

CHRISTIAN HIGH SCHOOL SCIENCE TEACHERS' PERSPECTIVE
TRANSFORMATION: THE JOURNEY FROM EVOLUTION TO CREATION

by

Paul Leslie Thorpe

Liberty University

A Dissertation Presented in Partial Fulfillment

Of the Requirements for the Degree

Doctor of Education

Liberty University

2018

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ABSTRACT

The purpose of this hermeneutical phenomenology study was to explore and describe the perspective transformations of 11 science instructors teaching at Christian high schools. These science teachers previously believed the evolutionary paradigm of origins. However, they have all experienced a transformation and now hold a young-earth creation perspective and believe the literal six-day creation event in the book of Genesis is accurate and true. Transformation of perspective regarding origins is defined as a phenomenon of transformative faith accompanied by assimilation and accommodation of new knowledge as seen through the lens of Jack Mezirow's (1991) transformative adult learning theory, and James Fowler's (1981) faith development theory. Semi-structured interviews, written lived-experience descriptions, and curriculum samples of young-earth creation lesson plans provided the data for research. Analysis of the data was thematically driven and reflective. Using Creswell's (2013) suggested method of phenomenological data analysis, information was collected, coded, and clustered into groups of codes which provided themes for the narrative. Findings of this study indicate the participants experienced perspective transformation through spiritual renewal and critical reflection on their previous assumptions and presuppositions.

Keywords: biblical worldview, disorientating dilemma, inerrancy of the Bible, perspective transformation, progressive creationism, theistic evolution, young-earth creation

Acknowledgments

First, I must give all the glory and praise to my Lord and Savior, Jesus; he has given me the vision and carried me through this journey from beginning to end. THANK YOU, JESUS! You are the author and perfecter of my faith. Next, I find it difficult to express in words how much my wife, Barb, has helped me during these last five years. She has been my personal editor, encourager, confidant, friend, and the love of my life throughout. Truly, I could not have done this without her love and support. I am also greatly indebted to my friend and mentor, Dr. Chris Dorais, who inspired me to attend Liberty University, and who along with my wife, has been a confidant from the beginning. I would also like to acknowledge and thank my friend, Sandy Perrine, who graciously used her expertise to edit my proposal for dissertation. Finally, I would like to acknowledge and thank my excellent dissertation committee members, Dr. Tracey Pritchard, Chairperson; Dr. James Swezey who also served as my research consultant, and Dr. Chris Dorais for their gracious acceptance of my dissertation oversight request, their fine guidance, and their confidence in me to finish the race.

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CHAPTER ONE: INTRODUCTION

Overview

This hermeneutical phenomenology study explored the perspective transformations of science instructors at Christian schools who had previously held an evolutionary perspective of origins, but now believe in a young-earth creation (YEC) perspective, as well as the literal six-day interpretation of creation recorded in the book of Genesis. The purpose of this study was to provide a thick, rich, narrative of the lived-experiences of Christian high school science teachers who have undergone a foundational worldview perspective transformation, namely the evolutionary paradigm to YEC paradigm. Therefore, this chapter focuses on the concept of worldview development as it relates to perspectives regarding evolution and YEC within society, the church, and Christian schools. It also provides a background for the study, clarifies the problem statement and research questions, describes the significance of the study, and presents an overview of the research plan.

Background

This study was clearly focused on the internal struggle between the evolutionary paradigm and the YEC perspective of science instructors teaching at Christian high schools. Although one's perspective of origins is not a comprehensive worldview, it is a foundational aspect one's perception, upon which an individual supports presuppositions and assumptions of how the world functions and why it exists (Barna, 2003; Sire, 2015). According to Barna (2003), how people answer the question, "Where did everything you see and experience come from?" affects their worldview and "understanding of sin, forgiveness, truth and morality, the veracity of the Scriptures, and the purposes and outcomes of humankind" (p. 89). Therefore, the next three

sub-sections discuss the concepts of worldview, viewpoints regarding origins, and evolutionary perspectives in Christian education.

Worldview

According to Naugle (2002), “The English word ‘worldview’ is derived from the noted German term *Weltanschauung*” (p. 4). Thomson (2012) asserted that the word translated as worldview (*Weltanschauung*) was introduced by Immanuel Kant, an eighteenth-century German philosopher. As time progressed, 19th and 20th-century philosophers and theologians, such as James Orr, Abraham Kuyper, and Francis Schaeffer, incorporated the term worldview into their writings and speaking engagements (Thomson, 2012). Numerous authors, philosophers, and theologians have added to the lexicon and definition of the term worldview with their own emphasis and perspective. I like Sire’s (2009) comprehensive definition:

A worldview is a commitment, a fundamental orientation of the heart, that can be expressed as a story or in a set of presuppositions (assumptions which may be true, partially true or entirely false) that we hold (consciously or subconsciously, consistently or inconsistently) about the basic constitution of reality, and provides the foundation on which we live and move and have our being. (p. 20)

Sire clearly indicates that peoples’ sense of reality and foundation for living in society is based upon their worldview. Shultz and Swezey (2013) argued that Sire’s (2009) definition suggests a three-dimensional concept of worldview encompassing ones “propositional, behavioral, and heart-orientation” (p. 240). Furthermore, Naugle (2002) concluded, “Since its inception in Immanuel Kant’s *Critique of Judgment* in 1790, the notion of *Weltanschauung* has become one of the central intellectual conceptions in contemporary thought and culture” (p. 66). Moreover, the term *worldview* is now a commonly-used phrase and concept in the vocabulary and writings

of modern philosophers, social scientists, clergy, and educators. It is a term to which the western world has become accustomed, and it is often found in the mission statements of Christian schools (Schultz & Swezey, 2013; Thomson, 2012). According to Thomson (2012), worldview is now considered a prominent model for Christian education.

Perspective of Origins

A clash of worldviews in Western culture has been evident since Charles Darwin published his famous book, *The Origin of Species: By Means of Natural Selection* in 1859. The theory of evolution he developed provided a new foundation of thought for emerging sciences, such as geology, anthropology, paleontology, biology, and cosmology (Matthews, 2009). According to Matthews (2009), “The *Origin* provided not just a novel account of the origin of species by natural selection, but it initiated a transformation of modern worldviews and a new understanding of the place of human beings in the natural world” (p. 642). Further, before Darwin’s publication of *Origin of Species*, religion and philosophy provided the main conduits by which worldviews developed. Soon after its publication naturalistic science became the main source of worldview development (Matthews, 2009). As the twentieth century unfolded, propagation of naturalism and evolution to the masses was achieved through the American educational system’s empirically-based non-theistic model of education championed by Herbert Spencer and John Dewey (Gutek, 2011). Recent statistics provided by a 2013 Pew Research Center survey eliciting the current public view on human evolution suggested the American public educational system’s emphasis on teaching evolution has persuaded most Americans to accept the Darwinian perspective. According to the Pew Research Center (2013) analysis:

Six-in-ten Americans (60%) say that “humans and other living things have evolved over time,” while a third (33%) reject the idea of evolution, saying that “humans and other

living things have existed in their present form since the beginning of time.” The share of the general public that says humans have evolved over time is about the same as it was in 2009 when Pew Research last asked the question. (p. 1)

Evolution and Christian Education

The cultural dissemination of evolution theory and naturalism has also impacted Christianity. Currently, many Christians attempt to mix God with evolution by eliciting a *theistic evolutionary* perspective (Deckard, 1997; Ham, 2008; Morris, 1985). Per Morris (1985), the most commonly held and accepted definition of theistic evolution is simply “Jehovah used the method of evolution to accomplish His purpose in creation” (p. 216). Within the framework of Morris’ (1985) definition resides numerous forms of theistic evolution known by diverse names such as, orthogenesis (i.e., goal-directed evolution), creative evolution, progressive creationism, old-age creation, and others. These have been made popular by authors, scientists, theologians, and preachers eager to explain how modern science can be combined with faith in God (Morris, 1985). Theistic evolution philosophy has also had a considerable effect on Christian education. Morris (1982) asserted, “Many of the most highly respected Christian schools have compromised with evolutionism to an alarming degree” (p 178). Morris’ (1985) assessment of the evolutionary compromises in Christian education was based on scholarly reports from the 1970s, but the progression of theistic evolution theory into the church, as well as Christian education, has grown over the last 40 years (Ham & Hall, 2011). Currently, coalitions of Christian scientists and educator groups such as “BioLogos,” and “Reasons to Believe” work diligently to spread and promote the theistic evolution message to churches and educators. Conversely, there are still some Christian evangelical schools and colleges that promote the

literal six-day interpretation of creation (Ham & Hall, 2011). They often integrate YEC with their science curriculum. Mortenson (2011) had this to say about young-earth creation science:

Young-earth creationists believe that the creation days of *Genesis 1* were six literal (24-hour) days, which occurred 6,000–12,000 years ago. They believe that about 2,300–3,300 years before Christ, the surface of the earth was radically rearranged by Noah’s Flood. All land animals and birds not in Noah’s Ark (along with many sea creatures) perished, many of which were subsequently buried in the Flood sediments. Therefore, creationists believe that the global, catastrophic Flood was responsible for *most* (but not all) of the rock layers and fossils (i.e., some rock layers and possibly some fossils were deposited before the Flood, while other layers and fossils were produced in postdiluvian localized catastrophic sedimentation events or processes). (p. 1)

YEC science books written by Ph.D. scientists representing multiple disciplines of science are readily available in Christian bookstores and online outlets. There are numerous websites supporting YEC, the most well-known being, “Answers in Genesis.” Christian publishers such as Apologia, Bob Jones University, and Purposeful Design publish science textbooks which integrate evidence supporting YEC science alongside modern scientific evolutionary based knowledge and theory. Schools that choose to uphold the literal interpretation of Genesis as a fundamental aspect of teaching a biblical worldview often use these textbooks as curriculum guides for their science courses. These same schools may also require their science instructors to believe and teach YEC science and the literal interpretation of Genesis as a requirement for employment.

Situation to Self

I chose this topic of study as a direct result of my personal experience. Having been brought up in a non-Christian home, evolutionary thought and principles were ingrained into my worldview by the public schools I attended, as well as media outlets such as television and scientific literature. My upbringing and initial worldview development furnish an opportune example of the phenomenon of this study, providing readers insight into my motives and biases associated with this topic.

The beginning of my transformation of heart and mind occurred during my senior year in high school where my spiritual conversion began with a commitment to follow Christ, attend Christian activities and church on a regular basis, and read the Bible. This newfound commitment to Christ gave my life meaning and purpose far beyond what the precepts of naturalism and evolution-based science could ever offer. Still, an underlying issue seemed almost insurmountable. When I first read through the book of Genesis, I thought, “This is a fairy tale. Nothing in this account of creation is even close to the truth of what happened.” The dissonance caused by the two conflicting narratives of origins, the biblical version of creation and my evolution-based naturalistic perspective, caused me to question my faith in Christ, and to look upon the rest of the Bible with suspicion. The only way I knew how to pacify the dissonance was to reject the biblical account of creation and embrace a theistic evolution perspective. Consequently, my faith in God segmented from what I presupposed was true about science and the study of origins. I knew in my heart that my faith in God was suffering due to the conflict raging in my mind over this issue, and becoming a theistic evolutionist was the only way I knew how to make accommodation for my new-found knowledge of Genesis and my faith in Christ. This struggle continued into my first year of college. During this time, I met a few

Christians who challenged my theistic evolution views and stirred the controversy which continued to segment my faith in God from my evolutionary worldview. The dissonance within my heart and mind finally drove me to my knees in prayer. After reading the Genesis creation account once again, in yet another fruitless attempt to believe and understand the Bible's version of creation, I prayed earnestly and confessed to God that Genesis still sounded like a fairy tale. I pleaded with Him to help me understand how the Bible's rendition of creation was true. At the end of my prayer, I had no resolution, and I went to bed more frustrated than ever. However, when I awoke, something in my heart had radically changed. The dissonance and struggle between my mind and heart had disappeared; Genesis was no longer a fairy tale. A spiritual transformation constituted by faith had changed my heart. I did not have the knowledge to back up what I believed to be true, but my faith had circumvented the dissonance between my heart and mind. A few years later, I was introduced to books and information related to YEC science. The evidence and theories supporting YEC resonated with me, and I began a cognitive journey that revolutionized and transformed my perspective of science, the study of origins, and my worldview.

