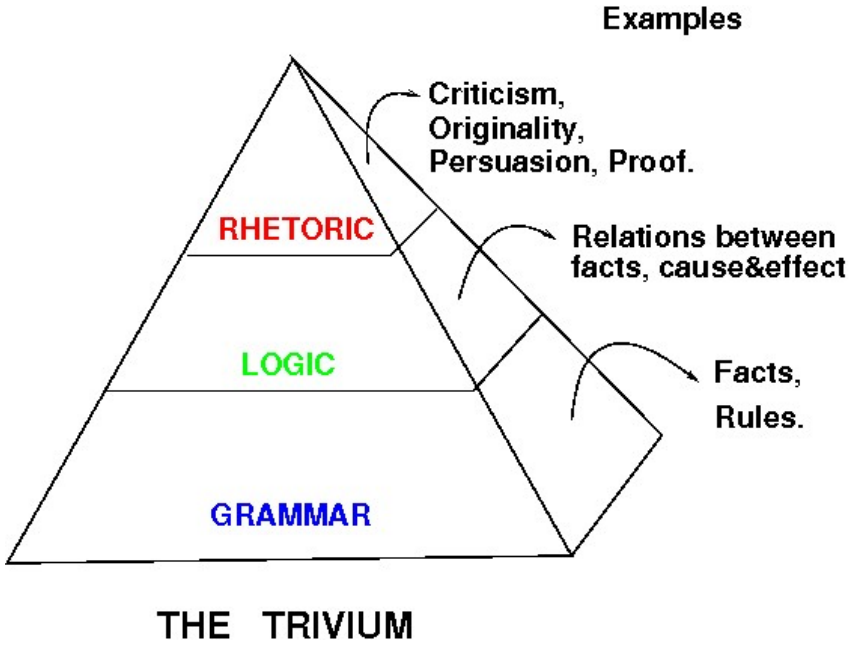


Figure 2. The *trivium.*

In the grammar stage of the classical model, which typically takes place in kindergarten through fifth or sixth grade, educators emphasize basic facts (Aquinas Learning, 2014; Bluedorn & Bluedorn, 2002). Children at this stage are naturally inquisitive and memorize facts more easily at this stage than later stages (Aquinas Learning, 2014; Bluedorn & Bluedorn, 2002). Instructional practices focus on (a) memorizing facts through chants, songs, and other mnemonic devices, (b) using manipulatives, hands-on learning, and experiential-learning activities, and (c) recitation (Aquinas Learning, 2014; T. O. Moore, 2014). Educators make repetition fun for students through the use of manipulatives and hands-on learning in the grammar stage of the classical classroom (Aquinas Learning, 2014). Upon culmination of the grammar stage, students should have a sound knowledge base to move to the logic/dialectic stage (Bluedorn & Bluedorn, 2002; T. O. Moore, 2014).

Logic/dialectic stage. The second stage of the *trivium* is the dialectic stage, or the "art of reasoning" (Aquinas Learning, 2014, para. 5). The dialectic student builds on the foundation of knowledge, learning from dialogue that can take place once the student knows the basic facts (Perrin, 2004; Robins, 2012). Logic/dialectic teachers use the Socratic method, including questioning and sharing thoughts throughout topics and subjects (Perrin, 2004). Students usually enter the dialectic stage around the sixth grade and this stage lasts through approximately the eighth grade (Perrin, 2004; Robins, 2012). Educators use guided questions at this stage to help students learn to analyze and think through problems on their own (Perrin, 2004; Robins, 2012). Students often learn logic through a formal course at this stage. Logical thinking is the first step to learning to think

independently (Perrin, 2004). Students also analyze primary sources from historical periods at this stage as well (Robins, 2012).

Rhetoric stage. The last stage in the *trivium*, the rhetoric stage, is the essential core of the curriculum where students hone critical-thinking skills with the educational intent of becoming prepared for adulthood (Wilson, 2003). The rhetoric stage focuses on the "art of communication" (Aquinas Learning, 2014, para. 7). At this stage, students learn to synthesize the information previously learned and communicate it to others (Perrin, 2004; Wilson, 2003). This stage begins around ninth grade and lasts through the secondary years (Perrin, 2004; Wilson, 2003). At this stage, students naturally address how others perceive them; therefore, educators concentrate on students being able to communicate their thoughts appropriately (Perrin, 2004). Students learn to discuss strengths and weaknesses of literature at this stage, as well as how to effectively and professionally communicate in written and oral formats (Perrin, 2004). Generally, classical schools require a research project and defense prior to high school graduation that is similar to that of a master's level candidate in college (Perrin, 2004; Wilson, 2003). People may apply these three aspects to learning a subject—grammar, dialectic, and rhetoric—to the mastery of any subject (Perrin, 2004; Wilson, 2003).

Classical Christian-Education Curriculum: *Quadrivium*

Classical Christian-education educators divide the arts into the *quadrivium*, which means "four ways" and pertains to the subjects of arithmetic, geometry, astronomy, and music (G. A. Veith & Kern, 2001, p. 78). The grouping of *quadrivium* subjects derived from Pythagoras, who argued that only the most advanced students could learn such

disciplines (Lundy, 2012; G. A. Veith & Kern, 2001). Students learning *quadrivium* subjects must have developed strong linguistic and logic tools during the *trivium* stages (Leithart, 2008; Lundy, 2012; G. A. Veith & Kern, 2001). Educators introduce *quadrivium* subjects during the late elementary years and continue through 12th grade (Leithart, 2008; Lundy, 2012; G. A. Veith & Kern, 2001). The goal of the *quadrivium* is to introduce students to the world of abstractions. By instructing students on the art of numbers, with each subject corresponding to a specific ideal of numbers, students learn "to contemplate the ideal and beautiful" (Lundy, 2012, para. 12).

In a classical Christian-education setting, these four arts are studied throughout the academic years and at various depths, depending on the cognitive stage of the student (G. A. Veith & Kern, 2001). Arithmetic is the basic idea of numbers, "geometry is number in space, music is number in time, and astronomy expresses number in space and time" (Lundy, 2012, para. 1). Students, in the elementary years, learn the names of numbers, how to read and write numbers, and how to count arithmetically; they then advance to algebra, geometry, and calculus in the secondary-school years (Lundy, 2012). Students in secondary-school grades learn astronomy, or "the science of the heavens" (Lundy, 2012, para. 4). Although students use music as a learning tool throughout the *trivium*, they learn the philosophy of music and the abstract links between music and numbers in the secondary years (Lundy, 2012).

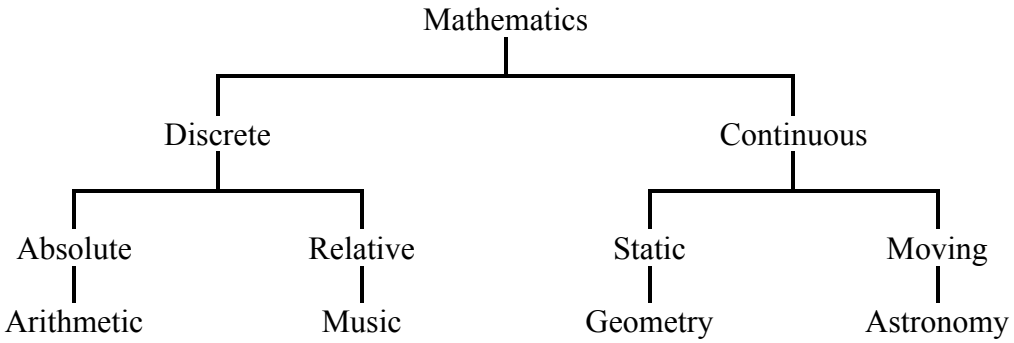


Figure 3. The quadrivium.

Classical Christian Education Curriculum: *The Teaching of History*

Educators center classical education on classic literature and where it falls in history (Perrin, 2004) and teach history in chronological order alongside literature of the era being studied (Hicks, 1999). One can study the history of the world in the form of a timeline in which students can relate all other happenings in the world (Perrin, 2004). Students not only learn their place in the historical timeline, they learn how history integrates the subjects they study by introducing great thinkers and scientists of the period, the time and place they were created, and cultural and social advances in the subject (Hicks, 1999; Perrin, 2004). In a classical Christian-education setting, educators usually teach history in cycles: (a) BCE 500–400 CE, (b) Middle Ages–Early Renaissance, (c) Late Renaissance–Early Modern, and (d) Modern–Present (Lundy, 2012; Perrin, 2004). Educators can teach all subjects based on these cycles, immersing students in learning about one-time period for an entire academic year (Lundy, 2012; Perrin, 2004). Once a student goes through the four history cycles, the cycles repeat, but with greater depth (Lundy, 2012; Perrin, 2004). Students easily recall the information learned in the earlier cycles and can then build on that background knowledge of the time period to start asking why and how events happened (Lundy, 2012; Perrin, 2004).

Classical Christian Education: Student Outcomes

"A remarkable lack of research" exists on the effects of classical Christian education on student outcomes (Splittgerber, 2010, p. 4). The lack of research makes it difficult to empirically support Perrin's (2004) statement that "classical students typically perform in the top 15% of the nation on standardized tests," much less make informed

remarks on teacher self-efficacy (p. 40). A review of the literature unearthed two studies that included classical Christian education as a topic; both studies were dissertations (Dernlan, 2013; Splittgerber, 2010).

Dernlan (2013) conducted a study with 47 fourth-, eighth-, and 12th-grade students attending a classical Christian school and 89 fourth-, eighth-, and 12th-grade students attending a traditional Christian school in the Midwest. The researcher examined differences in students' biblical knowledge, commitment to the Christian faith, and frequency of teacher discussions of God or the *Bible*, measured using single-item indicators. Dernlan (2013) conducted chi-square tests of independence to test hypotheses. Results from Dernlan's (2013) study showed that, in comparison to students who attended the traditional Christian school, students who attended the classical Christian school reported significantly higher levels of biblical knowledge and commitment to the Christian faith. These results were significant for all three grades. However, no significant differences emerged between students at the two schools with regard to frequency of teacher discussions of God or the *Bible.* In accordance with Dernlan's (2013) hypothesis, students and teachers at the classical Christian school were expected to engage in more frequent discussions about biblical topics. This result suggests that teachers may lack efficacy and skills in student engagement.

Splittgerber's (2010) study aligned more with the proposed study, examining whether achievement levels differed between students who attended Lutheran schools that used a classical Christian-education model and those that did not. Splittgerber (2010) compared student-achievement outcomes, measured by standardized tests, between six classical Lutheran schools and 20 traditional Lutheran schools. That is, the researcher

assessed differences at the school and not the student level (Splittgerber, 2010). Results from the study showed that student standardized-achievement test scores in reading, language, and mathematics were significantly higher among classical Lutheran schools for students in fifth-, seventh-, and eighth grades in comparison to Lutheran schools that used a traditional curricula (Splittgerber, 2010). The statistical analyses used to determine school differences were 36 independent samples *t*-tests (Splittgerber, 2010). A small sample size coupled with numerous *t*-tests can inflate the likelihood of making a Type I error, or rejecting the null hypothesis when in fact it was true. It is therefore recommended that these results were likely influenced by a Type 1 error.

Classical Christian Pedagogy

Proponents of classical Christian education have focused on four overarching qualities of pedagogy that make a teacher an effective instructor in the classical Christian classroom (Jain, 2015). The classical Christian classroom shares some similarities with the differentiated instruction classroom: to transmit knowledge to students, teachers must use a variety of instructional tools. Grant (2006), in an example Christendom course syllabus for a classical Christian school, required teachers to use the pedagogical practices of lecture, quizzes, reading journals, recitations, examinations, and monthly projects. The classical Christian-education approach requires teachers to be skilled in such diverse techniques as experiential activities, lecturing, role modeling, drills, and options that teach to students' learning level, learning style, and learning interests (Clark & Jain, 2013; Leithart, 2008). The goal of classical Christian education is that students become life-long learners who have the ability to understand the connections between and speak persuasively on diverse subjects (Jeffers, 2014). Teachers thus must develop

pedagogical skills that not only demonstrate connections between seemingly different subjects but also teach the rhetoric student how to persuasively reason about these connections (Jeffers, 2014). They also must develop pedagogical skills that "emphasize the interrelationship of all knowledge" (Perrin, 2004, p. XX).

As classical Christian education aligns with the cognitive stage of the child, teachers must be able to use teaching methods that transmit knowledge effectively to children in accordance with students' cognitive stage (Howe, 2011). Furthermore, instructors must have the ability to gauge each student's level of cognitive development and to intervene if a child shows evidence of cognitive delay (Howe, 2011). Due to the inability of a child under the age of 11 to think in abstractions (citation), teachers of classical Christian education start to use the Socratic method only when the student reaches the logic/dialectic stage (Perrin, 2004). The rigor of the classical Christian-education program requires teachers to have content knowledge in numerous subjects as well as knowledge of the *Bible,* the *Great Books,* and even, at some schools, Latin (Howe, 2011).

Need for Study

In addition to the substantial pedagogical skills required of classical Christian educators, due to the recent emergence and distinctive nature of classical Christian education, many teachers who teach at classical Christian schools have had little previous exposure to this education paradigm (Perrin, 2004; Stanek, 2013). These factors can lead to poor teacher self-efficacy (Perrin, 2004; Stanek, 2013). In one of the few studies on teachers' experiences teaching in a classical Christian-education setting, Stanek (2013) highlighted the classical instructional challenges experienced by K–12 teachers,

concluding that most teachers displayed low teacher self-efficacy in their classical-education instructional practices as a result of these challenges. Poor teacher self-efficacy is most evident among teachers who were taught in traditional education settings where the focus was on standardized testing (Stanek, 2013). The more traditional approaches of teaching were "extremely problematic [in] *trivium* pedagogy" and additional research attention should be given to "the importance of teacher identity through pedagogical content knowledge" (Stanek, 2013, p. 28).

This study was guided by the philosophy of teacher self-efficacy, as conceptualized by Tschannen-Moran et al. (1998). In developing their self-efficacy theory specific to teachers, Tschannen-Moran et al. (1998) drew on (a) Bandura's (1977) SCT, in which the construct of self-efficacy plays a significant role, and (b) Rotter's (1966) concept of locus of control. In this section, I review the theories of Bandura (1977) and Rotter (1966), then discuss the Tschannen-Moran et al. (1998) theory of teacher self-efficacy.

Social-Cognitive Theory

Bandura's (1977) SCT is one of the most widely known and used theories in research, and researchers have used it in studies from such disciplines as psychology, sociology, business, nursing, behavioral health, medicine, and education (Bandura, 2011). SCT grew from Bandura's (1977) *social-learning theory* (SLT), indicating a historical shift from behaviorist to cognitive perspectives on learning (Ertmer & Newby, 2013). According to the classical-conditioning approach, learning is an outcome of stimulus-response associations; in contrast, operant conditioning theorists posited that learning was

a response resulting from reinforcement or punishment (Ertmer & Newby, 2013). Central to behaviorists' perspectives was the thought that learning is direct, observable changes in the quality or frequency of behavior (Ertmer & Newby, 2013).

Behaviorist approaches placed greater emphasis on the environment than on the individual learner (Ertmer & Newby, 2013). Learning in the behaviorist perspective was seen as merely "an automatic response to an objective set of environmental stimuli" (Mearns, 2009, p. 1538). Bandura (1986) referred to the behaviorist definition of learning as *direct learnin*g or *instantaneous matching,* and argued that behaviorism could not adequately explain *delayed learning*, when a learner performs a specific behavior after having observed another individual performing a behavior after reinforcement. Delayed learning was an early conceptualization of *vicarious reinforcement* (Bandura, 1986). Bandura (1986) furthermore argued that behaviorist approaches to learning could not explain the acquisition of new learning outcomes: different responses to the same or similar situations.

Central to Bandura's (1986) criticism of the behaviorist perspective of learning was its lack of attention or concern for human cognition. Behaviorist approaches did little to explain how learned habits were retained and retrieved; they did not address memory in these theories and defined forgetting only as "the nonuse of a response over time" (Ertmer & Newby, 2013, p. 49). Bandura's (1986) SCT brought forth a new perspective on learning, emphasizing complex cognitive processes rather than observed behaviors. Bandura (1986) based this conceptualization of learning on the model of triadic reciprocal determination, which posited that "behavior, cognition and other personal factors, and environmental influences all operate as interacting determinants that

influence each other bidirectionally" (p. 4). These relationships can be explained using the mathematical formula $B = f(P, E)$, where B = behavior, which is a function (f) of the person (P) interacting with the environment (E; Bandura, 1989).

Bandura (1977) defined self-efficacy, which grew from the idea of reciprocal determinism, as a primary factor of motivation, based on an individual's perceived assessment of the ability "to organize and execute courses of action to attain designated goals" (p. 101). Through therapeutic work with clients who suffered from phobia, Bandura (1977) initially defined self-efficacy as *efficacy expectancy*, differentiating it from *outcome expectancy*. Outcome expectancy referenced a belief that a certain outcome would occur if one performed a certain behavior, whereas efficacy expectancy, or self-efficacy, referred to the belief that one had the ability to perform a certain action to obtain the desired outcome. Because "the types of outcomes people anticipate depend largely on their judgments of how well" they perform a certain behavior, Bandura (1977) argued that "self-efficacy played a larger role" in affecting motivation than did outcome expectancy (p. 83).

Bandura (1977) did acknowledge that self-efficacy was similar to the construct of self-concept in that both concerned perceptions of self-worth. However, self-concept was a global perception of self, whereas self-efficacy was a "domain-specific self-concept" (as cited in Zimmerman, 2000, p. 85). That is, self-efficacy is specific to a certain task, activity, or behavior, and an individual could have high self-efficacy in one area (e.g., academics) and low self-efficacy in another area (e.g., athletics; Bandura, 1977). Bandura (1977) furthermore conjectured that, although self-concept—as well as the construct of

self-esteem—is largely driven by one's perceived physical and psychological qualities, self-efficacy is based on one's ability to perform a task.

Individuals shape self-efficacy beliefs through interpretation of information from four sources (Bandura, 1977). The first and most influential source is one's success or failure in performing the behavior in the past, defined as *mastery experience* (Bandura, 1977). Simply put, prior experiences where one performed successfully will likely raise self-efficacy as well as increase the likelihood that the person will perform the behavior again, whereas past failure experiences will decrease self-efficacy and diminish repeat performances of the behavior. The second source identified by Bandura (1977) was *vicarious experiences*, or observing and copying a behavior that was successful for another individual. Although vicarious experience is not as influential on self-efficacy as mastery experience, it is especially meaningful in shaping self-efficacy when an individual had no prior experience performing the behavior (Bandura, 1977). The third source was *verbal (social) persuasion,* which could entail positive or negative tactics to encourage or encumber self-efficacy beliefs (Bandura, 1977). The last source was physiological arousal, with fatigue, stress, helplessness, depression, and anxiety markedly contributing to low self-efficacy (Bandura, 2011).

Concept of Locus of Control

Rotter's (1966) work on the theory of locus of control preceded Bandura's (1977) development of the SLT and SCT, conceptualized as a different SLT. Many parallels can be drawn between the two SLTs: both theories were reactions to the leading psychological theories of the times: behaviorism for Bandura (1977, 1986), and

behaviorism and psychoanalysis for Rotter (1966). The operant-conditioning concept of reinforcement informed and underlay Bandura's (1977, 1986) and Rotter's (1966) theories, but Rotter (1966) also drew from the psychoanalytic-instinct theory of motivation. The unique contribution Rotter (1966) brought to the field of learning theory was the postulate that cognition and personality interact with and are influenced by the environment to influence behavior.

Bandura's (1977, 1986) and Rotter's (1966) SLTs share some themes in the process of learning, including the importance of cognition in the learning process and the acknowledgement that learning occurs in a social environment. Both theorists also recognized the relevance of reinforcement, albeit in different ways. In contrast to Bandura (1977, 1986), who emphasized the importance of environmental reinforcements (i.e., vicarious reinforcement through observing, and modeling behavior), Rotter (1966) placed importance on the individual's thoughts and motivations. Rotter (1966) argued that reinforcement does not strengthen a behavior per se; instead,

> a reinforcement acts to strengthen an expectancy that a particular behavior or event will be followed by that reinforcement in the future … Depending upon the individual's history of reinforcement, individuals would differ in the degree to which the attributed reinforcements to their own actions (p. 2).

One can explain Rotter's (1966) SLT model using the mathematical formula, $BP = f(E, RV)$, where behavior potential (*BP*) is a function of expectancy (*E*) and reinforcement value (*RV*). In other words, the likelihood of behaving in a certain way in a given situation (*BP*) depends on the subjective likelihood that behaving in this specific way will lead to a particular outcome that is desired (*E*), and the subjective appeal/attractiveness of this outcome (*RV;* Mearns, 2009). Rotter (1966) also posited that,

in alignment with Bandura's (1977) concept of vicarious reinforcement, the observation of others' behaviors and responses to that behavior can influence an individual's behavior and expectancy.

Theory of Teacher Self-Efficacy

In their seminal publication, Tschannen-Moran et al. (1998) introduced the concept of teacher self-efficacy, defined as a teacher's personal beliefs and judgments with regard to the capacity to provide instruction that would "bring about desired student outcomes, even among … difficult or unmotivated students" (p. 783). Tschannen-Moran et al. (1998) debated that teachers' self-confidence in their ability to accomplish the actions that lead to student learning is one of the few individual characteristics that foretell teacher practice and student product. Teachers who felt greater responsibility for student learning had higher self-efficacy as well as higher student-achievement outcomes (Tschannen-Moran et al., 1998). Teachers tend to lower their standards to close the achievement gap between the requirements of excellent teaching and their self-perceived competency level of what they are able to achieve (Tschannen-Moran et al., 1998). Self-efficacy of teachers influences thoughts, actions, efforts, choice of activities, willingness to expand, and persistence to face obstacles in the classroom. The issue is not simply how capable teachers are, but how capable teachers believes themselves to be (Tschannen-Moran et al., 1998).

Prior to the seminal Tschannen-Moran et al. (1998) study on teacher self-efficacy, the body of literature on teacher self-efficacy lacked coherence and cohesiveness, due to the use of differing theoretical perspectives, resulting in "conceptual confusion" of the

actual construct of teacher self-efficacy and the processes that influenced it (Tschannen-Moran & Johnson, 2011). By bringing together components of Bandura's (1977, 1986) and Rotter's (1966) theories, especially as they pertained to self-efficacy and expectancy theories, Tschannen-Moran et al. (1998) were able to develop a cohesive model that incorporated both theoretical concepts. Tschannen-Moran et al. (1998) provided descriptions of the processes that influenced the development of teacher self-efficacy, as well as positing the outcomes of teacher self-efficacy. This theoretical framework of teacher self-efficacy appears in Figure 4.

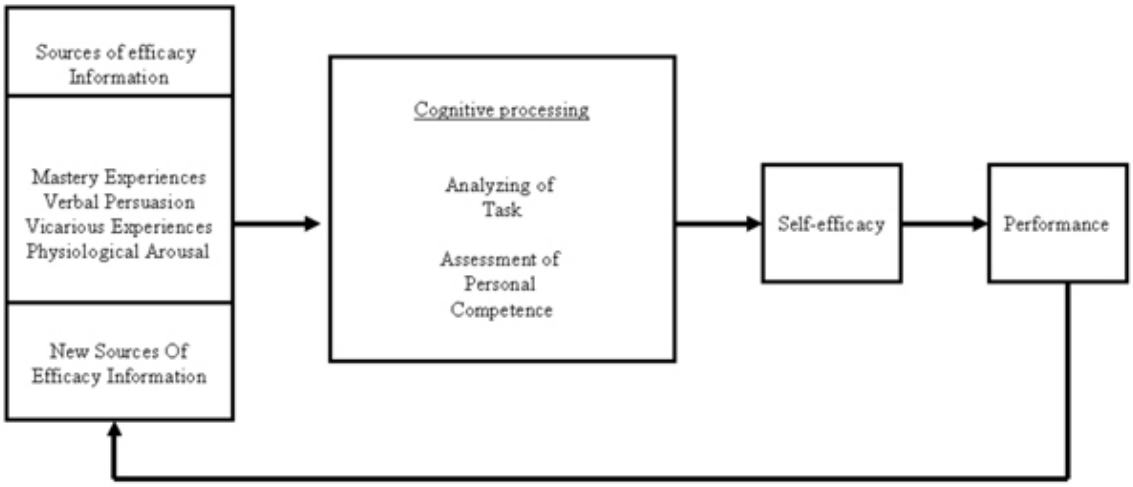


Figure 4. Model of teacher self-efficacy.
Note. Adapted from "Teacher Efficacy: Its Meaning and Measure," by M. Tschannen-Moran, A. Woolfolk Hoy, & W. K. Hoy, 1998, *Review of Educational Research, 68,* 202–248.

Tschannen-Moran et al. (1998) posited that teaching self-efficacy embodied Bandura's (1986) concepts of (a) a *future-oriented* perception of one's degree of instructional competence in a given hypothetical situation as well as (b) an *outcome expectancy* as to the likelihood that a positive student-learning outcome would occur as a result of one's degree of instructional competence. In other words, teacher self-efficacy pertained to teachers' sense of competency in their use of specific instructional practices to enhance student-learning outcomes as well as their belief that the use of these specific instructional practices would evince positive student outcomes (Tschannen-Moran & Woolfolk Hoy, 2001). Tschannen-Moran et al. (1998) also incorporated aspects of Rotter's (1966) concept of locus of control. According to Tschannen-Moran et al. (1998) and Tschannen-Moran and Woolfolk Hoy (2001), teachers with an internal locus of control believe that the reinforcement of instructional practices resides in themselves, whereas teachers with an external teaching locus of control believe that reinforcement of their teaching efforts is external to them, and instead such factors as the child, the child's family, the school context, and the community setting influence them.

One of the strongest contributions of the Tschannen-Moran et al. (1998) model was the adaptation and refinement of Bandura's (1986) sources of self-efficacy to the domain of teaching. In alliance with Bandura (1986), Tschannen-Moran et al. (1998) posited that the sources of self-efficacy for teachers were (a) physiological arousal, (b) vicarious reinforcement, (c) verbal (social) persuasion, and (d) mastery experiences. Tschannen-Moran et al. (1998) further argued that these sources of self-efficacy can influence not only teachers' own sense of teaching competence but also teachers' perceptions of the teaching behavior observed.

Physiological arousal. The first source of teacher self-efficacy is a teacher's physiological arousal, or to be more precise, the cognitive and emotional interpretation of the arousal (Tschannen-Moran et al., 1998). If, in response to a teaching activity, one perceives arousal symptoms such as increased heart and breathing rates, excessive sweating and trembling of the hands, blushing, and dry mouth positively, as indicators, for example, of excitement, anticipation, and enthusiasm, physiological arousal can lead to enhanced feeling of teacher self-efficacy (Tschannen-Moran et al., 1998). If one perceives these arousal symptoms as indicators of stress and increased feelings of anxiety, apprehension, and worry, physiological arousal can increase feelings of incompetence, leading to reduced teacher self-efficacy (Tschannen-Moran et al., 1998).

Vicarious reinforcement. The second source of teacher self-efficacy is vicarious reinforcement, which is the observation of others' teaching performance and the resultant outcomes of the performance (Tschannen-Moran et al., 1998). Teacher self-efficacy often increases when teachers observe effective and skilled teaching practices, especially if they are performed by a credible and admired source. Alternatively, observation of poor teaching practices may lead to perceptions that the practices are too difficult, thereby decreasing teacher self-efficacy (Tschannen-Moran et al., 1998).

Verbal (social) persuasion. The third source of teacher self-efficacy is verbal (social) persuasion (Tschannen-Moran et al., 1998). For teacher self-efficacy, verbal (social) persuasion pertains to interactions and experiences where others provide feedback to the teacher regarding performance and potential success. Types of verbal (social) persuasion can range from verbal encouragement to specific feedback about performance to professional-development programs, coursework, and trainings.

Tschannen-Moran et al. (1998) posited that certain conditions influence whether verbal (social) persuasion effectively enhances teaching competence. Persuasion is most likely to effectively influence teaching competence if (a) teachers perceive that the source of persuasion is credible, trustworthy, and experienced; (b) teachers translate the feedback into the classroom, that is, teachers effectively employ what they learned in the classroom and find it to be successful; and (c) feedback corresponds to a domain of teacher self-efficacy that teachers value and teachers have the skills and ability to act on the feedback (Tschannen-Moran et al., 1998).

Mastery experiences. The fourth and last source of self-efficacy is mastery experiences, which, in the context of teaching self-efficacy, pertain to prior teaching-role experiences that teachers perceive as successful (Tschannen-Moran et al., 1998). "Mastery experiences are a powerful source of knowledge about one's own capabilities as a teacher, but also supply information about the complexity of the teaching task" (Tschannen-Moran et al., 1998, p. 229). Mastery experiences tend to be the most influential source of self-efficacy as they provide evidence of a teacher's capabilities in the classroom (Tschannen-Moran et al., 1998). In one sense, mastery experiences provide positive reinforcement, increasing the likelihood that a teacher will perform a specific teaching behavior in the future and do so successfully. Tschannen-Moran et al. (1998) debated that self-efficacy is not necessarily enhanced by all prior successes. As self-efficacy is domain-specific, teachers' sense of self-efficacy may differ according to domains, and teachers may value success in one area of teaching more highly than success in another area (Tschannen-Moran et al., 1998). Referring back to the theoretical work of Rotter (1966), Tschannen-Moran et al. (1998) argued that teachers'

interpretations and attributions of the experiences as well as by their own loci of control may influence mastery experiences rather than all prior successes.