My biblically-based worldview suggests there are absolute truths based on the precepts and commands of an all-powerful God who is the creator of the universe. Moreover, my ontological view is that there is one reality, but there are many differing perspectives of reality. The participants of this study had differing perspectives and experiences regarding their paradigmatic transformation from evolutionist to creationist. These differing perspectives were analyzed; developing themes are discussed in the final chapter of this dissertation.

My experience as a teacher has provided me with an epistemological paradigm of cognitive and social constructivism that views the building of an individual's worldview and

knowledge schemas much like a builder constructs a building. Builders start by laying a foundation of concrete that provides the format for the rest of the building. Metaphorically, an individual's worldview begins by laying a foundation of knowledge as they grow and mature through experiences, education, and social interaction. As individuals mature into adults, their building (i.e., worldview) may experience radical transformations of perspective that require re-engineering the foundation of the building. I believe an individual's paradigmatic perspective of origins is the foundational aspect of their worldview.

Problem Statement

The problem is derived from the influence of modern secular science and naturalistic worldviews that support the evolutionary paradigm, which has dominated American society and public education over the last century (Matthews, 2009). These influences resulted in alternate evolution-based accounts of creation which incorporate God (e.g., theistic evolution; old-earth creation) and have become popular within Christian circles, churches, and Christian schools (Ham & Hall, 2011; Matthews, 2009; Morris, 1985; Schultz, 2002). Conversely, the mission and faith statements of many Christian high schools often ascribe to the biblical doctrines of infallibility and inerrancy as foundational principles of what they believe and teach (Shultz, 2002). Moreover, finding and maintaining science teachers who strongly support the doctrine of the inerrancy of the Bible, including the literal interpretation of Genesis, is a priority for many Christian high schools, but can be a challenging task in today's evolution-based culture (Ham & Hall, 2011). The rise in popularity of theistic evolution within the church, as well as Christian education, has produced limitations on the number of science instructors who can effectively teach YEC science. Therefore, it is vital that Christian school administrators and science instructors understand the variables related to an individual's perspective transformation from

the evolution paradigm to YEC (Ham & Hall, 2011). Currently, there are no known empirical studies in the literature that have explored an individual's perspective transformation from the evolutionary paradigm to YEC.

Purpose Statement

The purpose of this phenomenological study is to explore and describe the perspective transformations of science instructors at Christian high schools who previously held worldviews and perspectives supporting evolution, or theistic evolution, who have since rejected those perspectives, and now teach YEC science and the literal six-day account of creation found in the book of Genesis. Transformation of belief regarding origins is defined as a phenomenon of transformative faith accompanied by a rejection of a previous perspective and acceptance of an entirely new perspective. This phenomenon will be researched and analyzed as seen through the lens of Mezirow's (1991) transformative adult learning theory (TALT), and Fowler's (1981) faith development theory (FDT).

Significance of the Study

The significance of this study is situated between the theological implications of believing or not believing the literal six-day creation interpretation of Genesis, along with the apologetic overtones of teaching YEC science to students attending Christian high schools. The focus of inquiry is an exploration of the transformational experiences of Christian high school science teachers which caused them to reject their previously-held paradigmatic perspective supporting evolution or theistic evolution in favor of YEC science and the literal six-day creation interpretation of Genesis. The findings of this study will add significant information to the current body of literature, as there is currently no known empirical data or research regarding the transformation of an individual's perspective from evolution to YEC. There is also very little

empirical data regarding the influence of YEC on the worldview perspectives of science instructors and subsequent YEC curriculum development at Christian schools. Mezirow's (1991) adult transformative learning theory has been used to research and discuss the psychological and behavioral transformations of adults' cognitive schema, but it has not yet been used as a theoretical model for discussing a foundational aspect of an individual's worldview (i.e., perspective of origins). Furthermore, the dimension of transcendent-faith has not previously been researched within the framework of Mezirow's (1991) adult transformative learning theory.

The debate over how to properly teach or interpret the biblical depictions of origins and the flood of Noah can be controversial and divisive in Christian school science departments, religious departments, and administrations (Ham & Hall, 2011). Therefore, the conclusions of this study may impact Christian school administrators, staff, and parents. Ultimately, the creation perspectives of science instructors teaching at Christian schools will have a powerful influence on the biblical worldviews of the students they teach (Ham & Hall, 2011; Schultz, 1998).

The findings will also build on existing literature associated with Christian apologetics, and therefore, could find application in Christian churches seeking a transformation of perspective in their congregations regarding their beliefs about Genesis.

Research Questions

The following questions guided this phenomenological study:

Central Question

How do the participants describe their perspective transformations from their previous evolutionary worldview to their current young-earth creationist worldview?

Mezirow (1991) asserted an individual's frame of reference and meaning perspectives (i.e., worldview) consists of experiences, premises, and presuppositions developed during the formative years of childhood and adolescence. Further, Mezirow (1997) stated, "Transformative learning is the process of effecting change in a *frame of reference*. Adults have acquired a coherent body of experience—associations, concepts, values, feelings, conditioned responses—frames of reference that define their life world" (p. 5). Subsequently, a perspective transformation, such as that proposed in the central question above, requires critical reflection and assessment of previously-assimilated premises, presuppositions, associations, concepts, feelings, and conditioned responses (Mezirow, 1991, 1997).

Sub-questions

1. How did the participants experience Mezirow's (1991) 10 phases of perspective transformation?

Mezirow's (1991) adult transformative learning theory clearly indicates transformative learning requires "reflective assessment of premises, a process predicated upon still another logic, one of movement through cognitive structures by identifying and judging presuppositions" (p. 5). Mezirow's (1991) theory lists 10 phases of transformation as a framework for identifying perspective transformation.

2. How does faith in God and the Bible contribute to the participants' perspective transformation?

Taylor (1997) asserted, “adult transformative learning theory’s over-reliance on rationality has led to studies that have shown the essentiality of other ways of knowing” (p. 8). Criticisms of Mezirow’s (1991) theory include other functions available for learning beyond rational discourse, such as emotional, intuitive, and *spiritual* [emphasis mine] dimensions (Taylor, 1997). Therefore, sub-question two references the spiritual dimension of faith that lies outside of adult transformative learning theory parameters. Faith in the context of this study will be interpreted through the lens of Fowler’s (1981) faith development theory, as well as theological input from various theologians and philosophers.

3. How has the perspective transformation of the participants impacted their curriculum development regarding the study of origins?

Mezirow’s (1991) transformative adult learning theory is predicated upon transforming perspectives through critical reflection of premises and presuppositions. Ultimately, this type of transformation will change behavior and judgment regarding “best action to take” in a situation or working environment (p. 15). Educational pedagogy is simply the methods and curriculum that a teacher perceives will best educate his or her students (Schultz, 2002). Therefore, exploration of participants’ instructional pedagogy regarding the study of origins is consistent with the behavioral change aspect of transformative adult learning theory.

Definitions of Key Terms

The following terms and definitions are provided to clarify their use in this study.

1. *Biblical Worldview* – A comprehensive understanding of how the world works using the lens of the Bible to view the modern world. It is inclusive of theology, doctrines, values, and ethics directly related to the Bible (Smith, 2015).
2. *Disorientating Dilemma* – A disequilibrium in an individual’s perspective that arises when “manifest situational contradictions become apparent” (Mezirow, 1991, p. 163).
3. *Inerrancy of the Bible* – “Unlimited Inerrancy affirms that the Bible is true on whatever subject it speaks - whether it is redemption, ethics, history, science, or whatever” (Geisler, 2014, p. 66).
4. *Meaning Perspective* – “A habitual set of expectations that constitutes an orienting frame of reference that we use in projecting our symbolic models, and that serves as a (usually tacit) belief system for interpreting and evaluating the meaning of an experience” (Mezirow, 1991, p. 42).
5. *Perspective Transformation* – “Involves a sequence of learning activities that begins with a disorienting dilemma and concludes with a changed self-concept that enables a reintegration into one’s life context on the basis of conditions dictated by a new perspective” (Mezirow, 1991, p. 193).
6. *Progressive Creationism* – A hypothesis that life has evolved and developed over vast eons of geological time. During this time God was intervening at various points to establish new and higher levels of life. The evolutionary process is incomplete without God’s intervention (Morris, 1985).
7. *Schema* – An organized pattern of thought and knowledge that can be transformed or changed through assimilation and accommodation of new knowledge (Zhinqing, 2015).

8. *Theistic Evolution* – The concept accepted by many Christians that God used the method of evolution and time to “accomplish His purpose in creation, as described in Genesis” (Morris, 1985, p. 216).

Summary

In this chapter, I discussed the background, theory, and relevant issues regarding the phenomenon of the study. An individual’s worldview is built upon presuppositions and perspectives developed through childhood experiences and educational outcomes. It becomes the framework by which one comprehends reality, and develops convictions about life (Brummelen, 2002). Clearly, an individual’s perspective of where he or she came from (i.e., origins) is a foundational aspect of his or her worldview; impacting theological, sociological, and humanitarian beliefs and perspectives (Gauch Jr., 2009). Unfortunately, the theories of evolution and naturalism have become the dominant paradigm of thought regarding origins in American culture and public discourse (Matthews, 2009). In Christian education, evolution and naturalism have traversed the gap between secular humanism and Christian perspectives of creation by combining scientific naturalism with theological concepts found in the Bible (i.e., theistic evolution) (Ham, 2008; Morris 1985). The problem this study investigated is the dichotomy of beliefs in Christian education regarding the creation account found in the book of Genesis. The purpose of this study was to describe the perspective transformation of science instructors currently teaching at Christian high schools, who previously held perspectives supporting the evolutionary paradigm, but have rejected those perspectives and teach YEC science and the literal six-solar-day creation interpretation of Genesis.

CHAPTER TWO: LITERATURE REVIEW

Overview

The evolutionary paradigm prevalent in American society provides a foundation for the teaching of science from a purely secular perspective (Green, 1998; Newport, 2014; Pew Research Center, 2013). Moreover, evolutionary theory presents a problem for Christian schools upholding the Bible as the inerrant Word of God. These schools usually employ science teachers who believe the Genesis account of creation is accurate and true; each day of creation was a literal 24-hour period which occurred between six to ten thousand years ago. Finding science teachers who believe and adhere to teaching science with a YEC perspective is not an easy task in a society where evolutionary theory dominates the educational paradigm of public schools, as well as the media (Green, 1998; Newport, 2014; Pew Research Center, 2013).

The focus of this study is describing the perspective transformation and worldview paradigm shift of science teachers currently teaching at Christian high schools. Where once these same teachers believed and adhered to an evolutionary perspective, they now believe and teach YEC science and the literal six-day interpretation of the creation account in the book of Genesis.

My goal is to raise awareness among administrators of Christian schools regarding the positive effects such a transformation can have on the biblical worldviews of science instructors teaching at Christian high schools. This chapter provides a theoretical framework section elucidating theory used to guide the study, a related literature section discussing existing knowledge of related topics, and a summarization of the relevant studies cited within this chapter.

Theoretical Framework

According to Ary, Jacobs, and Sorensen (2010), “A theory may be defined as a set of interrelated constructs and propositions that presents an explanation of phenomena and makes predictions about relationships among variables relevant to the phenomena” (p. 14). In qualitative study, theory provides a framework by which researchers can organize and analyze multiple observations and investigations regarding the phenomena of the study (Ary et al., 2010). Ary et al. (2010), asserted, “Regardless of the subject matter; theory works in essentially the same way. It serves to summarize existing knowledge, to explain observed events and relationships, and to predict the occurrence of unobserved events and relationships” (p. 16).

Transformative Adult Learning Theory

The phenomenon of this study is focused on adult experiences, learning, and the transformation of a foundational worldview paradigm (i.e., evolution to YEC). Mezirow’s (1991) transformative adult learning theory (TALT) elucidates transformation of adult schema and perspectives previously developed during childhood and adolescent years (Mezirow, 1991). Therefore, since this study is focused on adults who have experienced such a transformation, TALT is the central guiding theory.