Few studies examined all four sources of teacher self-efficacy and the impact on self-efficacy beliefs among teachers. One exception was a study by Mohamadi and Asadzadeh (2011), who examined this relationship with 284 high school teachers from 18 high schools in the Qom province of Iran. Mohamadi and Asadzadeh (2011) used the Sources of Self-Efficacy Inventory (SOSI; Henson, 1999) to measure the four self-efficacy sources of mastery experience, vicarious experience, verbal persuasion, and emotional/physiological states. The researchers used the three subscales and full scale of the Tschannen-Moran et al. (1998) TSES measures to assess teacher self-efficacy. Using confirmatory factor analysis, the researchers examined if the subscales of the SOSI and TSES adequately measured the latent constructs of sources of teacher self-efficacy and teacher self-efficacy, using structural equation modeling.

Results from the Mohamadi and Asadzadeh (2011) study provided insightful information regarding measurement by the SOSI and TSES, but also their relationships. Confirmatory factor analysis showed that physiological states did not significantly load as an observed variable for the latent factor of sources of self-efficacy (Mohamadi & Asadzadeh, 2011). Mastery experience had the highest factor loading of .90, verbal persuasion had a factor loading of .70, and vicarious experience had a factor loading of .40 (Mohamadi & Asadzadeh, 2011). These results suggest that mastery experience and verbal persuasion were the most influential components of teacher self-efficacy (Mohamadi & Asadzadeh, 2011). All three subscales of the TSES emerged as significant observed variables for the latent construct of teacher self-efficacy (Mohamadi &

Asadzadeh, 2011). The instructional strategies subscale emerged as the strongest factor, with a factor loading of .90, followed by the classroom management factor with a factor loading of .80, and the student-engagement factor, with a factor loading of .50 (Mohamadi & Asadzadeh, 2011). The structural equation modeling analysis further showed that sources of teacher self-efficacy significantly predicted teacher self-efficacy, $\beta = .50$, $p < .001$ (Mohamadi & Asadzadeh, 2011).

Measurement of Teacher Self-Efficacy

The lack of a comprehensive and relevant theoretical model of teacher self-efficacy seen in the literature prior to 1998 contributed greatly to the poor conceptualization and measurement of the self-efficacy construct (Tschannen-Moran & Johnson, 2011). Prior to the Tschannen-Moran et al. (1998) study, researchers who developed and used measures of teacher self-efficacy tended to either be domain-specific or focused on constructs other than self-efficacy, such as teacher locus of control and responsibility for student achievement (Tschannen-Moran & Johnson, 2011). The one exception to these measures was the two-factor Teacher Efficacy Scale (TES) created by Gibson and Dembo (1984), which was an often-used instrument in studies that examined general teacher self-efficacy (Tschannen-Moran & Johnson, 2011). The TES, however, lacked conceptual clarity in what the scale was actually measuring. Results from studies showed that other researchers could not replicate the original two factors found in Gibson and Dembo's (1984) study (Tschannen-Moran & Woolfolk Hoy, 2001). The numerous and diverse measurements used in studies on teacher self-efficacy resulted in a body of literature that was disjointed and piecemeal, hindering the ability to establish consistent

conclusions from predictors and outcomes of teacher self-efficacy (Tschannen-Moran & Johnson, 2011).

Tschannen-Moran and Woolfolk Hoy (2001) advanced the breadth of teacher self-efficacy through the design of the TSES. In constructing the TSES, Tschannen-Moran et al. (1998) considered and addressed measurement challenges seen in previous literature, especially concerns raised about Gibson and Dembo's (1984) TES. The authors recognized the need to reconcile measurement issues of teacher self-efficacy that were documented in the literature (Tschannen-Moran & Johnson, 2011). One concern was the need to reconcile the theoretical conceptualization of self-efficacy as a domain-specific construct with the level of specificity of the measurement of teacher self-efficacy (Tschannen-Moran & Johnson, 2011). Aligned with this concern was the psychometric issue of the two-factor or subscale structure of the TES and other measures of teacher self-efficacy (e.g., Meijer & Foster's Dutch Teacher Self-Efficacy Scale; Tschannen-Moran & Johnson, 2011). Although one factor consistently emerged across teacher self-efficacy measures as an indicator of teaching competence, it was unclear which construct the second factor assessed (Tschannen-Moran & Johnson, 2011). The psychometric confusion surrounding teacher self-efficacy scales led Tschannen-Moran and Woolfolk Hoy (2001) to posit that a valid scale of teacher self-efficacy should assess *teaching competence*—the personal internalized judgment of one's skills and capacities balanced against one's weaknesses in the teaching domain—and *teacher task analysis*—one's perceived ability to perform certain instructional strategies, actions, and behaviors that resulted in specific outcomes (Tschannen-Moran & Johnson, 2011).

Through extensive and complex psychometric analyses, including exploratory and confirmatory factor analysis, and the testing of items with diverse samples in three studies, Tschannen-Moran and Woolfolk Hoy (2001) developed the TSES, which is the most psychometrically sound as a three-factor scale. The first factor of the TSES is *self-efficacy for instructional strategies*, which aligns with the construct of teaching competence measured by other instruments (Tschannen-Moran & Johnson, 2011). The two other factors of the TSES assess two discrete task-analysis issues: *teacher self-efficacy for student engagement* and *teacher self-efficacy for classroom management.* The TSES is the most often-used measure of general teacher self-efficacy, and subsequent studies have confirmed the psychometric quality of this instrument (Tschannen-Moran & Johnson, 2011).

Gürbüztürk and Şad (2009) conducted Pearson bivariate correlations to determine whether constructivist versus traditional educational practices significantly aligned with the two teacher self-efficacy constructs of student engagement and instructional strategies. Results showed that constructivist educational practices significantly related to only student-engagement teacher self-efficacy, $r = .19$, $p < .01$, whereas traditional educational practices significantly aligned with only instructional-strategies teacher self-efficacy, $r = .14$, $p < .01$. The researchers also found that female teachers, in comparison to male teachers, had significantly higher levels of teacher self-efficacy for student engagement and instructional strategies. However, teachers by grade level did not show these significant differences (Gürbüztürk & Şad, 2009).

Through numerous studies, student self-efficacy proved to be a deciding factor in student success (W. Moore & Esselman, 1992; Poulou, 2007; Ross, 1992; Tschannen-

Moran et al., 1998). Scholars showed that teachers' self-confidence in their ability to achieve the actions that lead to student learning is one of the few individual characteristics that predict teacher practice and student outcomes (Kagan, 1992; Poulou, 2007; Tschannen-Moran et al., 1998). Later research showed that behavior can be predicted by a measure of perceived self-efficacy (Tschannen-Moran et al., 1998). In addition to education, self-efficacy is a substantiating factor in many areas of life including career choice, heart-attack rehabilitation, drug-addiction relapse, smoking-cessation behavior, and even phobia-related anxiety (Bandura, 1982).

Summary

Although classical education's direct influence diminished after the 17th century, along with a general decline in respect for the authority of classical education, the modern view of education as all-around character training to equip a student for life follows directly from the theories of famous historical figures and modern theorists. The TSES measure can help better prepare postsecondary teacher-training programs for preservice teachers for the field in which they will work, as well as helping guide administrators in training current teachers. A quantitative study in this area will show clearly the areas where training is necessary.

The study of classical education showed a significant scarcity of quantitative or qualitative academic research. This lack of published research could be due to its relative infancy in the field of education after the hibernation of many years, its interpretation at times as an eccentricity in education, or the lack of classical schools compared to traditional schools. Myriads of non-research-based literature exists on classical education,

although research studies were extremely limited. This dichotomy illustrates the eminent importance of a research-based study such as this one.

The intent of this study was to address the gaps in literature cited by Tschannen-Moran and Woolfolk Hoy (2001) by examining the effects of a teaching environment on teaching self-efficacy. The teaching environments under examination in this study are the classical Christian-education and the traditional Christian-education approaches in a school setting. A review of the literature yielded no studies that examined the effects of a Christian schools' teaching philosophy on teacher self-efficacy. Despite this gap in the literature, this study was, nonetheless, informed by the existing empirical work on the related topics of educational philosophies.

Chapter Three: Methodology

Design

This study was structured most appropriately as a causal-comparative quantitative research study with a nonexperimental design. Researchers employ causal-comparative research designs when they wish to determine the cause of the differences in the dependent variable between two or more groups (Schenker & Rumrill, 2004). Unlike the independent variable in experimental research studies, which is manipulated, the independent variable occurs naturally in causal-comparative studies. The researcher cannot manipulate the type of school in which teachers work and the pedagogical approach teachers follow. The intent of this study was to determine if teacher self-efficacy as it relates to task analysis and teaching competence significantly differs between teachers who work in classical Christian schools and those who work in traditional Christian schools. The hypothesized cause of differing teacher self-efficacy outcomes is the school's pedagogical approach: the independent variable. The study's dependent variables are the two types of teacher self-efficacy: self-efficacy as it relates to instructional strategies and self-efficacy as it relates to student engagement. Although researchers use causal-comparative research designs "to attempt to identify a causal relationship," because the causal-comparative is a nonexperimental design, causality cannot be proven (Schenker & Rumrill, 2004, p. 118).

Research Questions

This study had two research questions. The first research question pertains to differences between traditional Christian teachers and classical Christian-education teachers on levels of instructional strategies teacher self-efficacy. The second question

concerned differences between traditional Christian teachers and classical Christian-education teachers with regard to student-engagement teacher self-efficacy. The research questions had corresponding null hypotheses.

Research Question 1

Is there a statistically significant difference in student-engagement teacher self-efficacy between teachers in a classical Christian education school setting and teachers in a traditional Christian-school setting, controlling for covariates (i.e., teacher gender, years of experience teaching at traditional Christian schools and classical Christian-education schools, previous training/professional development in classical-education pedagogy and practices, student experiences in a classical Christian-education setting, and grade level taught)?

Research Question 2

Is there a statistically significant difference in instructional-strategies teacher self-efficacy between teachers in a classical Christian school setting and teachers in a traditional Christian-school setting, controlling for covariates (i.e., teacher gender, years of experience teaching at traditional Christian schools and classical Christian-education schools, previous training/professional development in classical Christian-education pedagogy and practices, student experiences in a classical Christian-education setting, and grade level taught)?

Null Hypotheses

The study had two null hypotheses that correspond to the research questions.

Null Hypothesis 1

H_o1: There is no statistically significant difference in student-engagement teacher self-efficacy between teachers in a classical Christian-education school setting and teachers in a traditional Christian-school setting, controlling for covariates (i.e., teacher gender, years of experience teaching at traditional Christian schools and classical Christian-education schools, previous training/professional development in classical Christian-education pedagogy and practices, student experiences in a classical Christian-education setting, and grade level taught).

Null Hypothesis 2

H_o2: There is no statistically significant difference in student-engagement teacher self-efficacy between teachers in a classical Christian-education school setting and teachers in a traditional Christian-school setting, controlling for covariates (i.e., teacher gender, years of experience teaching at traditional Christian schools and classical Christian-education schools, previous training/professional development in classical Christian-education pedagogy and practices, student experiences in a classical Christian-education setting, and grade level taught)?

Participants and Setting

Participants in this study were teachers employed either at a private, classical Christian school or a private, traditional Christian school located in Tennessee. For this study, I used a convenience sample of teachers at private classical Christian schools and private traditional Christian schools in the Tennessee area. This convenience sample of teachers represented the population of teachers instructing at Christian schools, whether

traditional or classical, in Tennessee. I recruited participants from six private classical Christian schools and three private traditional Christian schools in Tennessee. Convenience sampling is a type of nonprobability sampling in which researchers select participants based on accessibility and convenience (Farrokhi & Mahmoudi-Hamidabad, 2012).

Researchers commonly use a significance level of $p < .05$ in social sciences research, and I used that level in this power analysis. The effect size and power are additional elements of the power analysis. The effect size was set to medium, Cohen's $f = .30$, based on studies examining teacher self-efficacy regarding learning new pedagogical and instructional strategies (Ely, Kennedy, Pullen, Williams, & Hirsch, 2014; Yang et al., 2014). I set power to .80. I conducted a power analysis for a one-way analysis of covariance (ANCOVA) with six covariates using G*Power (Faul, Erdfelder, Lang, & Buchner, 2007); results from the power analysis showed that the total sample size needed for the study was $N = 90$.

Procedures

I structured the data-collection procedures to conduct surveys online using the SurveyMonkey™ online survey platform, which prevented my direct involvement in the data-collection process. I set up the survey using a specific encrypted survey site for this study on SurveyMonkey™ that was password protected and sent study participants a SurveyMonkey™ link. Clicking on this link allowed participants to access the survey. They first had to click "yes," that they have provided informed consent to be able to access the survey.

Instrumentation

The only instrument used in the study was the Teacher Self-Efficacy Scale-Long Form (TSES-LF), which contains two subscales used to measure the dependent variables of instructional-strategies teacher self-efficacy and student-engagement teacher self-efficacy (Tschannen-Moran et al., 1998). I measured the dependent variable of instructional strategies teacher self-efficacy using the 8-item Instructional Strategies Teacher Efficacy subscale of the TSES-Long Form (TSES-LF; Tschannen-Moran et al., 1998). This 8-item subscale measures the degree to which teachers believe they can successfully implement certain instructional activities and engage in specific instructional strategies. Respondents answer the eight questions using a Likert-type response format from 1 = nothing to 9 = a great deal. Two example questions from this subscale are, "How well can you respond to difficult questions from your students?" and "How well can you gauge student comprehension of what you taught?" Scores on the instructional strategies TSES can range from 8 to 72 points, with a higher score indicating higher levels of instructional-strategies teacher self-efficacy.

The reliability of the instructional strategies teacher efficacy subscale has ranged from the low .80s to the low .90s (Duffin, French, B. F., & Patrick, 2012; Tschannen-Moran & Woolfolk Hoy, 2001, 2007). Results from exploratory and confirmatory factor analyses, with factor loadings ranging from .49 to .75 has support construct validity of the TSES-LF as a three-factor model (Tschannen-Moran & Woolfolk Hoy, 2001, 2007). The instructional factor accounted for 43.25% of the variance in the study by Tschannen-Moran and Woolfolk Hoy (2001). Researchers documented criterion-related validity of the Instructional Strategies Teacher Efficacy subscale through significant associations

with the RAND teacher self-efficacy scale, $r = .45$, $p < .01$, and Gibson and Dembo's (1984) personal teaching self-efficacy scale, $r = .60$, $p < .01$ (Tschannen-Moran & Woolfolk Hoy, 2001, 2007).