According to Mezirow (2000), the basic process of learning is accomplished through assimilating and accommodating new information and experience with previously held knowledge, presuppositions, experience, and perception of reality. “Learning is understood as the process of using prior interpretation to construe a new or revised interpretation of the meaning of one’s experience as a guide to future action” (p. 5). Further, Mezirow (1991) differentiated standard learning from transformative learning when he asserted transformative learning (i.e., perspective transformation) is a transcendent experience. “Perspective

transformation often involves profound changes in self, changes with cognitive, emotional, somatic, and unconscious dimensions” (p. 177). Ultimately, perspective transformation is a radical change in previously-held assumptions, leading to a new paradigm of schema and actions (Mezirow, 1991). Mezirow (1991), used a variety of terms related to the transformation of adults’ frame of reference (i.e., schema; worldview). A term that he commonly used as a synonym for worldview was meaning perspective. “I have chosen the term *meaning perspective* to refer to the structure of assumptions within which one’s past *experience assimilates and transforms new experience*” (p. 42). Further, he asserted meaning perspective implies a “belief system for interpreting and evaluating the meaning of experience” (p. 42). Contained within meaning perspectives are what he referred to as *meaning schemes*. “A meaning scheme is the particular knowledge, beliefs, value judgments, and feelings that become articulated in an interpretation” (Mezirow, 1991, p. 44). In other words, meaning perspectives and meaning schemes amount to what could be considered a frame of reference (i.e., worldview). Christie, Carey, Robertson, and Grainger (2015) asserted,

Mezirow’s theory, expressed in lay terms, argues that every individual has a particular view of the world. The particular worldview may or may not be well articulated but it is usually based on a set of paradigmatic assumptions that derive from the individual’s upbringing, life experience, culture or education. (p. 11)

Moreover, Mezirow (1997) asserted, “We transform our frames of reference [worldview] through *critical reflection* on the *assumptions* upon which our interpretations, beliefs, and habits of mind or points of view are based” (p. 7). Critical reflection of prior presuppositions and attitudes provides adults the ability to deconstruct and filter prior assumptions, beliefs, emotions, and relationships rationally (Mezirow, 1991). Further, “Reflective learning becomes

transformative whenever assumptions or premises are found to be distorting, inauthentic, or otherwise invalid” (Mezirow, 1991, p. 6). Per Mezirow (1991), the impetus for an individual to critically reflect on his or her previous frame of reference and perspective is often provided by what he called *disorientating dilemmas*. Disorientating dilemmas are simply life experiences capable of initiating perspective transformation. Mezirow (1991), contended that these dilemmas can be epochal events “such as death, illness, separation or divorce, children leaving home, being passed over for promotion or gaining a promotion, failing an important examination, or retirement” (p. 168). Perspective transformation can also come through a series of disorienting dilemmas that are not epochal events, such as, “an eye-opening discussion, book, poem, or painting. Any major challenge to an established perspective can result in transformation” (Mezirow, 1991, p. 168). Accordingly, Mezirow (1991, 2000) posited perspective transformation can happen rather quickly or can be the result of an accretion of events over time which causes individuals to reflect critically on their previous assumptions and presuppositions.

Mezirow (1991) viewed contradictions which caused disequilibria in Piaget’s child developmental theory to be much like adults’ disorientating dilemmas in transformation theory, but with one important distinction. An adult’s ability to critically reflect on contradictory information and apply self-assessment of one’s presuppositions allows an individual to reject previously-held beliefs and accept a new paradigm of thought (Mezirow, 1991). He maintained that Piaget’s perspective of an individual’s need to rectify contradictions through assimilating and accommodating new information might necessitate rejection of some false views, “but he [Piaget] did not hold the negation of previous beliefs to be the central dynamic of progress” (p. 40). Transformational adult learning theory goes a step further than Piaget’s child

developmental theory and posits that adults can completely reject older beliefs and assumptions without the need to simply make accommodation for new information which contradicts an existing scheme (Mezirow, 1991). The new information contradicting the evolutionary paradigm of participants in this study consists of scientific evidence and theories aligned with YEC science and the book of Genesis. Therefore, identification of disorienting dilemmas associated with the transformative experience of the participants in this study was one of my prime objectives.

Mezirow (1991) asserted that transformation of perspective often follows what he called “phases of transformation” (p. 168). It is these phases of transformation which lead to critical reflection and eventual transformation of perspective regarding origins that provided the lens through which sub-questions one and three of this study are explored: Sub-question one is: How did the participants experience Mezirow’s 10 phases of perspective transformation? Sub-question three is: How has the perspective transformation of the participants impacted their curriculum development regarding the study of origins? Mezirow’s (1991) list of 10 phases of transformation provided a framework for analyzing data collected during the research portion of this study. They are listed as follows:

1. A disorientating dilemma
2. Self-examination with feelings of fear, anger, guilt, or shame
3. A critical assessment of assumptions
4. Recognition that one’s discontent and the process of transformation are shared
5. Exploration of options for new roles, relationships, and actions
6. Planning a course of action
7. Acquiring knowledge and skills for implementing one’s plans
8. Provisional trying of new roles

9. Building competence and self-confidence in new roles and relationships
10. A reintegration into one's life on the basis conditions dictated by one's new perspective (p. 22)

It is important to note that transformational adult learning theory is not a stage theory. The order of these 10 phases of transformation is subject to variation (Mezirow, 2000).

There is a condensed version of the ten phases of transformation, which was first conceived by Herbers (1998), as a guide for exploration of perspective transformation in pre-service teachers. The condensed version was also incorporated into Glisczinski's (2007) research exploring perspective transformation in higher education. Essentially, Glisczinski's (2007) condensed version consists of four transformative learning quadrants. Quadrant one, *disorientating experiences*, "represents the first major stage of perspective transformation" (p. 323). Quadrant two, *critical reflection*, represents the "next major stage toward transformative learning" (p. 323). Quadrant three, *rational dialog*, provides the next stage and is considered an "essential component of perspective transformation" (p. 323). Quadrant four, *action*, represents the final stage of perspective transformation involving "behavior change based on proactive thinking" (p. 324). Collectively, these four quadrants provide a framework for clarifying the foundational components of perspective transformation (Glisczinski, 2007).

Faith Development Theory

The topic of this study, perspective transformation of belief in origins, implies an aspect of faith. Both Ham (2013) and Morris (1985) argue that the science and the study of origins are flawed by the fact that the scientific method is not applicable. Direct experimentation or observation is not possible in the study of origins. Moreover, whether an individual believes in the slow naturalistic processes of evolution, or the relatively sudden and miraculous idea of

YEC, it is ultimately a reliance on faith, not scientifically verified fact or proof (Ham & Hall, 2011).

An important and well-known theory employing the basic framework of constructivism and cognitive-faith is Fowler's (1981) faith development theory (FDT). His theory provided a framework for analyzing statements of faith through a cognitive rather than spiritual lens. He hypothesized developmental stages of cognitive faith arising from early childhood and extending through late adulthood. Moreover, Fowler's (1981) conception and description of faith are not spiritual. According to Fowler (1981), the focus of faith need not be toward God, religion, or spiritual aspirations, such as what a classical definition of faith would mean. Rather, Fowler (1981) asserted, "Faith is an orientation of the total person, giving purpose and goal to one's hopes and strivings, thoughts and actions" (p. 14). Essentially, he considered faith to be an intrinsic motivating force that allows people to transcend primitive and naturalistic ways of thinking and acting. Faith allows individuals to find meaning in life, an aspect which creatures in the animal kingdom do not possess (Fowler, 1981).

As stated in the previous paragraph, FDT is a stage theory; it consists of six cognitive stages of faith development, listed as follows:

1. Intuitive-projective faith - children (ages, 2-6)
2. Mythic-literal faith - children (ages, 7-12)
3. Synthetic-conventional faith - adolescence (ages, 13-21)
4. Individuative-reflective faith - young adulthood (ages, 21-35)
5. Conjunctive faith – adulthood (ages, 35-60)
6. Universalizing faith – maturity (ages, 60--)(Fowler, 1981, p. 290)

Of these six stages, the transition from stage three, adolescence (Synthetic-conventional faith) to stage four, young adulthood (i.e., Individuative-reflective faith) initiated the perspective transformation and stage of faith explored by this study. Fowler (1981) asserted that stage three, adolescence, is a time of life where many individuals question religion, symbolism, and myths associated with a religious upbringing and sociological influences. It is during these formative years that many students educated in the public-school system discard the biblical record of creation for the evolutionary paradigm pervasively favored and taught as scientific fact (Ham, 2013; Morris, 1985; Schultz 1998).

Fowler (1981) asserted that the transition to stage five, young adulthood, is a time of life which involves critical reflection on the previously-formed worldview and accepted presuppositions of adolescence. In other words, an adult's ability to look deeper into and critically reflect upon what they believe to be true is a cornerstone of transitioning into a higher level of faith (Fowler, 1981). The concept of adults using critical reflection to sift through previously-held beliefs precipitating a transformation of one's perception of truth and reality runs parallel with Mezirow's (1991) transformative adult learning theory. It is important to note that the transformation of a foundational aspect of worldview, such as one's perspective of origins, could involve a multiplicity of descriptive experiences and motivations aligned with Fowler's (1981) theory of cognitive faith development.

Related Literature

There have been very few qualitative or quantitative studies that have investigated the main topic of this study (i.e., transformation of perspective regarding origins). This section will illuminate those few previous studies, as well as discuss topics and perspectives related to this study. Since the settings of this study were at Christian high schools, I felt it appropriate to begin

with a sub-heading on the historical foundations of the Christian school movement. Also, the discussion of origins is uniquely related to the development of a biblical worldview; therefore, the second sub-heading of this section reveals studies and literature that have previously explored biblical worldview development in Christian schools. The third sub-heading discusses the perspective of scientific discovery regarding its effect on worldview development. These three sub-headings form the backbone of this chapter, followed by sub-headings related to the topic of this study. The sub-headings combined provide an overall picture of current and historical literature associated with the evolution creation debate, cognitive faith, spiritual transformation, and perspective transformation through a personal sense of mission, or purpose.

Historical Foundations of the Christian School Movement

Nineteenth century America experienced rapid growth in what was referred to as the ‘common school movement’ (i.e., public schools). While the foundations of the common school movement were established in the age of Enlightenment and the American Revolution, it was also heavily influenced by Evangelical Protestantism beliefs, ethics, and values (Guttek, 2011). As a result of the Bible’s influences on 19th-century public schools, most Protestant Christians felt no need to establish private Christian schools as an alternative to public education. Although a small number of denominationally sponsored schools did arise to “preserve cultural or confessional purity, their success was limited” (Carper & Layman, 2002, p. 502). As the American culture plunged into the 20th century, Darwinism (i.e., evolutionary theory) and secularism became the dominant paradigm of public schools (Carper & Layman, 2002; Morris, 1982). This new paradigm in public education spurred growth in private Protestant Christian schools during the first half of the century. According to Carper and Layman (2002), “As many as 150 of these institutions were founded between 1920 and 1960 by independent fundamentalist

churches and conservative para-church organizations” (p. 504). Supreme Court decisions in 1962 and 1963 that abolished prayer and devotional Bible reading in publicly funded schools provided further motivation for Christian parents to seek alternative education for their children, including private Christian schools and homeschooling (Carper & Layman, 2002). Because of those rulings (i.e., abolishing prayer and the Bible), a “phenomenal increase” in the development of private evangelical Christian schools has ensued since the 1960’s for those “disenchanted with the ongoing secularization of public education” (Carper & Layman, 2002, p. 504). Enrollment data regarding U.S. evangelical Christian schools as of 2016, provided by the Association of Christian Schools International (ACSI), which is the largest K-12 Christian school accreditation organization in the U.S., claims approximately 2,670 ACSI accredited schools, with 579,730 students enrolled in those schools (Association of Christian Schools International, 2016). Another nationally-recognized Christian school accreditation organization, the American Association of Christian Schools (AACS), claims approximately 732 accredited schools with 91,963 students enrolled nationwide (American Association of Christian Schools, 2016). Both of these organizations witnessed the phenomenal growth of Christian K-12 schools, proceeding from the 1960’s until 2008 when America’s financial collapse caused a decline in enrollment and operations of Christian schools nationwide (Lopez, 2009). ACSI and AACS enrollment numbers have not completely recovered the losses caused by the Great Recession, although the enrollment trend in Christian schools has been rising as America has slowly recovered from financial losses incurred during this time (ACSI, 2016; AACS, 2016).

Though each Christian school is different, their commonalities include sharing a desire to provide a biblical perspective, emphasize prayer, and support missions (Carper & Layman, 2002). Another commonality of Christian schools is found within their mission and faith

statements, where many express a desire to develop a biblical (i.e., Christian) worldview in their students. They also express a desire to uphold the doctrine of biblical inerrancy and infallibility as a tenant of what they believe and teach (Deckard, Henderson, & Grant, 2002; Brummelen 2002; Schultz, 2013). These two interrelated goals of Christian schools, building a biblical worldview in their students and professing the Bible to be the inerrant Word of God, requires their teachers and administrators possess a Christian worldview and believe that the Bible is inerrant (Deckard, Henderson, & Grant, 2002; Brummelen, 2002; Schultz, 1998). The lofty goal of hiring and maintaining a staff of educators who believe the Bible is inerrant is a difficult task in today's post-modern society, which is dominated by secular humanism and naturalism (Ham & Hall, 2011; Ray, 2001). Evolutionary theory permeates virtually all scientific disciplines, challenging both the existence of God and the foundations of the Bible (Deckard, Henderson, & Grant, 2002; Morris, 1985). Therefore, it is vitally important that Christian schools find and maintain qualified science instructors who possess a strong biblical worldview and believe the Genesis account of creation is literal and accurate (Brummelen, 2002; Deckard, Henderson, & Grant, 2002; Esqueda, 2014; Ham & Hall, 2011; Schultz, 2002).

Biblical Worldview

An important goal for most Christian schools is developing a biblical (i.e., Christian) worldview in their students. Their mission and faith statements often present phrases which include building, developing, or encouraging a Christian worldview (Brummelen, 2002; Schultz, 1998). Further, a biblical worldview presenting the Bible to be infallible and inerrant is distinct from other worldly philosophies and worldview constructs by the fact that it filters knowledge, experiences, and history through a biblical lens to help one distinguish truth and falsity (Barna, 2003; Smith, 2015). Per Barna (2003), “A *biblical worldview* is a means of experiencing,

interpreting, and responding to reality in light of biblical perspective” (p. 6). According to Smith (2015):

The biblical worldview is comprehensive. It includes everything related to the doctrines, values, priorities, and understanding of how the world works that the Bible commends and promotes. It looks at the modern world through the lenses of the Bible rather than looking at the Bible using the lenses of the modern world. (p. 5)

The focus of this study is a transformation of perspective regarding origins related to developing an enhanced biblical worldview in Christian high school science instructors. A significant by-product of strong biblical worldviews maintained by Christian school teachers is a transference of that worldview to their students (Deckard, Henderson, & Grant, 2002).

Deckard’s et al. (2002) quantitative study explored a teacher’s worldview in relationship to student understanding of the creation and evolution controversy. Deckard et al. concluded, “a teacher’s worldview significantly impacts student worldviews” (p. 98). Their research focused on students who attended a Bible college and who were enrolled in separate biology courses, one taught by a young-earth creationist, the other taught by a professed theistic evolutionist (i.e., old-age creationist). The divergent results of the pre and post Creation Worldview Tests (CWT) taken by the students of each course were an indicator of the positive impact a YEC science instructor can have on the theological and biblical worldviews of Bible college students (Deckard et al., 2002). Furthermore, Deckard et al. (2002) stated, “The Christian community in the United States and around the world does not have a unified perspective on the doctrine of young-earth creationism. Too many have capitulated to either the lie of evolution or a theistic evolutionary compromise” (p. 99). Moreover, a quantitative correlational study exploring the attitudes of high school students toward creation and evolution with their worldview philosophy

concluded that students claiming to be Christians who maintain belief in the theory of evolution hold “markedly different worldview philosophies” compared with “students who hold to creationist attitudes” (Ray, 2001, p. 223). For example, Ray (2001) found that most self-reported born-again high school students holding creationist perspectives “viewed the Bible as being inspired by God and inerrant in every detail as recorded in the original manuscripts” (p. 215). Conversely, self-reported born-again high school students holding evolutionary perspectives believed that there are many avenues to God other than Jesus and did not consider the Bible to be inerrant and infallible (Ray, 2001). Further, he asserted, “this study emphasizes the need for Christian schools to integrate biblical principles in every subject. To stress that the world can only be properly understood as it relates to God should be one of the cornerstones of Christian education” (p. 225). Moreover, he concluded that Christian high schools need to do a better job integrating the Bible and worldview perspectives with all subjects taught. Per Ray (2001), “Christians must be able to reflect effectively upon the theological repercussions of a naturalistic worldview to understand how it contradicts the Christian worldview” (p. 226). Mittwede (2013) agreed with Ray (2001); he posited an education based on building a sound biblical worldview provides a “fundamental change to one’s cognitive structure,” and spurs “reflective thought such that the person can generalize, clarify, and interpret ideas in original ways” (p. 316).

To answer critical assessments of the ability of Christian schools to create strong biblical worldviews in their students, administrators often require teachers to hold and maintain a sound biblical worldview in their instructional and personal life as an example for their students to emulate (Barna, 2003; Schultz, 1998). They realize that developing a strong biblical worldview in their students is an educative process that goes beyond simply understanding a system of knowledge (Deckard, Henderson, & Grant, 2002; Esqueda, 2014; Mittwede, 2013; Zigarelli,

2012). Teaching a sound biblical worldview to students enrolled in Christian schools requires role modeling and curriculum which demonstrate the Bible is accurate, true, and without error (i.e., inerrant) (Deckard, Henderson, & Grant, 2002; Esqueda, 2014; Ham & Hall, 2011; Schultz, 1998).

Science and Worldview Formation

Deckard (1997), listed a variety of ways to gain knowledge about the world and thereby build a comprehensive worldview: “Experience, authority, deductive reasoning, inductive reasoning, the scientific method, and revelation from God are all methods that have been used historically to find knowledge” (p. 257). Paradoxically, seeking knowledge about the world does not constitute a worldview, yet modern science and empirical evidence are the foundations upon which many build their perception of truth, reality, and ultimately their worldviews (Deckard, 1997). Still, questions arise regarding how science molds an individual’s worldview and whether empirically-based naturalistic science can support anything other than an atheistic worldview (Gauch Jr., 2009). According to Gauch Jr. (2009), “the presuppositions and reasoning of science can and should be worldview-independent, but empirical and public evidence from the sciences and humanities can support conclusions that are worldview-distinctive” (p. 667). In other words, Gauch Jr. argued that presuppositions relevant to the operation of science, such as presupposing the world is orderly and comprehensible (American Association for the Advancement of Science, 1989), inevitably leads to ontological questions regarding the purpose and meaning of life, as well as the existence of God. Moreover, the presuppositions of science impact worldview development in the theological, humanitarian, and sociological domains (Gauch Jr., 2009). Furthermore, Naugle (2013), reflecting on how worldviews develop related to science and technology opined, “There is a presuppositional basis

for life” (p. 9). Irzik and Nola’s (2007) critique of Guach’s (2009) perspective of science regarding worldview argued,

Science, even when it is characterized quite minimally, has substantial worldview content. This content derives from its presuppositions that include its criticizability (sic), logic, the orderliness and the comprehensibility of the world, from its method of inquiry and mode of explanation. (p. 743)

Clearly, the presuppositions supporting science are often imported into the realms of “metaphysics and belief” (Deckard, 1997, p. 258). Moreover, science that investigates questions regarding the existence of God, the purpose of life, and the creation of the universe extend into the worldview formation of everyone. This includes scientists and educators who maintain a worldview supporting naturalism, as well as those who believe in YEC (Deckard, 1997; Ham, 2008; Morris, 1985).

Evolutionary Perspective

Huxley (2010), a prominent 20th-century zoologist, described the biological account of Darwinian evolutionary process as follows:

Evolution in biology is a loose and comprehensive term applied to cover any and every change occurring in the constitution of systematic units of animals and plants, from the formation of a new subspecies or variety to the trends, continued through hundreds of millions of years, to be observed in large groups. (p. 42)

The seeds of a comprehensive evolutionary based worldview are included within Huxley’s (2010) biological definition of evolution. All that is needed is a naturalistic process, such as evolution, and an enormous amount of time to create ample variation within species (Huxley, 2010). Many scientific disciplines have embraced the concepts of biological evolution as

defined by Huxley (2010), creating a narrative of creation based upon an atheistic worldview of naturalism and evolutionary theory (Morris, 1985; Mortenson, 2009). Matthews (2009) asserted, Charles Darwin's seminal book, *On the Origin of Species: By Means of Natural Selection*, published in 1859, "provided not just a novel account of the origin of species by natural selection, but it initiated a transformation of modern worldviews and a new understanding of the place of human beings in the natural world" (p. 642). According to Futuyma (1983), a distinguished American evolutionary biologist, the theory of evolution "was firmly entrenched in biology" within a few decades of the *Origin of Species* publication. Furthermore, "as of 1982, the historical existence of evolution is viewed as fact by almost all biologists" (Futuyma, 1983, p. 43).

Scientific theories such as *uniformitarianism* - The belief that all physical and natural processes have remained constant throughout history (Wile, 2007); *Darwinism* - The belief that life on earth has evolved and transformed through natural processes over vast eons of time (Safarti, 2008), and the *big bang theory* - A cosmological narrative of the origin of the universe indicating "the universe originated billions of years ago in an explosion from a single point of nearly infinite energy density" (Big Bang Theory, n.d.), have dominated the public education system, media, and all fields of science through most of the 20th, and now into the 21st century (Ham, 2013; Morris, 1984, 1985). These three paradigms of thought, Darwinism, uniformitarianism, and big bang cosmology, provide an evolutionary-based worldview, inclusive of all matter and energy, the geological history of the earth, and the origin of life on earth (Gitt, 2006; Morris, 1985). In other words, the term *evolve* is now used to describe most systems that go through a developmental process, and therefore has become an integral part of the English lexicon (Gitt, 2006).

Teaching Evolution

United States courts rejected the idea of teaching creation science theories alongside evolutionary theory in the public-school system (Looy, 2005). According to Zirkel (2009), the well-known Tennessee state court trial of John Scopes in 1926 (i.e., Scopes Monkey Trial) was the start of what would become a long list of creationism losses in both federal and lower court decisions. Scopes was a biology teacher who chose to teach evolutionary theory despite a Tennessee state law banning its introduction into the public-school system. “The jury convicted the 24-year-old Scopes of violating this criminal law, and the judge fined him \$100” (Zirkel, 2009, p. 13). Although technically Scopes lost the court ruling decided by a jury, evolutionary theory gained a huge public relation boost from the Scopes Monkey Trial (Zirkel, 2009). Per Zirkel (2009), two Supreme Court cases have solidified the decision to eliminate creationism from public education venues. The first of these two cases were, *Epperson v. State of Arkansas* (1968). “The Court held that a state law prohibiting the teaching of evolution in the public schools (and in public colleges) violated the First Amendment’s religion clauses because its sole reason was a particular religious doctrine” (p. 14). The second ruling of the Supreme Court regarding this controversial topic arose when the state of Louisiana enacted a law encouraging public schools to provide balanced instruction for evolution theory and creationism. “In *Aguillard v. Edwards* (1987), the Supreme Court rejected the [Louisiana] legislature’s avowed intent of protecting academic freedom, concluding instead that the purpose of the Act was religious” (Zirkel, 2009, p. 14). Both Supreme Court rulings and various lower court rulings have sided with the proponents of evolution theory and derailed attempts by creationists to implement teaching creation science in the public-school arena (Zirkel, 2009).