I measured the dependent variable of student-engagement teaching self-efficacy using the 8-item Student Engagement Teacher Efficacy subscale of the TSES-LF (Tschannen-Moran et al., 1998). This subscale measures the degree to which teachers believe they can engage students in the learning process. Respondents answer questions using a Likert-type response format from 1 = nothing to 9 = a great deal. Two example questions from this subscale are, "How much can you do to help your students think critically?" and "How much can you do to foster student creativity?" Scores on this subscale can range from 8 to 72 points, with higher scores indicating higher levels of student-engagement teacher self-efficacy.

The reliability of the student-engagement teacher efficacy subscale has ranged from the low .80s to the mid .90s (Duffin et al., 2012; Tschannen-Moran & Woolfolk Hoy, 2001, 2007). Results from exploratory and confirmatory factor analyses, with factor loadings ranging from .49 to .75 supported the construct validity of the TSES as a three-factor model (Tschannen-Moran & Woolfolk Hoy, 2001, 2007). The student-engagement factor accounted for 10.89% of the variance in the study by Tschannen-Moran and Woolfolk Hoy (2001). Criterion-related validity of the Instructional Strategies Teacher Efficacy subscale was documented through significant associations with the RAND teacher self-efficacy scale, $r = .38$, $p < .01$, and Gibson and Dembo's (1984) personal teaching self-efficacy scale, $r = .55$, $p < .01$ (Tschannen-Moran & Woolfolk Hoy, 2001, 2007). The independent variable in this study was the type of school pedagogical

approach. This is a dichotomous variable, where 1 = schools that have a classical Christian education pedagogical approach and 0 = schools that have a traditional Christian based pedagogical approach.

This study had five potential covariates: (a) teacher gender, (b) number of years of teaching experience in the current environment, (c) number of years of teaching experience total, (d) having training or professional development in Christian classical-education pedagogy and practices, and (e) grade levels taught. The covariate of teacher gender was a dichotomous variable with a response scale of 1 = female and 0 = male. The covariates of years of teaching experience in a traditional Christian school setting and in a classical Christian school setting were ratio variables (it is possible that traditional Christian teachers have no experience teaching in a classical Christian-education setting and vice versa). Teachers provided the number of years of experience teaching in a traditional Christian school setting and teaching in a classical Christian-education school setting. Prior training or professional development in classical Christian-education pedagogy and practices and experience being a student at a classical Christian-education school were both likely confounders, making it important to include these variables as covariates. Prior training or professional development in classical Christian-education pedagogy and practices was a dichotomous variable where 1 = yes (have had training or professional development in classical Christian pedagogy and practices) and 0 = no (have not had training or professional development in classical Christian-education pedagogy and practices). Experience as a classical Christian-education student was a dichotomous variable where 1 = yes (have prior experience being a student at a classical Christian-education school) and 0 = no (do not have prior experience being a student at a classical

Christian-education school). The covariate of current grade level taught was an ordinal variable coded such that 0 = Pre-K/K, 1 = first grade, 2 = second grade, 3 = third grade, and 4 = fourth grade, and so on.

Procedures

First, I obtained permission from the Institutional Review Board and the schools to conduct the study. I followed up with an e-mail forwarded to possible participants, encouraging participation. I then gave a link to administrators with the survey instrument to forward to teachers. If teachers chose to participate, they opened the link in the e-mail and followed the directions to complete the survey, giving the demographic data needed. The body of the e-mail explained that taking the survey automatically gave consent to participate in the study.

Data then accrued on the website as participants completed the survey. I organized and analyzed data with the statistical program SPSS. Participants entered demographic information before completing the assessment (TSES), providing all independent variables needed to conduct the study. I reference this information as demographic data for the remainder of the study.

Data Analysis

I entered data into a file in SPSS 22.0 to perform the data analyses, reviewing the data for missing information and removing those surveys that had missing data from analysis (Muijs, 2010). I used mean imputation of missing data when information was missing at random (Muijs, 2010). Then, I calculated descriptive statistics on participant information reporting the mean, standard deviation, and minimum and maximum scores for interval or ratio data, such as length of years of teaching experience, and reporting

frequencies and percentages for categorical variables, such as teacher gender. I provide this information for descriptive purposes only.

I calculated the frequencies and percentages of teachers who use classical educational practices versus traditional educational practices. I examined the two teacher self-efficacy measures to determine if they met two assumptions for independent samples *t*-tests. First, I examined the measures to discern if normality took place; if skewness and kurtosis values were less than 2.00 and if the Kolmogorov-Smirnov tests were nonsignificant, the assumption of normality was met (Muijs, 2010). Second, I examined the measures for homogeneity of variance. A nonsignificant Levene's *F* test determined if the assumption was met (Muijs, 2010).

I conducted two ANCOVAs, one for each research question. I used a one-way ANCOVA when the independent variable comprised two or more groups/categories; the dependent variable was interval or ratio-coded; and categorical, ordinal, interval, or ratio-coded covariates emerged in the analysis (Muijs, 2010). Significance of the one-way ANCOVA was determined by a significant *F*-value (at $p < .05$; Muijs, 2010). If the *F*-test was significant, one teacher group would have a significantly higher or lower mean score than the other teacher group on the teacher-efficacy measures. I reported these means along with standard deviations (Muijs, 2010). A major reason for using a one-way ANCOVA over a one-way multivariate analysis of covariance (MANCOVA) is that study covariates may have differed for the two teacher-efficacy variables. After analyzing the data and completing the study, all study materials will be stored in a locked file cabinet in a home office, holding this information for 5 years, after which it will be destroyed.

CHAPTER FOUR: FINDINGS

The study was an empirical exploration to determine if traditional and classical Christian-education teachers differed on levels of instructional-strategies self-efficacy and student-engagement self-efficacy, posited by Tschannen-Moran and Woolfolk Hoy (2001) to be theoretical components of teacher self-efficacy. In the study, I also investigated if demographic and school factors (e.g., participant age, grade-level taught, or prior training in classical Christian pedagogy) were sources of instructional-strategies and student-engagement self-efficacy. The study used a causal-comparative research design due to the emphasis on differences in instructional-strategies and student-engagement self-efficacy, the dependent variables, and between teacher groups, the independent variable.

The purpose of Chapter 4 is to present the results of the study. Chapter 4 is comprised of six principal sections. First, I present the descriptive statistics of participant demographics and school factors by teacher group, followed by the descriptive statistics of the student-engagement and instructional-strategies self-efficacy scales. I review the testing of covariates and, subsequent to that section, the testing of assumptions for one-way MANOVA. The chapter ends with a presentation of the results from the one-way MANOVA for hypothesis testing. Tables augment the text material.

Research Questions

Research Question 1

Is there a statistically significant difference in student-engagement teacher self-efficacy between teachers in a classical Christian education school setting and teachers in

a traditional Christian-school setting, controlling for covariates (i.e., teacher gender, years of experience teaching at traditional Christian schools and classical Christian-education schools, previous training/professional development in classical-education pedagogy and practices, student experiences in a classical Christian-education setting, and grade level taught)?

Research Question 2

Is there a statistically significant difference in instructional-strategies teacher self-efficacy between teachers in a classical Christian school setting and teachers in a traditional Christian-school setting, controlling for covariates (i.e., teacher gender, years of experience teaching at traditional Christian schools and classical Christian-education schools, previous training/professional development in classical Christian-education pedagogy and practices, student experiences in a classical Christian-education setting, and grade level taught)?

Null Hypotheses

Null Hypothesis 1

H_o1: There is no statistically significant difference in student-engagement teacher self-efficacy between teachers in a classical Christian-education school setting and teachers in a traditional Christian-school setting, controlling for covariates (i.e., teacher gender, years of experience teaching at traditional Christian schools and classical Christian-education schools, previous training/professional development in classical Christian-education pedagogy and practices, student experiences in a classical Christian-education setting, and grade level taught).

Null Hypothesis 2

H_o2: There is no statistically significant difference in student-engagement teacher self-efficacy between teachers in a classical Christian-education school setting and teachers in a traditional Christian-school setting, controlling for covariates (i.e., teacher gender, years of experience teaching at traditional Christian schools and classical Christian-education schools, previous training/professional development in classical Christian-education pedagogy and practices, student experiences in a classical Christian-education setting, and grade level taught)?

Descriptive Statistics and Demographics of Study Participants

I limited the study sample to teachers who currently teach in traditional Christian or classical Christian schools in the State of Tennessee, calculating descriptive statistics on participant demographic and school data. Table 1 presents variable frequency counts and percentages for the sample of participants by teacher group, with 30 (34.5%) participants in the traditional Christian-education group and 57 participants (65.5%) in the classical Christian-education group. One participant did not select a current teaching setting (traditional or classical) when answering the study survey. Although I included the demographic and school factors data of this participant in the descriptive information, I did not included this case when conducting the one-way MANOVA for hypothesis testing.

The majority of participants in both teacher groups were female, n = 23 (79.3%) in the traditional Christian-education group and n = 39 (69.6%) in the classical Christian-education group. The majority of teachers in both groups had taught between 4 and 20 years. Nine (30.0%) traditional Christian teachers had taught between 4 and 10 years, and

an equal number had taught between 11 and 20 years. Of the classical Christian teachers, 23 (40.4%) had taught between 4 and 10 years and slightly fewer $n = 17$ (29.8%) had taught between 10 and 20 years. More teachers in the traditional Christian school setting $n = 11$ (36.7%) had taught more than 20 years in comparison to teachers in the classical Christian school setting $n = 3$ (5.3%).

The two groups of teachers were quite similar with regard to the school grade levels they had taught during their teaching careers. Seven (23.3%) traditional Christian teachers and 16 (28.1%) of classical Christian teachers reported having taught at both the middle and high school level. Fewer traditional Christian teachers had taught at the elementary school level ($n = 4$, 13.3%) compared to classical Christian teachers ($n = 12$, 21.1%). Participants in the two teacher groups were quite similar their last school environment, with relatively equal numbers having previously taught in traditional Christian, classical Christian, public school, or private non-Christian school settings. One notable exception was that three (11.1%) traditional Christian teachers and 22 (40.0%) of classical Christian teachers had not taught previous to their current position. In other words, substantially more classical Christian teachers than traditional Christian teachers started their teaching careers at their current school setting. Interestingly, 93.3% of both traditional Christian ($n = 28$) and classical Christian ($n = 53$) teachers reported not having attended a school guided by the classical education philosophy.

Differences emerged in training in classical teaching methodologies. Over a third $n = 9$ (31.0%) and over one-half $n = 17$ (58.6%) of traditional Christian teachers reported not having had any previous training in classical Christian-education pedagogy or having no training, but knowing a little about classical Christian education, respectively. In

contrast, one (1.8%) classical Christian teacher reported no training in classical Christian pedagogy and five (8.8%) classical Christian teachers reported not having had any previous training in classical Christian-education pedagogy but knowing a little about classical Christian education. Of the two remaining participants who taught in a traditional Christian school setting, one reported having training in classical Christian teaching methodologies from another source and one reported having studied classical Christian education in college and on their own. The majority $n = 42$ (73.7%) of the classical Christian teachers reported having training when hired to teach at a classical Christian school.

Table 1

Descriptive Statistics: Study Participants (N = 88)

	Traditional Christian teachers (*n* = 30)		Classical Christian teachers (*n* = 57)	
	N	%	*N*	%
Gender				
Female	23	76.7	39	68.4
Male	6	20.0	17	29.8
Missing	1	3.3	1	1.8
Years teaching				
1st year	0	0.0	7	12.3
1–3 years	1	3.3	7	12.3
4–10 years	9	30.0	23	40.4
11–20 years	9	30.0	17	29.8
More than 20 years	11	36.7	3	5.3
Years in current environment				
1st year	2	6.7	13	22.8
1–3 years	6	20.0	16	28.1
4–10 years	7	23.3	19	33.3
11–20 years	8	26.7	9	15.8
More than 20 years	6	20.0	0	0.0
Missing	1	3.3	0	0.0
Grades taught				
Prekindergarten school	0	0.0	2	3.5
Elementary school (K–5)	4	13.3	12	21.1
Middle school (6th–8th)	0	0.0	1	1.8
High school (9th–12th)	3	10.0	3	5.3
Pre-K & elementary School	4	13.3	8	14.0
Middle and high school	7	23.3	16	28.1
Elementary and middle school	7	23.3	4	7.0
Elementary, middle, and high school	4	13.3	9	15.8
All four school levels	1	3.3	2	3.5

	Traditional Christian teachers (n = 30)		Classical Christian teachers (n = 57)	
	N	%	*N*	%
Last previous school environment				
Traditional Christian	7	23.3	12	21.1
Classical Christian	3	10.0	5	8.8
Public school	14	46.7	14	24.6
Private non-Christian	0	0.0	2	3.5
No other school	3	10.0	22	38.6
Missing	3	10.0	2	3.5
Attended any classical school				
Yes	2	6.7	4	7.0
No	28	93.3	53	93.0
Received any training in classical Christian teaching methodologies				
No	9	30.0	1	1.8
No, but know a little about it	17	56.7	5	8.8
Yes, in college	1	3.3	1	1.8
Yes, I studied it on my own	0	0.0	4	7.0
Yes, training provided when hired by a classical school	0	0.0	11	19.3
Yes, other source	1	3.3	1	1.8
Yes, when hired and on my own	0	0.0	24	42.1
Yes, when hired, on my own, and other sources	0	0.0	7	12.3
Yes, in college, studied on my own, and other sources	1	3.3	0	0.0
Yes, on my own and other sources	0	0.0	2	3.5
No but I have some info, have studied on my own	0	0.0	1	1.8
Missing	1	3.3	0	0.0
Received sufficient training for current teaching position				
Yes	27	90.0	47	82.5
No	3	10.0	10	17.5

Descriptive Statistics: Student-Engagement and Instructional-Strategies Self-Efficacy Scales

I computed descriptive statistics for the student-engagement and instructional-strategies self-efficacy scales for the entire sample, presented in Table 2. Participants reported very high student-engagement self-efficacy ($M = 58.23$, $SD = 6.46$) and instructional-strategies self-efficacy ($M = 57.20$, $SD = 7.80$). Based on information from studies (e.g., Friedman & Kass, 2002; Klassen & Chiu, 2010; Skaalvik & Skaalvik, 2007) that have used the TSES developed by Tschannen-Moran and Woolfolk Hoy (2001), the mean scores on the two teacher self-efficacy scales have an average of 40 points. This places the current sample of participants at least two standard deviations above the average in student-engagement and instructional-strategies self-efficacy. Both scales had very good interitem reliability, with a Cronbach's alpha of .82 for the student-engagement self-efficacy scale and a Cronbach's alpha of .92 for the instructional-strategies self-efficacy scale.

Table 2

Descriptive Statistics: Student-Engagement and Instructional-Strategies Self-Efficacy Scales (N = 88)

Variable	*M*	*SD*	Minimum	Maximum	Cronbach's *α*
Student-engagement self-efficacy	58.23	6.46	44.00	72.00	.82
Instructional-strategies self-efficacy	57.20	7.80	39.00	72.00	.92

Note. The potential range of scores is 8.00 to 72.00 for both scales.

Testing of Covariates

I conducted a series of Spearman's rho correlations between the demographic and school factors and student-engagement and instructional-strategies self-efficacy, presented in Table 3. The Spearman's rho correlation is the nonparametric equivalent of Pearson bivariate correlation that researchers can use with categorical, ordinal, interval, and ratio variables. Results from the Spearman's rho correlation analyses showed no significant associations between the demographic and school factors and the student-engagement and instructional-strategies self-efficacy scales. Many relationships were close to $r_s = .00$. The lack of significant associations at $p < .05$ resulted in no need to include any demographic or school variables as covariates of statistical analyses for hypothesis testing.

Table 3

Spearman's Rho Correlations: Demographic and School Factors and Student-Engagement and Instructional-Strategies Self-Efficacy Scales (N = 88)

	Student-engagement self-efficacy	Instructional-strategies self-efficacy
Gender	−.13	−.21
Years taught total	−.02	.04
Years taught in current environment	−.12	−.01
Grade taught	−.18	−.03
Last previous school environment	−.02	.01
Ever attended classical school	.10	.12
Training in classical Christian methodologies	.03	−.02
Sufficient training for current position	.04	.02

Assumption Tests

The plan to test study hypotheses by conducting two one-way ANCOVAs centered on the premise that student-engagement and instructional-strategies self-efficacy could have different covariates. As no covariates needed to be controlled in analyses, I decided to conduct a one-way MANOVA. A one-way MANOVA is a mathematical extension of a one-way ANOVA, used to examine group differences on two or more dependent variables that share conceptual overlap (Warne, 2014). The benefit of a one-way MANOVA over numerous one-way ANOVAs is the reduction of the likelihood of making a Type I error, or rejecting the null hypothesis when it is significant (Bird & Hadzi-Pavlovic, 2014; Warne, 2014). As with any multivariate statistic, the one-way MANOVA has specific assumptions: (a) dependent variable normality, (b) lack of multicollinearity between the dependent variables, and (c) homogeneity of variances and covariances for the dependent variables. Specific statistical tests determined if these assumptions were met.

Normality

The first assumption was that a normal distribution of scale scores for each dependent variable must be evident. I tested this assumption by computing the $z_{skewness}$ (i.e., skewness divided by skewness standard error) values for each dependent variable. A $z_{skewness}$ value higher than 2.00 indicates skewness and thus nonnormality. Both teacher self-efficacy scales had $z_{skewness}$ values higher than ± 2.00. The student-engagement self-efficacy scale had a $z_{skewness}$ value of −2.18 and the instructional-strategies self-efficacy scale had a $z_{skewness}$ value of −3.14. The assumption of normality is often violated due to

outliers (Stevens, 2012). I identified outliers in both scales. The student-engagement self-efficacy scale had two outliers, both with extremely low scores. The instructional-strategies self-efficacy scale had five outliers, three with extremely low scores and two with extremely high scores. Although researchers recommend that one should not keep outliers in the analysis because they will likely cause the variable containing the outlier to be skewed (Ghosh & Vogt, 2012), case-wise deletion of the outliers undervalues the data point, and may reduce power by the removal of a case or cases (Ghosh & Vogt, 2012). Instead of case-wise deletion, one may Winsorized outliners, replacing them with the next lowest or highest score (Stevens, 2012). Once Winsorized, the student-engagement self-efficacy scale had a $z_{skewness}$ value of −0.57 and the instructional-strategies self-efficacy scale had a $z_{skewness}$ of −1.71, which met the assumption of normality.

Lack of Multicollinearity

I conducted a Pearson bivariate correlation with the two teacher self-efficacy scales to determine if they shared considerable conceptual and statistical overlap. Yoo et al. (2014) posited that a Pearson bivariate correlation of .90 or higher indicates multicollinearity, whereas other scholars (e.g., Gay, Mills, G. E., & Airasian, 2009) argued that a Pearson bivariate correlation of .80 or higher indicates multicollinearity. The results from the Pearson bivariate correlation showed that the student-engagement self-efficacy scale aligned with the instructional-strategies self-efficacy scale at $r(88) = .78$, $p < .001$. Although the correlation was high, it was not at the level of multicollinearity, supporting the assumption of lack of multicollinearity between dependent variables.

Homogeneity of Variances and Covariances

I conducted two Levene's tests of homogeneity of variances for the two teacher self-efficacy scales. Both tests resulted in nonsignificance: $F(1,85) = 1.61$, $p = .208$, for the student-engagement self-efficacy scale and $F(1,85) = 0.03$, $p = .866$ for the instructional-strategies self-efficacy scale. The nonsignificance of the Levene's tests confirmed the assumption of variances. I conducted a Box's *M* test to test the assumption of homogeneity of covariances and found it nonsignificant, $F(3, 92119.27) = 0.91$, $p = .829$, which corroborated that the assumption of homogeneity of covariances was met.

Results

I conducted a one-way MANOVA to address both research questions. The two research questions pertained to whether student-engagement self-efficacy and instructional-strategies self-efficacy significantly differed between teachers in a classical Christian-education school setting and teachers in a traditional Christian school setting. Results from the MANOVA, presented in Table 4, showed no statistically significant differences in student-engagement self-efficacy between teachers in a classical Christian-education setting and teachers in a traditional Christian-education setting, $F(1, 85) = 1.39$, $p = .242$, $\eta_p^2 = .016$. The classical Christian teachers had a slightly *higher* but not significantly different student-engagement self-efficacy mean score ($M = 58.65$, $SD = 6.01$) in comparison to traditional Christian teachers ($M = 56.97$, $SD = 6.91$). Teachers also showed no significant differences in the area of instructional-strategies self-efficacy, $F(1, 85) = 0.03$, $p = .866$, $\eta_p^2 = .002$. Traditional Christian and classical Christian teachers had very similar instructional-strategies self-efficacy mean scores: $M = 57.77$ ($SD = 7.39$) and $M = 57.07$ ($SD = 6.98$), respectively.

Table 4

One-way MANOVA: Teacher Group Differences on Student-Engagement Self-Efficacy and Instructional-Strategies Self-efficacy Variables (N = 88)

Dependent variable	Type III sum of squares	*Df*	*F*	*P*	η_p^2
Student-engagement self-efficacy	55.64	1.85	1.39	.242	.016
Instructional-strategies self-efficacy	9.54	1.85	0.19	.866	.002

CHAPTER FIVE: SUMMARY AND DISCUSSION

The instructional climate of a school can greatly influence teacher self-efficacy, especially if teachers lack a sense of mastery of the pedagogical philosophy of the school setting in which they work (Park & Oliver, 2008; Sharma, Loreman, & Forlin, 2011). An emerging pedagogy among Christian educators is classical education. Classical-education instructional strategies follow those of the Greeks and Romans, although the overarching nature of this education movement remains distinctly Christian (Clark & Jain, 2013).

The classical Christian curriculum requires teachers to use diverse teaching methods to build student knowledge of *trivium* and *quadrivium* subjects hand-in-hand with critical- and charitable-thinking skills, language and mathematical arts, sense of history and understanding of historical events, use of logic and the scientific method, citizenship, and ethical thinking and practice (Stanek, 2013). Classical Christian teachers face content knowledge, instructional, and student-engagement challenges, likely exacerbated by the lack of previous exposure to this education paradigm, either as a student or student teacher (Splittgerber, 2010; Stanek, 2013). These factors can lead to poor teacher self-efficacy (Splittgerber, 2010; Stanek, 2013).

The purpose of this study, with a causal-comparative research design, was to examine if teachers in a classical or traditional Christian educational setting significantly differed on levels of student-engagement and instructional-strategies self-efficacy, two theoretical components of teacher self-efficacy (Tschannen-Moran & Woolfolk Hoy, 2001). The purpose of this chapter is to present and elaborate on study findings. The chapter opens with a summary of the study, followed by a review of the study research questions and discussion of findings. The chapter continues with sections on study

implications, limitations, and recommendations for future research in this area. The chapter ends with a conclusion.

Summary of the Study

The purpose of this quantitative study, using a causal-comparative research design, was to discover if traditional and classical Christian teachers significantly differed on their levels of two types of teacher self-efficacy: student engagement and instructional strategies. This study was informed by a comprehensive review of literature on classical Christian education, including its past and current history, curriculum, and pedagogy, and teacher self-efficacy research that focused on pedagogical influences and sources of teacher self-efficacy. The decision to conduct this study was based on the dearth of literature that examined differences in teacher self-efficacy between teachers in Christian educational settings, traditional and classical. The only instrument used in the study was the Teacher Efficacy Scale-Long Form (TSES-LF; Tschannen-Moran & Woolfolk Hoy, 2001), which contained scales used to measure the dependent variables of instructional-strategies teacher self-efficacy and student-engagement teacher self-efficacy. The study only assessed teachers at traditional and classical Christian schools in Tennessee, recruited using nonpurposive convenience sampling. A total of 88 participants completed the online survey on a password-protected SurveyMonkey® site. I used SPSS 22.0 to run descriptive and multivariate data analyses.

Discussion of Findings

Research Question 1

The first research question was, Is there a statistically significant difference in student-engagement teacher self-efficacy between teachers in a classical Christian education school setting and teachers in a traditional Christian-school setting, controlling for covariates (i.e., teacher gender, years of experience teaching at traditional Christian schools and classical Christian-education schools, previous training/professional development in classical-education pedagogy and practices, student experiences in a classical Christian-education setting, and grade level taught)?

No covariates emerged to be significantly associated with student-engagement self-efficacy. I conducted a one-way MANOVA for hypothesis testing. Results from the MANOVA revealed no significant differences in student-engagement self-efficacy between teachers in a classical Christian-education setting and teachers in a traditional Christian-education setting, $F(1, 85) = 1.39$, $p = .242$, $\eta_p^2 = .016$. Classical Christian teachers had a slightly higher but not significantly different student-engagement mean score ($M = 58.65$, $SD = 6.01$) in comparison to traditional Christian teachers ($M = 56.\ 97$, $SD = 6.91$).

Research Question 2

The second research question was, Is there a statistically significant difference in instructional-strategies teacher self-efficacy between teachers in a classical Christian school setting and teachers in a traditional Christian-school setting, controlling for covariates (i.e., teacher gender, years of experience teaching at traditional Christian

schools and classical Christian-education schools, previous training/professional development in classical Christian-education pedagogy and practices, student experiences in a classical Christian-education setting, and grade level taught)?

No covariates emerged as significantly associated with instructional-strategies self-efficacy. I conducted a one-way MANOVA for hypothesis testing. Results from the MANOVA determined that no statistically significant differences of instructional-strategies self-efficacy emerged between the two teacher groups, $F(1, 85) = 0.03$, $p = .866$, $\eta_p^2 = .002$. Traditional Christian and classical Christian teachers had very similar instructional-strategies self-efficacy mean scores, $M = 57.77$ ($SD = 7.39$) and $M = 57.07$ ($SD = 6.98$), respectively.

Implications

Results from this study yielded no statistically significant differences in student-engagement or in instructional-strategies self-efficacy between teachers in traditional and classical Christian-education settings. Rather, descriptive statistics showed that teachers in both types of Christian schools reported very high student-engagement and instructional-strategies self-efficacy, which placed them at least two standard deviations above the norm. A few reasons may explain these elevated teacher self-efficacy levels and lack of significant differences between groups. One reason is *social desirability bias*. It could be that participants felt that—despite assurances of confidentiality—their scores might be shared with their principals or other school administrators. They wanted to be perceived as highly confident in their student-engagement and instructional-strategies skills.

Elevated teacher self-efficacy scores can be discussed in the context of the literature on students with regard to fixed and growth mindset;—concepts developed by Dweck (2006)—and Duckworth's (2013) concept of grit. Students with growth mindsets display pronounced learning differences from students with fixed mindsets (Dweck, 2006). They view intelligence as mutable, influenced by experiences of learning and exposure to knowledge. Students with growth mindsets embrace learning (Dweck, 2006). They have what Duckworth (2013) termed *grit;* that is, they seek challenging academic goals and persist in these goals even when faced with barriers. Students with growth mindsets are not afraid of failing, as they view failure as a means to enhance knowledge and skills (Dweck, 20006). They see criticism as an essential element of the learning process, using it to grow in knowledge (Dweck, 2006).

In contrast, students with a fixed mindset embrace the identity of a smart student, which drives their attitudes and behaviors in the classroom (Dweck, 2006). They view intelligence as fixed, a result of genetic factors, and thus a characteristic that cannot be changed (Dweck, 2006). They avoid or quickly abandon academic challenges to avoid the possibility of failure, as failure disputes their identity as a smart student (Dweck, 2006). They resist feedback and constructive criticism, as these factors also challenge their smart-student identity (Dweck, 2006).

The literature on teaching self-efficacy has consistently shown that high levels of teacher self-efficacy correlate with effective teaching practices and positive student outcomes (Zee & Koomen, 2016). However, results from this study suggested that some teachers may have falsely elevated teacher self-efficacy, which shares similarities with Dweck's (2006) fixed-mindset concept. Few researchers acknowledged the possible

negative aspects of high teacher self-efficacy; a review of the literature revealed two studies—one by Rodriguez, Regueiro, Blas, Valle, Piñeiro, and Cerezo (2013) and one by Wheatley (2014)—that suggested negative effects from high teacher self-efficacy and positive effects of moderate teacher self-efficacy. Wheatley (2014) posited that teachers with low competence often report higher levels of teacher self-efficacy, whereas teachers who make substantial efforts to become competent teachers have moderate levels of teacher self-efficacy. Rodriguez et al. (2013) found that teachers with moderate levels of teacher self-efficacy demonstrated strong classroom management and student-engagement skills (Rodriguez et al., 2013). In contrast, teachers with high levels of teacher self-efficacy were overconfident about their teaching abilities, which impacted student outcomes. Students of teachers with high teacher self-efficacy had low interest and engagement in the learning process and low learner self-efficacy (Rodriguez et al., 2013).

In this study, it was found that teachers who have taught 1 to 3 years had the highest teacher self-efficacy of any other group of teachers, even veterans of over 10 years. An additional implication of higher scores in teacher self-efficacy of teachers who had taught 1 to 3 years could be the Dunning-Kruger effect (Krueger & Mueller, 2002). This cognitive bias refers to poor performers who overestimate their abilities relative to other people. Krueger and Mueller (2002) found that people who were less competent often reported themselves as more competent than those who performed higher. Teachers who have taught 1 to 3 years have taught long enough to feel that they know what they are doing and have it all figured out when in actuality, they have not taught long enough to be extremely competent in their practices.