With Supreme Court rulings to back them, the National Science Teachers Association (2016) has propagated an evolutionary worldview through their position statement regarding the teaching of evolution.

The National Science Teachers Association (NSTA) strongly supports the position that evolution is a major unifying concept in science and should be emphasized in K-12 science education frameworks and curricula. Furthermore, if evolution is not taught, students will not achieve the level of scientific literacy needed to be well-informed citizens and prepared for college and STEM careers. (NSTA, August, 2016)

Although the NSTA strongly supports the theory of evolution as the only viable scientific explanation of origins, many science instructors report that teaching the evolutionary paradigm in the public school arena is a difficult task due to religious biases of many students and their parents, as well as public misconceptions regarding the nature of science (Stolberg, 2009). Also, there is a tendency for science instructors to teach science using a *mimetic* method that “focuses on transmitting predetermined and measurable information to students” rather than eliciting their perspective transformation through focusing on “qualities such as *values*, *attitudes*, and *perceptions*” [emphasis mine] (Pugh, Linnenbrink-Garcia, Koskey, Stewart, & Manzey, 2009, p. 1). Consequently, Pugh, et al. (2009) explored a “form of transformative learning known as *transformative experience*” to understand how transformative learning supports conceptual understanding and transfer in science (p. 2). Transformative experiences are those experiences that students encounter outside of the classroom where they actively use concepts learned at school to help them understand their world in new and meaningful ways. In other words, transformative experiences help students transfer what they learn in class to real-world experiences (Pugh, et. al., 2009). Pugh, et al. (2009) chose a science unit on biological natural

selection concepts as the educational course for researching transformative experiences leading to perception change. Their selection of this type of course unit was due to previous research that showed the concept of natural selection could be a fertile source for transformative experiences. “In addition, students often hold deep-seated misconceptions about natural selection, making it a fruitful concept for studying conceptual change” (p. 8). The results of Pugh’s, et al. (2009) research revealed that fostering transformative experiences during the study of Darwinian natural selection confirms “conceptual change and transfer increase as engagement becomes more transformative” (p. 20). Apparently, possessing knowledge of concepts related to origins is only one aspect of developing a strong evolutionary worldview. Other qualities such as an individual’s “values, attitudes, and perceptions” must be considered when engaging and motivating students in the learning process, as well as dispelling the misconceptions that abound in the study of origins (Pugh, et al., 2009, p. 1). It is ironic that YEC scientists and teachers would wholeheartedly agree with Pugh’s, et al., (2009) conclusions regarding perspective transformation.

Theistic Evolution

Theistic evolution is simply combining the creative ability of God with evolution theory extending beyond biology to all of creation, inclusive of the cosmos and all matter and energy in the known universe (Morris, 1985). Morris (1985) argued theistic evolutionists assert a popular cliché claiming, “God has revealed in Scripture the fact of creation but has left the method of creation to be worked out by scientists” (p. 216).

The church has not been immune to the enticement of an evolutionary worldview, which could also be said of Christian schools. Theistic evolution has become entrenched in the worldviews of many Christians (Ham & Hall, 2011). Interpretations of Genesis based on theistic

evolution or old-earth creation theories have become popular because they bridge the gap of time that modern secular science, the media, and public educators insist must have occurred during earth's presupposed 4 ¹/₂-billion-year history (Morris, 1985). Theistic evolutionists argue that the creation account and the flood of Noah recorded in Genesis are analogies for the truth of what God accomplished using naturalistic processes combined with supernatural interventions (Ham, 2008; Ham & Hall, 2011; Morris, 1985).

There are numerous variations of theistic evolution, but one very popular theory which has captured the imaginations of many in the church is known as *progressive creation*. The proponents of progressive creation suppose life has been evolving and developing through natural processes over vast eons of time, while God, in His infinite wisdom and creative abilities, has intervened when necessary to create higher levels of organisms when needed. As time progressed, God culminated creation by evolving primate-type ancestors into mankind and then deposited an eternal soul into them (Morris, 1985). A complimentary theory associated with progressive creation is known as the Day-Age theory. Per Morris (1985), the proponents of this theory suggested that the geological ages have been firmly established by uniformitarian geologists, and that anyone questioning scientific thought in this field of study would be ridiculous. Therefore, an accommodation to the Genesis six-day account of creation must be made to reconcile fact and allegory. Reconciliation was accomplished by fitting each day of the creation event into geological eras of time corresponding with an approximate earth-age of around 4 ¹/₂ billion years (Morris, 1985). Christian scientists, such as astronomer Hugh Ross, have popularized and propagated the Day-Age theory through books, speaking engagements, television, and a web-site called Reasons to Believe. Ross (2009) claimed that he has developed a creation model that is testable, falsifiable, and predictive. Claims such as those made by Ross

(2009) are sensational and marketable to many Christians seeking to reconcile science and the Bible. However, Morris (1985) and Ham (2013) asserted that the study of origins is not testable, falsifiable, or predictive. Ross's credentials as a leading astronomer and cosmologist lend credibility to his books, but his theories are not accepted by the secular scientific community, nor by creation scientists (Lisle, 2005). Theistic evolution in any format is not compatible with many doctrines and teachings that flow through the entirety of the Bible. Mixing the Bible's account of creation with evolution creates numerous theological questions that simply do not fit with a sound biblical worldview (Mortenson, 2009). For example, if God can create anything, why wait millions or billions of years to create the earth and mankind? If God desired a personal relationship with mankind, created in His image with a living soul, why would He wait so long? Evolution is based on mutations of the deoxyribonucleic acid (DNA) code, which is a reduction of information, not an addition of information. Therefore, why would God use an imperfect process such as evolution to create any life on earth? Why were sin and death a part of the world as recorded by the fossil record before the creation of mankind? Why was there a need for the redemptive work of Christ on earth if there was no original sin as recorded in the book of Genesis? These and many other questions plague theistic evolutionists in their quest to combine evolution-based naturalism with their faith and trust in God (Morris, 1984; Morris, 1985; Mortenson, 2009). Moreover, a reasonable speculation of theological and scientific questions such as these may have initiated a disorienting dilemma and a perspective transformation regarding origins in study participants who previously held a theistic evolutionary perspective (Mezirow, 1991). Morris (1984) summed-up the futility of theistic evolution, thereby creating fertile ground for initiating disorientating dilemmas in many individuals when he asserted,

Evolution is the most wasteful, inefficient, and heartless process that could ever be devised by which to produce man. If evolution is true, then billions upon billions of animals have suffered and died in a cruel struggle for existence for a billion years, and many entire kinds (e.g., dinosaurs) have appeared and then died out long before man evolved. The God of the Bible could never be guilty of such a cruel and pointless charade as this! (p. 97)

Young-Earth Creation Science

YEC science is a relative newcomer to the vast assortment of disciplines that constitute scientific research. Creation scientists seek evidence that supports the young-earth account of creation found in Genesis (Morris, 1985). Most YEC scientists assert a creation age of the earth between six to ten thousand years (Hodge, 2008). According to Hodge (2008), numerous chronologists, most notably Archbishop James Ussher and Dr. Floyd Jones, have traced the genealogical record of the Bible and arrived at the conclusion that the creation event happened around 4004 BC. Other biblical chronologists have suggested dates ranging from 3836 BC to 5501 BC, but the 4004 BC date is the most commonly accepted biblical date of creation (Hodge, 2008). The idea that there may be omissions in the book of Genesis record of genealogies causes some creation scientists to allow for a creation date approximation of between six to ten thousand years (Hodge, 2008; Morris, 1985).

The findings and theories associated with YEC provide an intellectual foundation for a biblical worldview and help support the doctrines of infallibility and inerrancy of the Bible (Ham, 2013). Morris (1985) argued that creation science is not a quasi-science, nor is it a parasitical cult of fanatical religious zealots attempting to prove that their belief in the Bible's rendition of creation is accurate. Ham (2013) asserted that creation science investigates evidence

supporting and refuting special creation in multiple disciplines of science (e.g., geology, biology, cosmology, paleontology, anthropology, archeology, and time dating methods). Per Morris (1985), there are many Ph.D. creation scientists working in various fields of science. They look at the evidence normally used to support a naturalistic evolutionary worldview with a different set of interpretive lenses, based on the presupposition that the biblical account of creation is accurate and true. These scientists contend that the special creation event recorded in Genesis happened somewhere between six and ten thousand years ago, based on the biblical record of history. According to Lisle (2005), many creation scientists were originally evolutionists who had previously accepted the cosmological narrative of the big bang theory and uniformitarianism. After careful consideration of the evidence that supports such theories, as well as analysis of the evidence through a creationist lens, these same scientists chose to reject the naturalistic model of creation and embrace a YEC model based on an analytical review of the facts and evidence (Lisle, 2005). This narrative of perspective transformation follows the path of Mezirow's (1991) adult transformative theory, which clearly establishes that an individual's pre-existing assumptions and presuppositions create their reality and paradigmatic worldview. Interpretation of evidence supporting YEC science provided alternate assumptions and a new paradigm of thought which contradicted the pre-existing evolutionary paradigm of scientists who were once evolutionists, but who have experienced a perspective transformation and have now become ardent young-earth creationists (Morris, 1984, 1985).

As the debate over theistic evolution and YEC rages on in the Christian church, as well as in Christian schools, the naturalistic worldview founded on evolutionary theory still dominates public schools and the media in American culture (Morris, 1985). Further, it is reasonable to assume many science instructors currently teaching at Christian schools previously attended

public schools through childhood, adolescence, and their college years. Exposure to public education does not guarantee an acceptance of evolutionary paradigm by all students, but the public-school experience leaves a lasting impression through systematic indoctrination of a naturalistic worldview (Schultz, 2002). Moreover, there may be Christian high school science teachers who have experienced a transformation of their perspective, and a paradigm shift of ideology regarding evolution and creationism during their young adult years. Where they once may have held an evolutionary perspective, they now hold a YEC perspective and currently believe the literal six-solar-day creation interpretation of Genesis to be accurate and true. This type of perspective transformation may have been due to a spiritual experience attributed to faith, or it may have been derived from a forceful argument, critical reflection, or a disorienting dilemma such as what is found in Mezirow's (1991) adult transformative learning theory (Christie, Carey, Robertson, & Grainger, 2015). Moreover, the perspective transformation of the previous beliefs of science teachers regarding evolution and YEC provides the central phenomenon of this qualitative study.

Empirical studies regarding YEC perspective and worldview development are limited. Most of them are focused on exploring methods to help science instructors teach the evolutionary paradigm, as well as helping them overcome the religious biases of students attempting to maintain a creationist worldview (Stolberg, 2009). I have found only two research studies exploring YEC perspective transformation of college students. The first study explored the importance of teachers' biblical worldview regarding origins at a Christian university, and how their perspectives influenced the biblical worldviews of their students (Deckard, Henderson, & Grant, 2002). The results of Deckard's et al. (2002) study indicated a strong correlation between what teachers believed to be true regarding YEC and what their students believed to be true

about the Bible in its entirety. The second study focused on the impact a YEC apologetics course had on students attending a Christian university (DeWitt, Deckard, & Henderson, 2003). They conducted quantitative research involving a YEC apologetic/science course taught by DeWitt at Liberty University. The measurement tool used in the study was Deckard's Creation Worldview Test (CWT), composed of 51 statements based on a Likert 5-point scale, measuring three component areas (theology, science, and earth age). Conclusions from this study indicated that instruction designed to reinforce YEC perspective is "effective in strengthening the creation worldview of the students" (p. 116). DeWitt et al. (2003), argued results of this study revealed that conducting YEC instructional courses can be a causal factor of perspective transformation. Also, exposure to scientific evidence and knowledge supporting YEC is a key component for an individual's perspective transformation regarding origins, as well as the person's beliefs concerning the age of the earth and the universe (DeWitt et al., 2003).