Results from this study suggested that teachers with falsely elevated levels of teacher self-efficacy may have a fixed mindset (Dweck, 2006), valuing the identity of being a good teacher over valuing pedagogy and the transmission of knowledge. In accordance with the fixed-mindset concept (Dweck, 2006), teachers with falsely elevated self-efficacy may be more concerned with other teachers' and administrators' perceptions of them as the ideal teacher, rather than with enhancing student learning (Rodriguez et al., 2013). Teachers who report high levels of self-efficacy may be overly confident in their teaching practices, remaining blind to any potential teaching weaknesses (Rodriguez et al., 2013; Schumann, Sibthorp, & Hacker, 2014; Sharma et al., 2011). Teachers with high self-efficacy may also become complacent, as they feel they have nothing new to learn; they may fail to devote the needed levels of effort toward their teaching and provide less attention to their students (Rodriguez et al., 2013; Schumann, Sibthorp, & Hacker, 2014; Sharma et al., 2011).

Limitations

The study has some limitations. Although the sample size was adequate, one limitation was the small sampling of traditional Christian teachers. Only three schools and a total of 30 teachers (n = 30) from traditional Christian schools participated in the study. The power analysis for this study determined that a sample of 90 participants was required for sufficient power. Although this study had 87 participants, close to the required sample size of 90, the two teacher groups were unbalanced, with 57 teachers who taught at a classical Christian school and 30 traditional Christian schoolteachers. The unequal sample size likely did not influence statistical findings; problems occur when one

sample of participants is over twice that of the other sample (Jennen-Steinmetz& Wellek, 2005).

One threat inherent to the internal validity of the study was the lack of random selection and random assignment into conditions of participants. The use of a convenience sample precluded the ability to determine causality and may have increased the likelihood of another threat to internal validity: subject selection bias. Subject selection bias may have played a role in influencing high teacher self-efficacy scores: teachers who felt they had high levels of teacher self-efficacy may have been more inclined to participate in the study survey than teachers who perceived themselves as having low teacher self-efficacy. Additionally, volunteers comprised the study participants; therefore, the sample may not consistently reflect the entire population. An additional limitation was the potential for researcher bias: I entered the study with a classical Christian background and vast knowledge of the methodology.

The external validity of the study was a limitation. The elevated teacher self-efficacy found in this study makes it difficult to generalize study results to other samples of teachers and to schools that have philosophical approaches that differ from traditional Christian and classical Christian schools. An additional limitation of the study in external validity is that the study sample was two standard deviations above the instrument's mean. This result may indicate a statistical dispute because this study cannot be generalized compared to similar studies, as the sample is much higher than the mean.

Recommendations for Future Research

Although all teachers seemed to have very high self-efficacy, teachers who had taught from 1 to 3 years had the highest sense of self-efficacy than those in any other

range of years in the field. This statistic did not change based on the teachers' environment. Future research, based on this finding, should include research on why teachers relatively new to the teaching profession have such high self-efficacy overall and what changes in this self-efficacy, based on years in the career field.

An additional area of future research should be focused around the teacher self-efficacy in all Christian teaching environments compared to public teaching environments. One must investigate the association between religiosity and job satisfaction as it correlates to teacher self-efficacy in curricula and methodology.

The classical Christian education movement is currently growing, showing the need for future research in this area of education. An implication for future research is in teacher-preparatory programs in colleges and universities. With the growing number of classical schools, researchers should study whether teacher-preparatory programs should be expanding methodologies taught to include the classical pedagogical approach. An additional implication for future studies is the use of not only the TSES-LF instrument, but an indirect measure or observation tool to measure teacher self-efficacy.

Conclusion

This study examined whether teachers in traditional or classical Christian-education settings significantly differed in student-engagement and instructional-strategies self-efficacy. A total of 88 teachers participated in the study. Descriptive findings revealed that teachers taking this survey scored two standard deviations above the mean score in self-efficacy. This result may result from social-desirability bias or subject-selection bias. Results from a one-way MANOVA yielded no statistically

significant differences between the teacher self-efficacy of traditional and classical Christian teachers.

Despite no significant differences in answering the two research questions, trends emerged that opened new areas of research to be explored. Results from this study with elevated teacher self-efficacy scores suggest that future research on teacher self-efficacy further explore participant and methodological factors that contribute to elevated teacher self-efficacy. Additional studies are needed on classical Christian education: this study recognized the importance of studying a unique group of Christian educators.

References

Adler, M. J. (1982). *The Paideia proposal: An educational manifesto.* New York, NY: Touchstone.

Akkerman, S., & Meijer, P. (2011). A dialogical approach to conceptualizing teacher identity. *Teaching and Teacher Education*, *27*(2), 308–319. doi:10.1016/j.tate .2010.08.013

Alkan, F., & Erdem, E. (2012). The relationship between teacher self-efficacy and competency perceptions of chemistry teacher candidates. *Procedia—Social and Behavioral Sciences, 47,* 1927–1932. doi:10.1016/j.sbspro.2012.06.925

Ambrose Group. (2005). *Classical Christian education: The essential guide for parents.* Retrieved from http://www.ambrosemediastore.com/discover-booklet-online/

Anderson, E. (2014). *Christ Classical Academy parent information packet.* Retrieved from http://www.christclassicalacademy.net

Aquinas Learning. (2014). *What is classical education?* Retrieved from http:// aquinaslearning.org/?page_id=202

Association of Classical and Christian Schools. (2012). *The lost tools.* Retrieved from http://www.accsedu.org

Bandura, A. (1977). *Self-efficacy: The exercise of control.* New York, NY: W. H. Freeman.

Bandura, A. (1982). Self-efficacy mechanisms in human agency. *American Psychologist, 37,* 122–147. doi:10.1037/0003-066X.37.2.122

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

Bandura, A. (1989). A social cognitive theory of action. In J. P. Forgas & J. M. Innes (Eds.), *Recent advances in social psychology: An international perspective* (pp. 127–138). North Holland: Elsevier.

Bandura, A. (2011). A social cognitive perspective on positive psychology. *Revista de Psicología Social, 26,* 7–20. doi:10.1174/021347411794078444

Bird, K. D., & Hadzi-Pavlovic, D. (2014). Controlling the maximum familywise Type I error rate in analyses of multivariate experiments. *Psychological Methods*, *19*(2), 265. doi:10.1037/a0033806

Canrinus, E. T., Helms-Lorenz, M., Beijaard, D., Buitink, J., & Hofman, A. (2012). Self-efficacy, job satisfaction, motivation and commitment: Exploring the relationships between indicators of teachers' professional identity. *European Journal of Psychology of Education, 27,* 115–132. doi:10.1007/s10212-011-0069-2

Circe Institute. (2014). *What is a Christian classical education?* Retrieved from http://www.circeinstitute.org/resources/what-classical-education

Clark, K. W., & Jain, R. S. (2013). *The liberal arts tradition: A philosophy of Christian classical education.* Camp Hill, PA: Classical Academic Press.

Colby, S. A., Clark, A. M., & Bryant, J. A., Jr. (2014). Developing service-learners into service-leaders. *International Journal of Research on Service-Learning in Teacher Education, 2,* Article 4.

Collins, A., & Halverson, R. (2010). The second educational revolution: Rethinking education in the age of technology. *Journal of Computer Assisted Learning, 26,* 18–27. doi:10.1111/j.1365-2729.2009.00339.x

Cubberley, E. P. (1920). The history of education: Educational practice and progress considered as a phase of the development and spread of Western civilization. Chicago, IL: Houghton.

De Neve, D., Devos, G., & Tuytens, M. (2015). The importance of job resources and self-efficacy for beginning teachers' professional learning in differentiated instruction. *Teaching and Teacher Education, 47,* 30–41. doi:10.1016/j.tate.2014.12.003

Dernlan, T. J. (2013). *Spiritual formation: A comparative study of modern and classical Christian schools* (Doctoral dissertation). Available from ProQuest Dissertations and Theses database. (UMI No. 3671321)

Duckworth, A. (2013). Life stress impairs self-control in early adolescence. *Frontiers In Psychology, 3,* 608. doi:10.3389/fpsyg.2012.00608

Dweck, C. (2006). *Mindset: The new psychology of success*. New York, NY: Random House.

Duffin, L. C., French, B. F., & Patrick, H. (2012). The teachers' sense of efficacy scale: Confirming the factor structure with beginning pre-service teachers. *Teaching and Teacher Education, 28,* 827–834. doi:10.1016/j.tate.2012.03.004

Ely, E., Kennedy, M. J., Pullen, P. C., Williams, M. C., & Hirsch, S. E. (2014). Improving instruction of future teachers: A multimedia approach that supports implementation of evidence-based vocabulary practices. *Teaching and Teacher Education, 44,* 35–43. doi:10.1016/j.tate.2014.07.012

Ertmer, P. A., & Newby, T. J. (2013). Behaviorism, cognitivism, constructivism: Comparing critical features from an instructional design perspective. *Performance Improvement Quarterly, 26*(2), 43–71. doi:10.1002/piq.21143

Farrokhi, F., & Mahmoudi-Hamidabad, A. (2012). Rethinking convenience sampling: Defining quality criteria. *Theory and Practice in Language Studies, 2,* 784–792. doi:10.4304/tpls.2.4.784-792

Faul, F., Erdfelder, E., Lang, A. G., & Buchner, A. (2007). G*Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods, 39,* 175–191. doi:10.3758/BF03193146

Friedman, I., & Kass, E. (2002). Teacher self-efficacy: A classroom-organization conceptualization. *Teaching and Teacher Education, 18,* 675–686. doi:10.1016/s0742-051x(02)00027-6

Gay, L. R., Mills, G. E., & Airasian, P. (2009). *Educational research: Competencies for analysis and applications* (7th ed.). Columbus, OH: Pearson Education.

Ghosh, D., & Vogt, A. (2012). *Outliers: An evaluation of methodologies*. Retrieved from https://www.amstat.org/sections/SRMS/Proceedings/y2012/Files/304068_72402.pdf

Gibson, S., & Dembo, M. H. (1984). Teacher efficacy: A construct validation. *Journal of Educational Psychology, 76,* 569–583. doi:10.1037/0022-0663.76.4.569

Grant, G. (2006). *Gileskirk curriculum: Christendom*. Retrieved from http://gileskirk.com/PDF/CHR2006.pdf

Gunning, A. M., & Mensah, F. M. (2011). Preservice elementary teachers' development of self-efficacy and confidence to teach science: A case study. *Journal of Science Teacher Education, 22,* 171–185. doi:10.1007/s10972-010-9198-8

Gürbüztürk, O., & Şad, S. N. (2009). Student teachers' beliefs about teaching and their sense of self-efficacy: A descriptive and comparative analysis. *İnönü University Journal of the Faculty of Education, 10,* 201–226. Retrieved from http://efdergi .inonu.edu.tr/article/view/5000004194

Hen, M., & Goroshit, M. (2013). Individual, organizational and emotional determinants of teacher self-efficacy. *Journal of Studies in Education, 3*(3), 21–34. doi:10.5296 /jse.v3i3.3758

Henson, J. (1999). Relationships between the actin cytoskeleton and cell volume regulation. *Microscopy Research And Technique, 47,* 155–162. doi:10.1002/(sici)1097-0029(19991015)47:2<155::aid-jemt7>3.0.co;2-t

Hicks, D. (1999). *Norms and nobility: A treatise on education* (2nd ed.). New York, NY: University Press of America.

Holzberger, D., Philipp, A., & Kunter, M. (2013). How teachers' self-efficacy is related to instructional quality: A longitudinal analysis. *Journal of Educational Psychology, 105,* 774–786. doi:10.1037/a0032198

Howe, D. W. (2011). *Classical education in America*. Retrieved from http:// wilsonquarterly.com/stories/classical-education-in-america/

Howe, S. (2015). Envoi. *Ploughshares, 41*(1), 107. doi:10.1353/plo.2015.0008

Jain, R. (2015). *Love, life, and understanding: What is Christian classical education?* Retrieved from http://www.genevaschool.org/wp-content/uploads/2015.03.12 -Love-Life-and-Understanding.Jain_.pdf

Jamil, F. M., Downer, J. T., & Pianta, R. C. (2012). Association of pre-service teachers' performance, personality, and beliefs with teacher self-efficacy at program completion. *Teacher Education Quarterly, 39*(4), 119–138. Retrieved from http://files.eric.ed.gov/fulltext/EJ1001446.pdf

Jeffers, J. S. (2014). *What is classical education? Structure and pedagogy.* Retrieved from https://youth.biola.edu/academics/courses/torrey/downloads/articles/classical_education.pdf

Jennen-Steinmetz, C., & Wellek, S. (2005). A new approach to sample size calculation for reference interval studies. *Statistics in Medicine, 24,* 3199–3212. doi:10.1002/sim.2177

Jowett, B. (Trans.). (1952). Dialogues of Plato. In M. J. Adler, C. Fadiman, & P. W. Goetz (Eds.), *Great Books of the Western World* (Vol. 7). Chicago, IL: Encyclopedia Britannica.

Kagan, S. (1992). The limits of well-being. *Social Philosophy and Policy, 9,* 169–189. doi:10.1017/s0265052500001461

Klassen, R., & Chiu, M. (2010). Effects on teachers' self-efficacy and job satisfaction: Teacher gender, years of experience, and job stress. *Journal of Educational Psychology, 102,* 741–756. doi:10.1037/a0019237

Klassen, R. M., Tze, V. M., Betts, S. M., & Gordon, K. A. (2011). Teacher efficacy research 1998–2009: Signs of progress or unfulfilled promise? *Educational Psychology Review, 23,* 21–43. doi:10.1007/s10648-010-9141-8

Kopff, E. C. (2014). The devil knows Latin: Why America needs the classical tradition. Atlanta, GA: Open Road Media.

Krueger, J., & Mueller, R. (2002). Unskilled, unaware, or both? The better-than-average heuristic and statistical regression predict errors in estimates of own performance. *Journal of Personality and Social Psychology, 82,* 180–188. doi:10.1037/0022-3514.82.2.180

Leithart, P. J. (2008). The new classical schooling. *Intercollegiate Review, 43*(1), 3–12. Retrieved from http://www.mmisi.org/ir/43_01/leithart.pdf

Lewis, C. (1947). Reflections on education with special reference to the teaching of English in the upper forms of schools. New York, NY: Macmillan.

Lundy, B. (2012). Laibon: An anthropologist's journey with Samburu diviners in Kenya by Elliot Fratkin. *American Ethnologist, 39,* 847–848. doi:10.1111/j.1548-1425.2012.01398_10.x

Marsden, G. (1997). *The outrageous idea of Christian scholarship*. New York, NY: Oxford University Press.

Mearns, J. (2009). Social learning theory. In H. Reis & S. Sprecher (Eds.), *Encyclopedia of human relationships* (Vol. 3, pp. 1537–1540). Thousand Oaks, CA: Sage.