Cognitive Faith

Sub-question two of this study asks: How did the participants' faith in God and the Bible contribute to their transformative experience? The exploration of this question will require a working knowledge of the cognitive and transcendent qualities of faith (Fowler, 1981; Thompson, 1994). According to Thompson (1994), there are certain biblical writers who assert that faith is not dependent on knowledge, evidence, or proof; rather, faith requires a sense of uncertainty and is based more on probability than knowledge. Furthermore, Bible passages such as Hebrews 11:1, "Faith is the substance of things hoped for, the evidence of things not seen" (King James Version, KJV), and 2 Corinthians 5:7, "For we walk by faith, not by sight" (KJV), are often cited as evidence that knowledge is not required for faith to be active in one's life. This view of faith places the concept of knowing (i.e., having knowledge) or relying on physical

senses in direct opposition to having faith in God. Conversely, biblical scholars have suggested, “this type of thinking is in error with reference to both faith and knowledge” (Thompson, 1994). Romans 10:17 states, “So then faith cometh by hearing, and hearing by the word of God” (KJV). The context of Romans 10:17 attests to the fact that people cannot have faith in Christ before having knowledge of Christ through the preaching of the Gospel (Thompson, 1994). Romans 10:17 indicates that faith is built upon a foundation of knowledge obtained by Scripture and the testimony of others (Thompson, 1994). According to Thompson (1994), there is no such thing as blind faith; genuine faith is derived from knowledge obtained, combined with a proper deduction of that knowledge. Further, faith is possible only when reason recognizes the validity or trustworthiness of the source of knowledge (Thompson, 1994). Consequently, if faith in Christ is dependent on the trustworthiness of the main source of knowledge regarding Christianity (i.e., the Bible), it is apparent that all Christians should be studying and looking for evidence and knowledge that supports inerrancy of the Bible (Ham, 2008; Morris, 1985).

There are a variety of definitions for the word ‘faith’. Some of them are focused on the transcendent and religious aspects of faith, while others spotlight the cognitive knowledge-based version of faith (Kelcourse, 2015). According to Fowler’s (1981) faith development theory, faith is a psychological endeavor not necessarily connected with religion or spirituality: “Faith is not a separate dimension of life, a compartmentalized specialty. Faith is an orientation of the total person, giving purpose and goal to one’s hopes and strivings, thoughts and actions” (Fowler, 1981, p. 14). Furthermore, Fowler (1981) asserted cognitive-faith to be a fundamental aspect of relational transcendence, as well as being the main impetus for the transformation of thought, character, personality, and actions of individuals. Essentially, he argued that an individual’s movement through six developmental stages of faith development could transform his or her

worldview in positive ways that would ultimately benefit others. Fowler (1981) considered the goal of faith development to be that of selfless giving to others while sacrificing personal interests and desires. While sacrificial giving is a core doctrine of Christian faith, Fowler (1981) avoided connecting the word 'faith' with religious doctrine or spirituality. He argued that faith is simply the motivating factor in the quest for meaning residing in the heart of all humans. He considered faith to be a psychological connection between the heart and mind, which allows individuals to transform their thoughts and actions for the betterment of themselves and others (Fowler, 1981).

Transcendent Faith and Spiritual Transformation

Transcendent faith and spiritual transformation stand in stark contrast to the idea that faith is reliant upon knowledge and cognitive processes alone, such as what Fowler (1981) asserted in FDT, as well as what Thompson (1994) asserted under the previous sub-heading. The distinction between cognitive-based faith and transcendent faith, as well as between cognitive transformation and spiritual transformation, has been debated by Christian theologians and philosophers for centuries (Porter, 2014). Current theological perspectives still seek to find the right balance between the internal work of the Holy Spirit and the external experiences of faith and knowledge of a believer (Porter, 2014).

Spiritual transformation suggests a transcendent faith capable of changing the thoughts and actions of believers (Porter, 2014). Kang and Feldman (2013) asserted that the Apostle Paul's admonition to the church to "be transformed by the renewing of your mind" (Romans 12:2, New International Version, NIV) is primarily a spiritual transformation of the mind based on the work of the Holy Spirit. According to Kang and Feldman (2013), Paul used the Greek word *metamorpho* (i.e., transform) only twice in his letters to the church. The first is found in

Romans 12:2, and the second is used in 2 Corinthians 3:18, where Paul describes the source, process, and goal of transformation. Paul stated, “And we all, who with unveiled faces contemplate the Lord’s glory, are being transformed into his image with ever-increasing glory, which comes from the Lord, who is the Spirit” (NIV). Furthermore, possessing faith in Jesus is the connection point for the Holy Spirit’s work in transforming the minds of believers while conforming them into the image of Christ (Kang & Feldman, 2013).

The guiding theory for this study is transformative adult learning theory (TALT), which focuses on cognition, critical reflection, and rational discourse for learning and perspective transformation. TALT is not inclusive of other forms of learning resulting in perspective transformation, such as spiritual, emotional, social, and intuitive dimensions (Malkki, 2012; Taylor, 1997). Although TALT is limited to a cognitive framework of learning, multiple studies have incorporated TALT while exploring alternate ways of learning resulting in perspective transformation (Taylor, 1997). One such study (McLaughlin, 2015) has previously been used to explore the effect of spiritual renewal (i.e., revival) on perspective transformation at Wheaton Christian College. McLaughlin (2015) analyzed audio interviews and transcripts of 28 people who experienced a special outpouring of the Holy Spirit during the spring semester of 1995 on the Wheaton College campus. McLaughlin (2015) used a phenomenological approach to design his study and analyze the data collected from the interviews. The main research question guiding the study was, “What conceptual compatibility exists between transformative learning theory and accounts of Christian spiritual renewal at Wheaton College in 1995?” (p. 339). According to McLaughlin, the overwhelming presence of the Holy Spirit became the “disorientating dilemma” or trigger event that facilitated perspective transformation, as well as a “fresh dependence on God” in both students and faculty (p. 341). McLaughlin (2015) used Glisczinski’s (2007)

condensed four quadrant version of Mezirow's (1991) ten phases of meaning for perspective transformation to create a thematic analysis of the interview data. The disorienting experience of the first TALT quadrant was achieved through a special presence and work of the Holy Spirit on the individual life experiences of the interviewees. The second quadrant, critical reflection, involved reflecting on the teachings of the Bible with a fresh perspective on historical revivals of the past. The third quadrant, rational dialog, was achieved through heightened community confessions and discussions with faculty and students experiencing the same phenomenon. Finally, the fourth quadrant, action, was achieved through a spontaneous increase of prayer and praise to God for the presence and power of the Holy Spirit in the individual and communal lives of the faculty and students (McLaughlin, 2015). The focus on perspective transformation through the spiritual dimension of faith and the work of the Holy Spirit initiated by McLaughlin's (2015) study provides direction for exploring research sub-question two of this study, "How did the participants' faith in God and the Bible contribute to their perspective transformation?"

Mission or Purpose

Another factor associated with perspective transformation and faith is an individual's sense of mission, or purpose. Kroth and Boverie's (2000) qualitative study of senior adults provides helpful insight into motivating factors aligned with perspective transformation of schema and worldview. Kroth and Boverie (2000) defined the term mission as "the set of assumptions that each person holds about his or her life purpose, reason for being, or what he or she is to do with life" (p. 135). Kroth and Boverie (2000) asserted that self-reflective questions such as, "Who am I?" "Why am I?" "What is my purpose in life?" provide opportunity for individuals to question their underlying assumptions about what is true.

Kroth and Boverie's (2002) findings suggested a close alignment with Mezirow's (1991) adult transformative learning theory. The results of their findings produced a "Life Mission and Adult Learning Model" summarized as follows:

The causal conditions that lead to transformative learning begin with a disorientating dilemma, such as a life event, an adult education experience, or a new or revised life role. At this point, assumptions about life purpose are examined, either tacitly or explicitly, and are revised or validated, leading to a similar or refocused core or working mission. This life mission may be explicated or un-explicated (clear or hidden). Life mission then provides a source of self-direction for learning choices and motivation. As mission is revised, so is learner self-direction. (Kroth & Boverie, 2000, p. 144)

Further, the findings of Kroth and Boverie's (2000) qualitative study suggested, "Mezirow's transformation theory might be broadened to include life mission" (p. 145). Therefore, the exploration of the life mission and sense of purpose for Christian science instructors is an essential part of understanding their perspective transformation, as well as their choice to teach science at a Christian school.

Summary

To clarify the setting and work environment of the participants of this study, I have provided a section reviewing the historical foundations of the Christian school movement in America. While it is not a comprehensive view of Christian schools, it does provide a framework for understanding the need for Christian schools to hire and maintain science instructors who hold a YEC perspective.

The theoretical section of this chapter provides a background for the exploration of perspective transformation based on Mezirow's (1991) transformative adult learning theory.

Due to the fact that the topic of this study involves participants' belief in the biblical version of creation, Fowler's (1981) faith development theory was also incorporated as an extra theoretical lens to help explore the influence of faith on the perspective transformations of the study participants.

Perspective transformation of an individual's worldview from an evolutionary to a YEC perspective has yet to be explored. Therefore, the related literature section of this chapter is focused on clarifying topics associated with this particular perspective transformation. These topics include biblical worldview, science and worldview formation, evolutionary worldview, teaching evolution, theistic evolution, young-earth creation science, cognitive faith, transcendent/spiritual transformation, and mission, or purpose.

Empirically-based observations within the multiple sections of this chapter include results and conclusions from studies which have explored the attitudes of Christian students toward creation and evolution (Ray, 2001). A quantitative study (Deckard, Henderson, & Grant, 2002) explored how the perspective of Christian science teachers regarding origins, theistic evolutionist, or young-earth creationist, impacted the biblical and theistic worldviews of Christian college students. Further, DeWitt, Deckard, and Henderson (2003) researched the impact of a YEC science course on the biblical and theistic worldviews of Christian college freshman using the same creation worldview test (CWT) that Deckard, Henderson, and Grant used in their 2002 study. Other empirical studies cited in this chapter explored perspective transformation related to Mezirow's (1991) transformative adult learning theory (TALT). Pugh, Linnenbrink-Garcia, Koskey, Stewart, and Manzey (2009) explored effective ways to teach evolution, as well as transforming students' misconceptions and presuppositions regarding evolution using principles and concepts found in TALT. McLaughlin's (2015) qualitative study

used TALT to explore a spiritual renewal's effect on the perspective transformation of attitudes and faith toward God in students and faculty at Wheaton College during the spring semester of 1995. Finally, Kroth and Boverie's (2000) qualitative study explored how an individual's sense of life purpose or mission effects perspective transformation and their worldview.

The relatively small quantity of empirical studies cited in this chapter suggests a gap in the literature regarding the topic of this study. Furthermore, I have sought to limit the information shared within this chapter to topics and research that are relevant.

CHAPTER THREE: METHODS

Overview

The purpose of this phenomenological study is to describe the perspective transformation of science instructors currently teaching at Christian high schools who had previously held perspectives supporting evolution or theistic evolution, but who later rejected those perspectives and now teach young-earth creation (YEC) science and the literal six-day interpretation of creation in Genesis.

This chapter provides a description of the design, methodology, and details of the study. It includes a review of the research questions, descriptions of the sites, participant information, procedures, researcher's role, data collection strategies, data analysis, observations, trustworthiness, and ethical considerations.

Design

The research design for this study was a qualitative hermeneutical (i.e., interpretive) phenomenology using a purposeful sample of 11 participants who have experienced a transformation of perspective regarding origins (i.e., evolution to YEC). A qualitative design allowed me to explore the life experiences and reasons why various participants experienced a transformation of perspective regarding their beliefs about creation and origins. I chose a phenomenological design because it provided the best opportunity to explore and describe the lived-experiences of multiple participants working at various Christian high schools. Creswell (2013) asserted, "a phenomenological study describes the common meaning for several individuals of their *lived experiences* of a concept or phenomenon" (p. 76). Since my intention was to describe a perspective transformation phenomenon, a qualitative phenomenology aligned with the purpose and nature of this study. The type of phenomenology I chose is hermeneutical

because I intended to incorporate a certain amount of interpretation to help create a thick, rich, narrative of the participants' lived-experiences regarding the phenomenon of the study. Van Manen (1990) asserted that a hermeneutical phenomenology is "the study of lived or existential meanings; it attempts to describe and interpret these meanings to a certain depth and richness" (p. 11). His definition of a hermeneutical phenomenology fits the methodology of this study because in addition to describing the phenomenon, Van Manen (1990) argued that creating depth and richness in a narrative requires a balance of description and interpretation. Moreover, a description of lived experiences without a certain amount of interpretation may only serve to describe a conceptual clarification without elucidating the meaning of the experiences. Further, Van Manen (1990) suggested, "A good phenomenological description is an adequate elucidation of some aspect of the lifeworld—it resonates with our sense of life" (p. 27).