Mohamadi, F. S., & Asadzadeh, H. (2011). Testing Bandura's theory in school. *Procedia—Social and Behavioral Sciences, 12,* 426–435. doi:10.1016/j.sbspro.2011.02.053

Moore, T. O. (2014). *A classical education for modern times*. Retrieved from http://www.hillsdale.edu/file/outreach/charterschools/A-Classical-Education-for-Modern-Times.pdf

Moore, W., & Esselman, M. (1992, April). *Teacher efficacy, power, school climate and achievement: A desegregating district's experience*. Paper presented at the Annual Meeting of the American Educational Research Association, San Francisco.

Morrison, D. R. (2010). *The Cambridge companion to Socrates.* Cambridge, England: Cambridge University Press.

Muijs, D. (2010). Doing quantitative research in education with SPSS. Thousand Oaks, CA: Sage.

Myers, F. (2015). Cultural anthropology, 1992–1996. *Cultural Anthropology, 30,* 191–196. doi:10.14506/ca30.2.01

Naugle, D. (2013). *The Greek concept of paideia—Paideia.* Paper presented at the Summer Institute of Christian Scholarship at Dallas Baptist University, Dallas TX.

Ozkal, N. (2014). Sense of professional self-efficacy beliefs and learner autonomy support behaviour of middle school teachers. *Anthropologist, 18,* 575–581. Retrieved from http://www.krepublishers.com/02-Journals/T-Anth/Anth-18-0-000-14-Web/Anth-18-2-000-14-Abst-PDF/T-ANTH-18-2-575-14-1049-Ozkal-N/T-ANTH-18-2-575-14-1049-Ozkal-N-Tx[32].pdf

Park, S., & Oliver, J. (2007). Revisiting the conceptualisation of pedagogical content knowledge (PCK): PCK as a conceptual tool to understand teachers as professionals. *Research in Science Education, 38,* 261–284. doi:10.1007/s11165-007-9049-6

Paul, R., & Elder, L. (2013). *Socratic teaching*. Retrieved from http://www.criticalthinking.org/pages/socratic-teaching/606

Perrin, C. (2004). *An introduction to classical education: A guide for parents.* Camp Hill, PA: Classical Academic Press.

Poulou, M. (2007). Personal teaching efficacy and its sources: Student teachers' perceptions. *Educational Psychology, 27,* 191–218. doi:10.1080 /01443410601066693

Randall, H. (2004). Historical development decline in the 20th Century and resurgence in recent decades. Melbourne, FL: Greenleaf University.

Reinhardt, T., & Winterbottom, M. (2006). *Quintilian: Institutio oratoria*. Oxford, England: Oxford University Press.

Robins, A. (2012). *Mortimer J. Adler on faith and reason.* Retrieved from http://www .apologetics315.com/2010/09/mortimer-j-adler-on-faith-and-reason.html

Rodriguez, Regueiro, Blas, Valle, Piñeiro, & Cerezo. (2013). Teacher self-efficacy and its relationship with students'affective and motivational variables in higher education. *European Journal of Education and Psychology.* Retrieved from http://www.redalyc.org/pdf/1293/129332645005.pdf

Ross, J. A. (1992). Teacher efficacy and the effect of coaching on student achievement. *Canadian Journal of Education, 17,* 51–65. doi:10.2307/1495395

Rotter, J. B. (1966). Generalized expectancies for internal versus external control of reinforcement. *Psychological Monographs, 80,* 1–28. Retrieved from http://www .soc.iastate.edu/sapp/soc512Rotter.pdf

Sandholtz, J. H., & Ringstaff, C. (2014). Inspiring instructional change in elementary school science: The relationship between enhanced self-efficacy and teacher practices. *Journal of Science Teacher Education, 25,* 729–751. doi:10.1007/s10972-014-9393-0

Sayers, D. (1947). *The lost tools of learning*. Retrieved from http://classicalchristian.com/WhitePapers/sayers.pdf

Schenker, J. D., & Rumrill, P. D., Jr. (2004). Causal-comparative research designs. *Journal of Vocational Rehabilitation, 21,* 117–121.

Schiefele, U., & Schaffner, E. (2015). Teacher interests, mastery goals, and self-efficacy as predictors of instructional practices and student motivation. *Contemporary Educational Psychology*, *42,* 159–171. doi:10.1016/j.cedpsych.2015.06.005

Schultz, G. (1998). *Kingdom education* (2nd ed.). Nashville, TN: LifeWay Press.

Schumann, S. A., Sibthorp, J., & Hacker, D. (2014). The illusion of competence: Increasing self-efficacy in outdoor leaders. *Journal of Outdoor Recreation, Education, and Leadership, 6,* 97–113. doi:10.7768/1948-5123.1174

Sharma, U., Loreman, T., & Forlin, C. (2011). Measuring teacher efficacy to implement inclusive practices. *Journal of Research in Special Educational Needs, 12,* 12–21. doi:10.1111/j.1471-3802.2011.01200.x

Sharma, U., Loreman, T., & Forlin, C. (2011). Measuring teacher efficacy to implement inclusive practices. *Journal of Research in Special Educational Needs, 12,* 12–21. doi:10.1111/j.1471-3802.2011.01200.x

Splittgerber, A. (2010). *The effects of classical education on achievement in Lutheran schools* (Unpublished doctoral dissertation). Concordia University, Portland, OR. Retrieved from http://www.zionkearney.org/wp-content/uploads/2010/12 /Splittgerber.classicalresearch.spring2010.pdf

Stanek, T. B. (2013). Susan Bauer's 2003 theory of well-educated mind: Could the classical approach to teaching history work in southern California history K12 classrooms? *Journal of Transdisciplinary Writing and Research from Claremont Graduate University, 3*(1), Art. 17. Retrieved from http://scholarship.claremont .edu/cgi/viewcontent.cgi?article=1065&context=lux

Stevens, J. P. (2012). Applied multivariate statistics for the social sciences. Florence, KY: Routledge.

Tobin, T. J., Muller, R. O., & Turner, L. M. (2006). Organizational learning and climate as predictors of self-efficacy. *Social Psychology of Education, 9,* 301–319. doi:10 .1007/s11218-005-4790-z

Tschannen-Moran, M., & Johnson, D. (2011). Exploring literacy teachers' self-efficacy beliefs: Potential sources at play. *Teaching and Teacher Education, 27,* 751–761. doi:10.1016/j.tate.2010.12.005

Tschannen-Moran, M., & Woolfolk Hoy, A. W. (2001). Teacher efficacy: Capturing an elusive construct. *Teaching and Teacher Education, 17,* 783–805. doi:10.1016 /S0742-051X(01)00036-1

Tschannen-Moran, M., & Woolfolk Hoy, A. W. (2007). The differential antecedents of self-efficacy beliefs of novice and experienced teachers. *Teaching and Teacher Education, 23,* 944–956. doi:10.1016/j.tate.2006.05.003

Tschannen-Moran, M., Woolfolk Hoy, A. W., & Hoy, W. K. (1998). Teacher efficacy: Its meaning and measure. *Review of Educational Research, 68,* 202–248. Retrieved from http://mxtsch.people.wm.edu/Scholarship/RER_TeacherEfficacy .pdf

Veith, G. A., & Kern, A. (2001). *Classical education: The movement sweeping America.* Washington, DC: Capital Research Center.

Veith, J. (2012). Teaching the *quadrivium*. *Classical and Lutheran Education Journal, 6,* 11–15. Retrieved from http://www.ccle.org/wp-content/uploads/2013/09 /59961345851208CLEJ2012.pdf

Warne, R. T. (2014). A primer on multivariate analysis of variance (MANOVA) for behavioral scientists. *Practical Assessment, Research & Evaluation*, *19*(17), Article 2. Retrieved from http://pareonline.net/getvn.asp?v=19&n=17

Wheatley, K. (2005). The case for reconceptualizing teacher efficacy research. *Teaching And Teacher Education*, *21,* 747–766. doi:10.1016/j.tate.2005.05.009

Wilkins, S. (2004). What's so great about classical education? *The Bulletin of the Association of Classical and Christian Schools, 11*(2), 1–7. Retrieved from http:// www.accsedu.org/filerequest/2310.pdf

Wilson, D. (1996). *Repairing the ruins*. Moscow, ID: Canon Press.

Wilson, D. (2003). *The case for classical Christian education*. Wheaton, IL: Crossway Books.

Wise, J., & Bauer, S. (1999). *The well-trained mind*. New York, NY: W.W. Norton.

Wood, R. (2014). *An introduction to Dorothy L. Sayers*. Retrieved from https://bearspace .baylor.edu/Ralph_Wood/www/Sayers/sayersintro.pdf

Wright, D. (2015). The plena of participation. *Journal of the Society for Classical Learning, 8,* 12–15.

Wright, R. (2014). *Introducing Greek philosophy*. Florence, KY: Routledge.

Yang, E., Anderson, K. L., & Burke, B. (2014). The impact of service-learning on teacher candidates' self-efficacy in teaching STEM content to diverse learners. *International Journal of Research on Service-Learning in Teacher Education, 2,* 1–46. Retrieved from http://journals.sfu.ca/ijrslte/index.php/IJRSLTE/article/view/33/pdf_10

Yoo, W., Mayberry, R., Bae, S., Singh, K., He, Q. P., & Lillard, J. W., Jr. (2014). A study of effects of multicollinearity in the multivariable analysis. *International Journal of Applied Science and Technology*, *4*(5), 9–19. Retrieved from http://www.ncbi.nim.nih.gov/pmc/articles.PMC4318006/pdf/nihms653352.pdf

Zee, M., & Koomen, H. M. (2016). Teacher self-efficacy and its effects on classroom processes, student academic adjustment, and teacher well-being: A synthesis of 40 years of research. *Review of Educational Research, 25*(1), 20–45. doi:10.3102/0034654315626801

Zimmerman, B. J. (2000). Self-efficacy: An essential motive to learn. *Contemporary Educational Psychology, 25,* 82–91. doi:10.1006/ceps.1999.10

Appendix A

Informed Consent Approval

The Liberty University Institutional Review Board has approved this document for use from 2/3/16 to _____ Protocol # 2404.020316

INFORMED CONSENT FORM FOR THE FOLLOWING RESEARCH:
TEACHER SELF-EFFICACY IN A CLASSICAL CHRISTIAN ENVIRONMENT VERSUS A TRADITIONAL CHRISTIAN ENVIRONMENT

Emily Anderson Liberty University School of Education

You are invited to be in a research study of teacher self-efficacy. You were selected as a possible participant because you are currently teaching full or part time in a classical Christian school or in a traditional Christian school in Tennessee. I ask that you read this form and ask any questions you may have before agreeing to be in the study.

Emily Anderson, a doctoral candidate in the School of Education at Liberty University, is conducting this study.

Background Information:

Socratic teaching, debate, subject integration, and written and oral defense of information provide mental exercise to cultivate powerful minds in Christian schools. These demands can be taxing on preservice teachers and veteran teachers alike and require specialized teacher training. By participating in this study, you can help the researcher guide Christian school administrators in meaningful professional development in both classical Christian schools and traditional Christian schools. Very little research has been conducted on teacher self-efficacy, or the confidence a teacher feels in their teaching practices, in classical Christian schools in order to help prepare both preservice and

veteran teachers for the differences in the methodology between a classical Christian environment and a traditional Christian environment.

The purpose of this study is to discover if teachers' perceptions of student-engagement and instructional practices differ from a classical Christian environment and a traditional Christian environment for teachers in each of these settings.

Procedures:

If you agree to be in this study, I would ask you to do the following: Respond to each survey statement based on your experiences. This will take approximately 10–15 minutes.

Risks and Benefits of being in the Study:

The study has minimal risk. The risks involved in this research are no more than you would experience in your everyday interactions at school.

The benefits to society are contributing to the body of research that may assist administrators in conducting future professional development efforts that align with teachers' needs based on teaching environment.

Compensation:

Your participation in this survey is greatly appreciated. The research cannot be extended without the assistance of teachers who are willing to offer their time to respond to this survey. There is no monetary compensation for completing this survey; however, you are contributing to the Body of Christ and the Christian school movement.

Confidentiality:

The records of this study will be kept private. In any report that is published, it will not include any information that will make it possible to identify a subject. Research records will be stored securely and only the researcher will have access to the records. Your responses will be completely confidential. The researcher will not be able to nor will attempt to specifically identify your responses or even the school in which you work. The researcher nor your school administrator will have access to even know if you chose to participate and complete the survey.

Voluntary Nature of the Study:

Participation in this study is voluntary. Your decision whether or not to participate will not affect your current or future relations with the researcher, your current school, other Christian schools, or Liberty University. If you decide to participate, you are free to not answer any question or withdraw at any time without affecting those relationships.

Contacts and Questions: The researcher conducting this study is Emily Anderson. You may ask any questions you have.

If you have questions later, you are encouraged to contact her at eanderson6@liberty.edu.

If you have any questions or concerns regarding this study and would like to talk to someone other than the researcher, you are encouraged to contact the faculty advisor overseeing this study, Dr. Charles Schneider at cschneider@liberty.edu or the Institutional Review Board, 1971 University Blvd, Carter 134, Lynchburg, VA 24515 or email at irb@liberty.edu.

Appendix B

Original e-mail sent to request participation from administrators

Dear Administrator,

I am a doctoral candidate at Liberty University as well as a Head of School at a classical Christian school in Dyersburg, Tennessee. I am conducting research for my dissertation and I would like to know if you would be willing to simply forward an email to all of your teachers, both full and part time and ask them to complete an online survey that will take 10–15 minutes of their time.

The purpose of this quantitative study will be to discover if teachers' perceptions of student engagement and instructional practices differ from a classical Christian environment and a traditional Christian environment for teachers in each of these settings. Very little research has been done on teacher self-efficacy in Christian schools and even less in classical Christian schools in order to help prepare both preservice and veteran teachers for the different methodologies in Christian school environments. Thus, this study compares teacher self-efficacy between traditional Christian education environments and classical Christian education environments in order to help administrators train and develop teachers effectively.

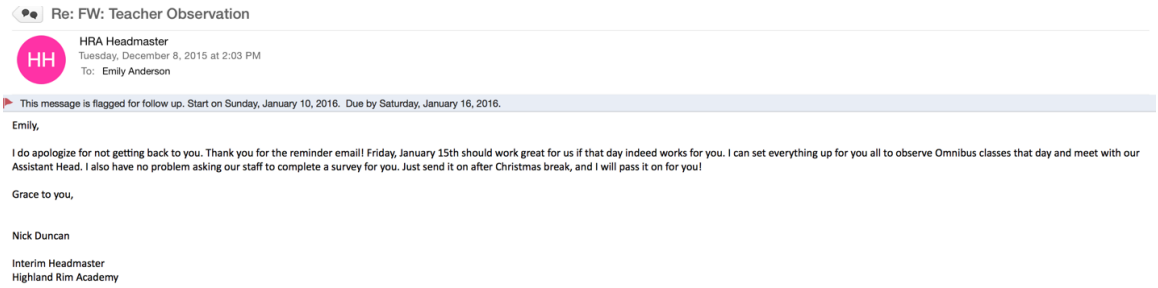
If you are willing to ask your teachers to participate, please respond to this email and I will add you to the recipient list as soon as the surveys are sent.