Research Questions

Central Question

How do the participants describe their perspective transformations from their previous evolutionary worldview to their current young-earth creationist worldview?

Sub-questions

1. How did the participants experience Mezirow's (1991) 10 phases of perspective transformation?
2. How does faith in God and the Bible contribute to the participants' perspective transformation?
3. How has the perspective transformation of the participants impacted their curriculum development regarding the study of origins?

Setting

The settings for this hermeneutical phenomenology were Christian high schools located throughout America which are accredited by nationally-recognized Christian school educational organizations, such as Association of Christian Schools International (ACSI), Association of Christian Teachers and Schools (ACTS), and Christian Schools International (CSI). Each setting may or may not be affiliated with a specific church or denomination.

Participants

When selecting participants for a phenomenology, Creswell (2013) advised finding a heterogeneous group of individuals who have experienced the same phenomenon. “Thus, a heterogeneous group is identified that may vary in size from 3 to 4 individuals to 10 to 15” (p. 78). Following Creswell’s (2013) recommendation, I had determined to find a heterogeneous group of approximately 12 to 15 individuals who had experienced the same phenomenon. I approximated the number of participants because I wanted to leave the actual number open to change for two reasons. First, Henriques (2014) suggests that the sample size should be “left in an open way which allows for increase or decrease” (p. 462). This open strategy of participant selection enabled exploration of other categories that may arise during fieldwork. Further, if there was a need to increase participants involved in the study due to emerging categories, the option was available (Henriques, 2014). The second reason involves the qualitative concept of saturation. According to Henriques (2014) a researcher does not know from the outset how many participants and interviews will be needed to establish “when there are no more types of experiences or new meanings which characterize the collective ideally, it being possible that not all the individuals are represented in the ideal type” (p. 462). In other words, saturation of

participants needed to explore the themes and meanings arising from the collective group can only be determined as the evidence for redundancy becomes apparent (Henriques, 2014).

Selection of participants was accomplished through obtaining consent (Appendix A) from the administration of Christian high school sites, enabling me to administer a demographic questionnaire (Appendix B) to prospective participants. The questionnaire allowed me to identify a purposeful sample of participants by eliciting science instructors' beliefs regarding YEC science, biblical inerrancy, evolution, and theistic evolution. It also asked whether they had experienced a perspective transformation of previously-held beliefs in evolution or theistic evolution, and now believe and support YEC and the literal six-day interpretation of creation. Demographic information on the questionnaire consisted of questions regarding age, gender, ethnicity, and years of teaching experience, subjects taught, preference of science disciplines (e.g., chemistry, biology, physics), degrees, and credentials. Creswell (2013) asserted that purposeful sampling is the primary selection process in a qualitative study. It was important the participants chosen could readily inform or render understanding and experiences pertinent to the research questions and phenomenon of this qualitative study. The primary criteria for all participants in this study was that they were Christian high school science instructors who once held an evolutionary perspective, but had experienced a paradigm shift in their schema, transforming their previous perspective to become ardent supporters of YEC and the literal six-day interpretation of creation. Supporting YEC and the literal interpretation of creation simply means a participant believes the earth and all creation came into existence approximately six to ten thousand years ago, and the literal six-day creation account along with the worldwide flood of Noah recorded in the book of Genesis are accurate and true depictions of those events. Another stipulation for participation in the study was that participants must have previously

taught science at a Christian high school for at least two years. There was not a limitation of gender or ethnicity, but my preference was to find a heterogeneous group of participants inclusive of males, females, and ethnicity, as well as diversity in science disciplines (i.e., chemistry, biology, physics). Searching for this type of diversity would provide greater transferability of the findings (Creswell, 2013).

Procedures

Before eliciting participants and starting data collection this study secured Institutional Review Board (IRB) approval from Liberty University. Per Creswell (2013), institutional review boards are campus committees charged with reviewing all research studies using human participants. IRB committees look for ethical violations and potentially harmful risks to those participants. Once IRB approval was obtained, I began the process of eliciting participants by contacting Christian high schools in my local area and throughout the U.S. asking for consent from Christian high school administrators to contact their science teachers and ask them to fill out a demographic questionnaire (Appendix B), their experiential history, and views associated with the central question and purpose of this study. Each potential participant was provided an informed consent form (Appendix C) explaining the purpose of the study, data collection procedures, and possible risks associated with the study. I recruited a group of 11 participants, ten high school and one junior high, Christian science teachers who fulfilled the requirements and criteria of this study.

Lived-experience written summaries of their perspective transformations provided the primary data source. Van Manen (1990) asserted that protocol writing (i.e., lived-experience descriptions) provide a straightforward way to explore an experience or phenomenon. He also asserted, "To gain access to other people's experiences, we request them to write about a

personal experience. We ask: *Please write a direct account of a personal experience as you lived through it*” (Van Manen, 1990, p. 65). The second source of data came from semi-structured interviews using open-ended questions with each of the participants. Analysis of lesson plans and curriculum used for teaching YEC provided a third source of data.

These three sources of information gathering (i.e., data collection) provided “corroborating evidence from different sources to shed light on a theme or perspective” (Creswell, 2013, p. 251). Multiple sources of information which provide corroborating evidence in qualitative research are known as triangulation. According to Creswell (2013), triangulation increases the validity of a study’s findings. The thematic analysis of the triangulated data provided me the ability to write a rich, thick, description of the phenomenon, which encapsulated the lived-experiences and transformation narratives of my participants (Van Manen, 1990).

Researcher’s Role

Creswell (2013) asserted that the researcher is the “key instrument” in a qualitative study (p. 45). Therefore, I was the interviewer, observer, data collector, analyzer, and writer of this dissertation/research manuscript. Van Manen (1990) argued that when studying a phenomenon, our presuppositions and assumptions “predispose us to interpret the nature of the phenomenon before we have even come to grips with the nature of the significance of the phenomenological question” (p. 46). Furthermore, he asserted that simply trying to ignore what an individual already knows is difficult, if not impossible. Moreover, “it is better to make explicit our understandings, beliefs, biases, assumptions, presuppositions, and theories” (Van Manen, 1990, p. 47). Therefore, it is important readers are made aware of biases and assumptions that may influence how I interpreted and analyzed the data. As I previously stated in Chapter One, I have personally experienced the phenomenon, that is, a transformation of my former evolutionary

paradigm into a science instructor teaching YEC science who believes the literal six-day interpretation of creation is accurate and true. My bias for supporting a literal six-day interpretation of Genesis and YEC science is firmly established by those who know me, and by my historical ties of previously teaching junior high science courses for three years at a Christian school. My knowledge regarding scientific evidence supporting YEC science is extensive, and I am currently developing curriculum for an online creation science apologetics course intended for instruction of Christian high school students. In my role as researcher I conducted the interviews of the participants, collected written accounts of their lived-experiences, as well as their lesson plan samples regarding the study of origins. In addition, analysis of the interviews and documents was performed by the researcher. My relationship to the participants was one of collaboration regarding the authenticity and meanings attributed to their verbal and written accounts of their lived-experiences. Van Manen (1990) asserted, “The hermeneutic interview tends to turn the interviewees into participants or collaborators of the research project” (p. 63). Therefore, I created a conversational relationship with the participants during interviews and fostered collaborative communication regarding member checks of the accuracy and meaning of their transcript interviews and written documents.

Data Collection

This study employed three data collection tools: (a) document analysis of participants’ protocol writing (written lived-experiences); (b) semi-structured participant interviews; and (c) document analysis of lesson plans and curriculum regarding the study of origins. Creswell (2013) asserted, “When qualitative researchers locate evidence to document a code or theme in different sources of data, they are triangulating information and providing validity to their findings” (p. 251).

Lived-Experience Descriptions

Van Manen (1990) asserted that a natural, straightforward approach to exploring the experiences of people is to “ask selected individuals to write their experiences down” (p. 63). In the spirit of Van Manen’s straightforward approach, a writing prompt was given to each participant before the initial interviews were completed. The prompt was reflective and follows Van Manen’s (1990) template for eliciting lived-experience descriptions. It was written as follows: “Please send me a written lived-experience essay regarding your perspective transformation from evolution, or theistic evolution, to young-earth creation.” All lived-experience descriptions were analyzed through the same procedures used to analyze the transcripts of participant interviews.

Interviews

Semi-structured individual interviews with the study participants were the guiding conversation format, with the goal of achieving in-depth interviews. According to Yin (2009), in-depth interviews provide an opportunity to “ask key respondents about the facts of a matter as well as their opinions about events” (p. 107). In-depth interviews allow interviewees to elucidate their insights and perspectives regarding the phenomenon or topic of the study and can open other lines of inquiry for me to pursue (Yin, 2009). Van Manen (1990) asserted hermeneutical phenomenology interviews serve two specific purposes:

[Interviews] may be used as a means for exploring and gathering experiential and narrative material that may serve as a resource for developing a richer and deeper understanding of a human phenomenon, and the interview may be used as a vehicle to develop a conversational relation with a partner (interviewee) about the meaning of an experience. (p. 66)

Nine of the eleven interviews were telephonically conducted, and the remaining two were in person, one on-site at their school classroom, and the other at a local library. Each interview was recorded by at least two recording devices, and all participants were aware that their interviews were recorded and transcribed. Once the interviews had been transcribed verbatim by the researcher, copies were sent to each participant, prompting member checks of accuracy and correction if needed. Follow-up interviews were not needed.

The following interview questions were reviewed by content experts to assure their validity and relevance to the study (Ary, Jacobs, & Sorensen, 2010). After the content experts had carefully reviewed the interview questions and made their recommendations, a pilot test of three individuals who did not participate in the study helped refine the questions (Creswell, 2013).

Standardized Open-Ended Interview Questions

1. Please describe your initial perspective, either as a child, adolescent, or adult regarding origins and evolutionary theory.
2. Please describe your childhood and adolescent influences and experiences that caused you to believe or embrace evolutionary theory.
3. Please describe how you viewed young-earth creationism before your perspective transformed from evolutionist to young-earth creationist.
4. Please describe your transformation from an evolution, or theistic evolution perspective to a young-earth-creation perspective.
5. Please describe your thoughts regarding the doctrine of inerrancy of the Bible.
6. Please describe your perspective of the Fall of Man and Original Sin.
7. Please describe your perspective of the creation account found in the Bible.

8. Please describe your perspective of the Flood of Noah found in the Bible.
9. Please briefly describe your current scientific model of creation, including what you believe to be the approximate time that has elapsed since the creation event.
10. What is your perspective regarding best practices for teaching young-earth creation science in your classroom?
11. What are your current perspectives and feelings regarding the theistic evolution versus young-earth creationist controversy in the church, as well as Christian education?
12. Thank you for taking the time to answer these questions. I have one final question... Is there anything else that you would like to add that could help me understand your transformative experience and perspective from evolutionist to young-earth-creationist?

Questions one through three allowed the participants an opportunity to describe their original perception of origins developed during their childhood and adolescence. These questions allowed participants to express their perception of reality as a human construction (Mascolo, Basseches, & El-Hashem, 2015). Mezirow (1997) asserted that transformation of perspective involves critically reflecting on the assertions and presuppositions of our previously-formed schema and worldview construct.

Question four was focused directly on the central question of this study, which asks, “How do the participants describe their perspective transformations regarding their previous evolution, or theistic evolution worldview altering to their current young-earth creationist worldview?” Van Manen (1990) asserted that while interviewing, researchers need to “stay close to experience as lived” (p. 67). Also, it is imperative that research questions remain unambiguous and concrete (Van Manen, 1990).