Emily Anderson, ED.S.
Doctoral Candidate
Liberty University

Appendix C

Confirmation E-mails of Participating Schools

Highland Rim Academy



Re: FW: Teacher Observation

HH

HRA Headmaster
Tuesday, December 8, 2015 at 2:03 PM
To: Emily Anderson

This message is flagged for follow up. Start on Sunday, January 10, 2016. Due by Saturday, January 16, 2016.

Emily,

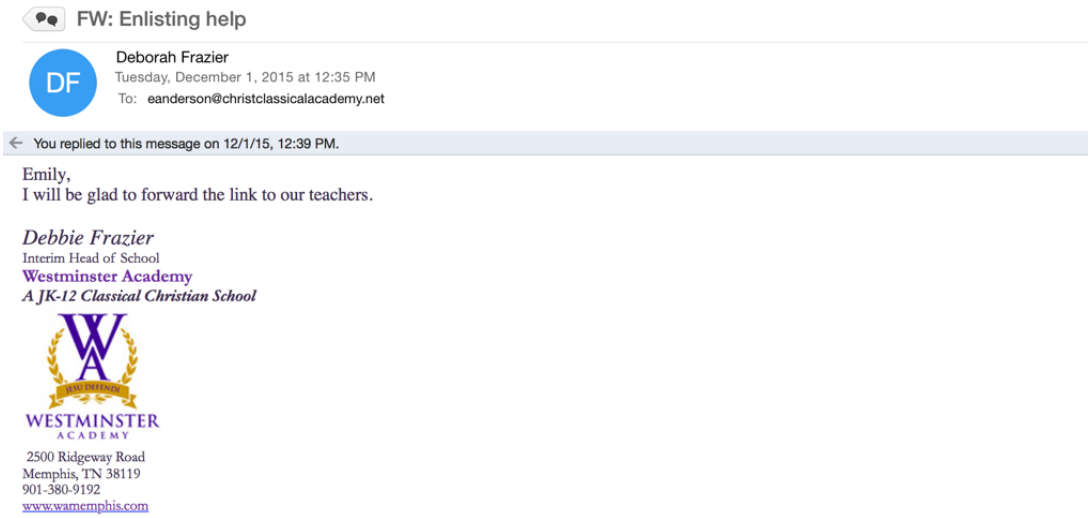
I do apologize for not getting back to you. Thank you for the reminder email! Friday, January 15th should work great for us if that day indeed works for you. I can set everything up for you all to observe Omnibus classes that day and meet with our Assistant Head. I also have no problem asking our staff to complete a survey for you. Just send it on after Christmas break, and I will pass it on for you!

Grace to you,

Nick Duncan

Interim Headmaster
Highland Rim Academy

Westminster Academy



FW: Enlisting help

DF

Deborah Frazier
Tuesday, December 1, 2015 at 12:35 PM
To: eanderson@christclassicalacademy.net

You replied to this message on 12/1/15, 12:39 PM.

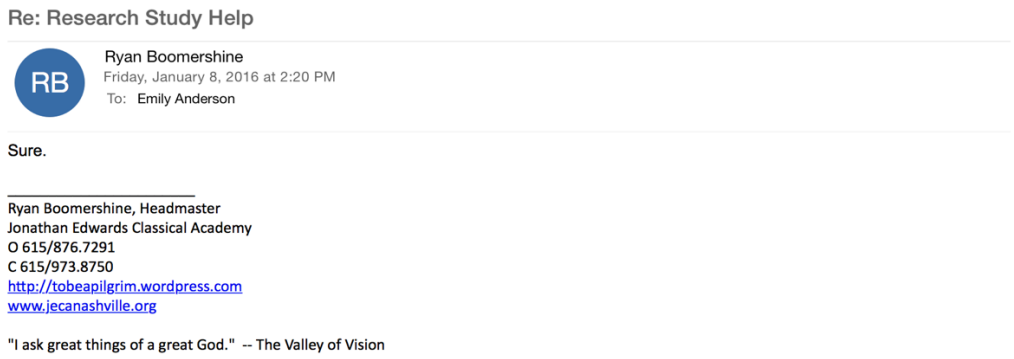
Emily,
I will be glad to forward the link to our teachers.

Debbie Frazier
Interim Head of School
Westminster Academy
A JK-12 Classical Christian School

WESTMINSTER
ACADEMY

2500 Ridgeway Road
Memphis, TN 38119
901-380-9192
www.wamemphis.com

Jonathan Edwards Classical Academy



Re: Research Study Help

RB

Ryan Boomershine
Friday, January 8, 2016 at 2:20 PM
To: Emily Anderson

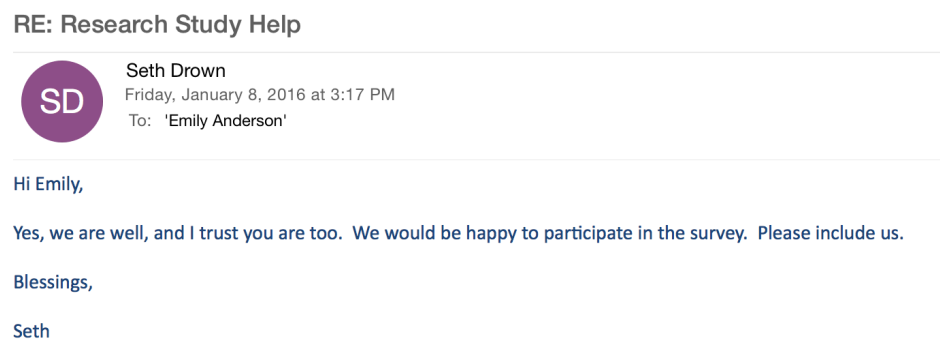
Sure.

_____

Ryan Boomershine, Headmaster
Jonathan Edwards Classical Academy
O 615/876.7291
C 615/973.8750
http://tobeapilgrim.wordpress.com
www.jecanashville.org

"I ask great things of a great God." -- The Valley of Vision

Augustine School of Jackson



RE: Research Study Help

SD

Seth Drown
Friday, January 8, 2016 at 3:17 PM
To: 'Emily Anderson'

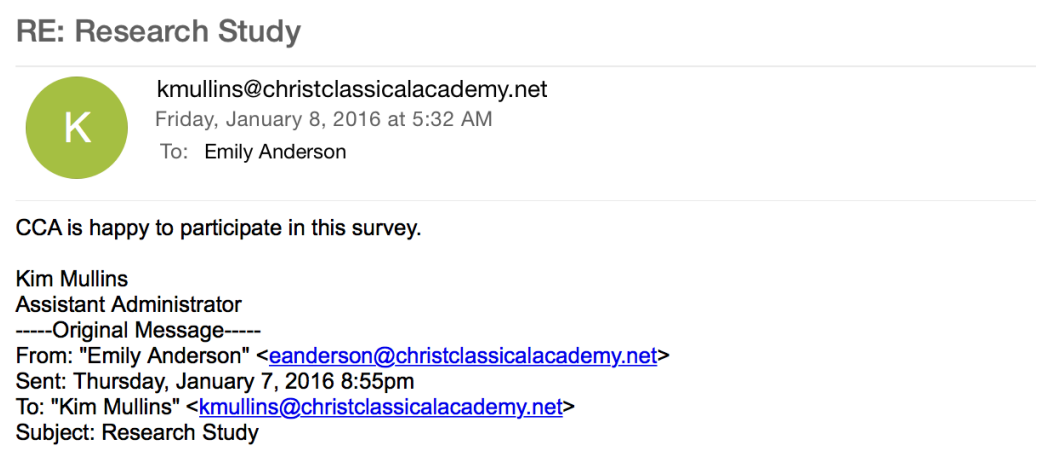
Hi Emily,

Yes, we are well, and I trust you are too. We would be happy to participate in the survey. Please include us.

Blessings,

Seth

Christ Classical Academy



RE: Research Study

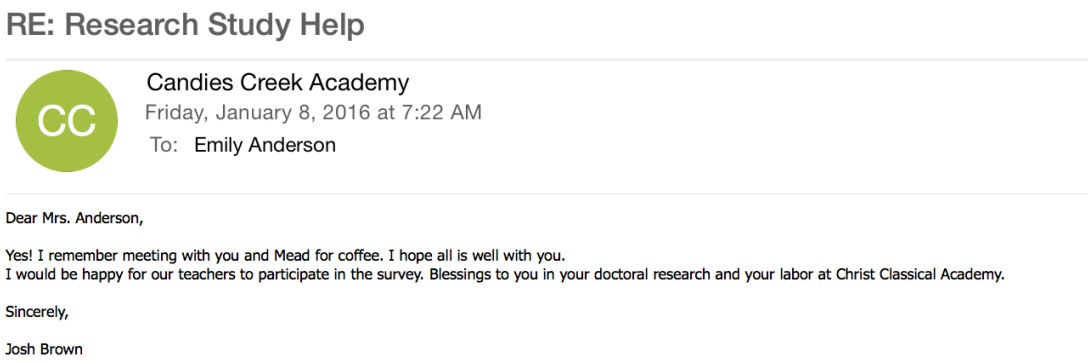
K

kmullins@christclassicalacademy.net
Friday, January 8, 2016 at 5:32 AM
To: Emily Anderson

CCA is happy to participate in this survey.

Kim Mullins
Assistant Administrator
-----Original Message-----
From: "Emily Anderson" <eanderson@christclassicalacademy.net>
Sent: Thursday, January 7, 2016 8:55pm
To: "Kim Mullins" <kmullins@christclassicalacademy.net>
Subject: Research Study

Candies Creek Academy


RE: Research Study Help

CC

Candies Creek Academy
Friday, January 8, 2016 at 7:22 AM
To: Emily Anderson

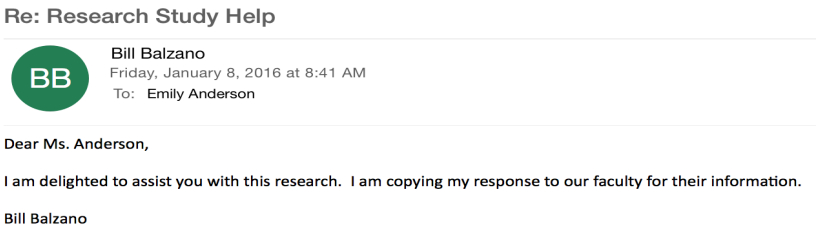
Dear Mrs. Anderson,

Yes! I remember meeting with you and Mead for coffee. I hope all is well with you.
I would be happy for our teachers to participate in the survey. Blessings to you in your doctoral research and your labor at Christ Classical Academy.

Sincerely,

Josh Brown

Tennessee Christian Preparatory School


Re: Research Study Help

BB

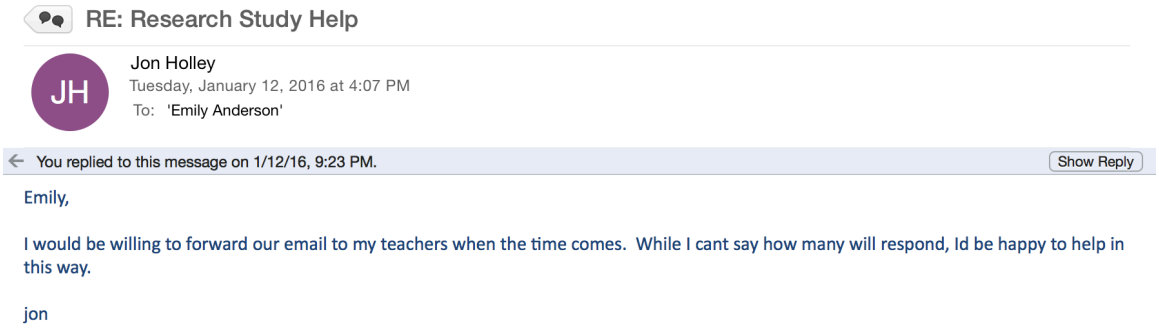
Bill Balzano
Friday, January 8, 2016 at 8:41 AM
To: Emily Anderson

Dear Ms. Anderson,

I am delighted to assist you with this research. I am copying my response to our faculty for their information.

Bill Balzano

Trinity Christian Academy


RE: Research Study Help

JH

Jon Holley
Tuesday, January 12, 2016 at 4:07 PM
To: 'Emily Anderson'

You replied to this message on 1/12/16, 9:23 PM. Show Reply

Emily,

I would be willing to forward our email to my teachers when the time comes. While I cant say how many will respond, Id be happy to help in this way.

jon

Jackson Christian Academy gave verbal permission and participated but never responded to the email in written form.

Appendix D

Institutional Review Board Approval

LIBERTY UNIVERSITY.
INSTITUTIONAL REVIEW BOARD

February 3, 2016

Emily Anderson
IRB Exemption 2404.020316: Teacher Self-Efficacy in a Classical Christian Environment Verses a Traditional Christian Environment

Dear Emily,

The Liberty University Institutional Review Board has reviewed your application in accordance with the Office for Human Research Protections (OHRP) and Food and Drug Administration (FDA) regulations and finds your study to be exempt from further IRB review. This means you may begin your research with the data safeguarding methods mentioned in your approved application, and no further IRB oversight is required.

Your study falls under exemption category 46.101(b)(2), which identifies specific situations in which human participants research is exempt from the policy set forth in 45 CFR 46:101(b):

> (2) Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior, unless:
> (i) information obtained is recorded in such a manner that human subjects can be identified, directly or through identifiers linked to the subjects; and (ii) any disclosure of the human subjects' responses outside the research could reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, or reputation.

Please note that this exemption only applies to your current research application, and any changes to your protocol must be reported to the Liberty IRB for verification of continued exemption status. You may report these changes by submitting a change in protocol form or a new application to the IRB and referencing the above IRB Exemption number.

If you have any questions about this exemption or need assistance in determining whether possible changes to your protocol would change your exemption status, please email us at irb@liberty.edu.

Sincerely,

G. Michele Baker, MA, CIP
Administrative Chair of Institutional Research
The Graduate School

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1971 University Blvd. Lynchburg, Va. 24515 IRB@liberty.edu Fax (434) 522-0506 www.liberty.edu

Appendix E

Permission to Use Graphics

RE: Permission to use figure

TM Tschannen-Moran, Megan <mxtsch@wm.edu>
9:55 AM
Anderson, Emily

Inbox

Emily,

You have my permission to publish the adapted version of my model of teachers self-efficacy as Figure 4 in your dissertation.

All the best,

Megan Tschannen-Moran
The College of William & Mary
School of Education
PO Box 8795
Williamsburg, VA 23187-8795
757-221-2187
http://wmpeople.wm.edu/site/page/mxtsch

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