Questions five through eight gave the participants an opportunity to describe how faith may have contributed to their transformation of perspective regarding origins. These questions are focused on sub-question two, “How did faith in God and the Bible contribute to the transformative experience of the participants?” The descriptions given by each of the participants were analyzed through the lens of Fowler’s (1981) faith development theory, as well as other theological perspectives. Fowler (1981) asserted that adults who reach stage four faith (i.e., individuative-reflective faith) reveal a cognizance of self-actualization that reflects on previously-learned assumptions and knowledge obtained during childhood. Stage four is often a demythologizing stage that gives an individual the “capacity for critical reflection on identity (self) and outlook (ideology) (p. 182). Therefore, it was important to ask participants questions that caused them to reflect on their personal faith in God, as well as their ideology regarding how the Bible and the creation account in Genesis impacts their faith.

Questions nine through eleven were intended to shed light on research sub-question three, which asks, “How has the perspective transformation of the participants impacted their curriculum development regarding the study of origins?” Mezirow (1991) argued perspective transformation empowers individuals with “more functional strategies and resources for taking action” (p. 161). Therefore, I asked participants questions which elicited their current perspectives and strategies for teaching YEC. It is important to note that even in Christian schools, teaching YEC can be controversial. Many parents, administrators, and students may be theistic evolutionists or old-earth creationists.

Question twelve simply allowed each participant to express anything from their lived-experience which did not come up during the interview. Van Manen (1990) asserted that a phenomenological interview is a resource for “developing a richer and deeper understanding of a

human phenomenon” (p. 66). My intent with these interview questions was to probe as deep as possible into the lived-experiences of my participants, but there are often details in individual experiences which cannot be accounted for in a standard set of questions.

Lesson Plans

The third source of data for this study were the samples submitted of lesson plans and curriculum participants are currently using to teach YEC. Analyzing these samples allowed me to triangulate data regarding sub-question three, “How have the participants’ perspective transformations impacted their curriculum development regarding the study of origins?” In other words, I wanted to know if the participants’ perspective transformations were reflected in their lesson plans and content. Mezirow (1991) asserted that a perspective transformation is not complete without action that validates the new perspective.

Ary, Jacobs, and Sorensen (2010) argued that written documents or artifacts can be used by qualitative researchers to “gain an understanding of the phenomenon under study” (p. 442). Furthermore, Ary, et al. (2010) asserted that documents, such as personally-written lesson plans, are “good sources of information about the individual’s beliefs and perspectives” (p. 442).

Data Analysis

The analysis of data in this hermeneutical phenomenology was thematically-driven and reflective. Per Van Manen (1990), “The purpose of phenomenological reflection is to try to grasp the essential meaning of something” (p. 77). A variety of methods were used to collect the data, including lived-experience descriptions, interviews, and samples of lesson-plans/curriculum. Reflective thought and systematic analyses are required to describe and interpret the essential meaning and themes. Thematic analysis, data triangulation, memoing, member checks, peer review, and the establishment of an audit trail provided the tools for

parsing the essential themes from incidental themes, thereby creating a foundation for a meaningful narrative that describes the essence of the phenomenon (Creswell, 2013; Van Manen, 1990).

I used the constant comparative method to analyze the data. (Creswell, 2013) asserted the constant comparative method allows researchers to “take information from data collection and compare it to emerging categories” (p. 86). This simply means that I read and re-read the data as I highlighted and coded words, meaningful phrases, and units of information into categories using the qualitative data analysis software program Atlas.ti, version 7. Computer programs such as Atlas.ti enable qualitative researchers to search, retrieve, and categorize the enormous amount of data generated through the interviews, observations, documents, and field notes of a study (Creswell, 2013). Creswell (2013) lists some ways computer programs such as Atlas.ti help researchers “facilitate qualitative data analysis” as follows: (a) computer programs help store and organize qualitative data; (b) help locate text or image segments associated with a code or theme; (c) help locate common passages or segments that relate to two or more code labels; (d) help make comparisons among code labels; (e) help the researcher to conceptualize different levels of abstraction in qualitative data analysis; (f) provide a visual picture of codes and themes; and (g) provide the capability to write memos and store them as codes.

Thematic Analysis

Once the data had been coded, isolating thematic statements was the next step in the process of data analysis. Van Manen (1990) argued there are three approaches toward revealing themes in a phenomenon; they are:

- (1) The wholistic [sic] or sententious approach. Which simply means, attend to the text as a whole and ask, *what sententious phrase may capture the fundamental meaning or*

main significance of the text as a whole? We then try to express that meaning by formulating such a phrase. (2) The selective or highlighting approach. In the selective reading approach, we listen to or read a text several times and ask, *what statement(s) or phrase(s) seem particularly essential or revealing about the phenomenon or experience being described?* These statements we then circle, underline, or highlight. (3) The detailed line-by-line approach. In the detailed reading approach, we look at every single sentence or sentence cluster and ask, *what does this sentence or sentence cluster reveal about the phenomenon or experience being described?* (p. 93)

I used the selective or highlighting approach to code pertinent phrases and words in the lived-experience summaries and the semi-structured interviews.

Once themes begin to emerge I isolated the essential from the incidental themes which allowed me to start the process of building a descriptive narrative. Van Manen (1990) asserted, “Themes have phenomenological power when they allow us to proceed with phenomenological descriptions” (p. 90).

Memoing

Ary, Jacobs, and Sorensen (2010) asserted that memoing is an essential part of analysis. Memoing involved writing down my thoughts and ideas as I collected the data, as well as coding and isolating essential thematic phrases and connections necessary for building a narrative that describes the essence of the phenomenon (Ary et al., 2010). My memoing was kept in a reflective log of my thoughts, impressions, and experiences as the researcher. Creswell (2013) stressed that the process of self-reflection in qualitative studies “contributes to the validation of the work” (p. 248).

Member Checks

Ary et al. (2010) define member checks as, “A process in which a qualitative researcher asks the participants in a study whether they have accurately and realistically described their experience. The participant feedback contributes to the trustworthiness of the qualitative inquiry” (p. 645). Van Manen (1990) asserted that member checks of emerging themes within the narrative would initiate communication and collaboration between the researcher and participants of the study to “interpret the significance of the preliminary themes in the light of the original phenomenological question” (p. 99). Participant feedback on thematic development, as well as the final narrative and conclusions, was an essential part of my data analysis and framework of procedures governing the outcome of my narrative and conclusions. Copies of transcripts from interviews were given to the participants within one week of their interview to give them the opportunity “to judge the accuracy and credibility of the account” (Creswell, 2013, p. 252). Participants played a key role in checking the accuracy and credibility of my document analysis of their lived-experience summaries and their semi-structured interviews. Per Creswell (2013), participants should be asked to examine the findings and thematic analysis of the data “to provide alternate language and critical observations” which can increase the validity of the findings (p. 252).

Peer Review

Peer review is essentially a “discussion among the researcher’s peers to determine whether his or her interpretation of the data is reasonable” (Ary et al., 2010, p. 647). Van Manen (1990) argues that peer review can also be informal and serve as a collaborative analysis of key points in the data. Collaborative analysis involves “sharing the text with advisers, consultants, reviewers, colleagues, or friends” (p. 100). The goal of peer review is to provide a collaborative

analysis of the findings by seeking input and views of others regarding the themes, structural analysis, and conclusions derived from the data (Creswell, 2013).

Audit Trail

Audit trails are used by researchers to establish dependability and trustworthiness of the results and conclusions of a qualitative study. An audit trail consists of transcribing and documenting the data collected from sources and methods used by a researcher in the development of a qualitative study and its eventual analysis, coding process, results, narrative, and conclusions (Ary et al., 2010). Per Ary et al. (2010) “[An audit trail] allows an independent auditor to examine the study from beginning to end and judge the trustworthiness of the outcome” (p. 636).

Trustworthiness

A variety of methods were used to establish the trustworthiness (i.e., credibility, dependability, and transferability) of the findings. Included within those methods are triangulation, memoing, member checks, peer review, and an extensive audit trail.

Credibility

According to Ary et al. (2010) credibility in qualitative research can be correlated with the internal validity of quantitative studies. Internal validity addresses issues regarding “accuracy or truthfulness of the findings” (p. 498). The issue of credibility answers the question, “How confident can you be in the researcher’s observations, interpretations, and conclusions? Are they believable (credible)?” (p. 498). There are a variety of ways to increase credibility in qualitative research. Ary et al. (2010) list four components of establishing credibility that are aligned with this study’s methods of data analysis. They are as follows: (a) structural corroboration, that is, data triangulation; (b) evidence-based consensus, otherwise known as peer

review; (c) referential or interpretive adequacy, or member checks; and (d) controlling researcher bias through self-reflection and bracketing.

The foremost credibility issue for me as the researcher was my personal experience and biases associated with the topic. I have strong views regarding the doctrine of biblical inerrancy and YEC. I am also currently developing an online YEC science/apologetics course for Christian high schools. My fundamentalist biblical worldview and background knowledge of YEC science gives me a keen view of the topic and phenomenon, but this made me prone to inserting my presuppositions and life experiences into the thematic analysis of the data. I was careful to point out my personal biases and keep a reflective log of ideas and self-reflections during the data collection and analysis phases of research. As previously discussed, member checks, data triangulation, and peer review of my findings increased the credibility of this study.

Dependability

In qualitative research, dependability refers to the amount by which the same results or conclusions can be found with different participants or in an alternate setting (Ary et al., 2010). Dependability also refers to the ease by which the replication of study results can be achieved by other researchers (Ary et al., 2010). Two methods of data analysis were used in this study to increase the dependability of results. The first method consisted of developing an extensive audit trail. Ary et al. (2010) asserted, “One of the best ways to establish dependability is to use an audit trail” (p. 502). The appendices included in this study provided much of the data of the audit trail. Appendices included copies of the study outline, demographic questionnaire, request for participation form, an informed consent form, as well as a list of themes and code clusters derived from my data analysis. The second method I used for increasing the dependability of the results was data analysis and triangulation of interviews, lived-experience summaries, and

analysis of curriculum used in teaching YEC. Ary et al. (2010) asserted, “If multiple data sources or multiple methods result in similar findings, it enhances the reliability of the study” (p. 503). Reliability is the quantitative equivalent of dependability in qualitative research (Ary, et al., 2010).

Transferability

Ary et al. (2010) asserted, “Transferability is the degree to which the findings of a qualitative study can be applied or generalized to other contexts or other groups” (p. 501). An important aspect of increasing transferability in a qualitative study is the researcher’s use of thick, rich, descriptions of participants’ stories and recollections of events associated with the phenomenon (Ary et al., 2010). Striving for accuracy and detail within narrative descriptions will assist readers in determining transferability (Ary et al., 2010). Another determining factor of transferability involves increasing the variation of a sample group. Ary et al. (2010) asserted that transferability of a study’s findings to other people is dependent on the similarities of setting, context, and experiences of the participants in the original study to that of the setting, context, and experiences of other people. Therefore, the transferability of this study would have been enhanced if I had been able to recruit a diverse population of gender and ethnicity, as well as instructors who teach differing disciplines of science (i.e., chemistry, biology, physics).

Ethical Considerations

Creswell (2013) argued that ethical issues in research studies are inherent throughout the process. Ethical issues can be found in site selection, such as, does the site have a vested interest in the outcome? Ethical issues can be found in reporting the data, such as, disclosing information which could be potentially harmful to the participants. Consequently, there are numerous ethical considerations that must be made during research utilizing human participants.

Essentially, ethical considerations fall into two basic categories, minimizing harm to participants and deception. I followed the highest degree of ethics throughout the entirety of this study.

All participants were fully informed of the study's purpose, as well as the procedures required to complete the study before consent forms were signed. Privacy, confidentiality, and safety were given high priority by using pseudonyms for the participants. School site names were not given. All physical documents were stored under lock and key and will be destroyed after a period of three years. All electronically-saved files and recordings were kept on computers that are encrypted and password protected to help ensure confidentiality (Creswell, 2013).

Summary

It was my intention to give readers a clear picture of the design and intent of this study. In doing so, this chapter provides the purpose and reasoning of this qualitative research study. As previously stated in Chapter One, the purpose of this phenomenological study is to describe the transformation of science instructors currently teaching at Christian high schools who had previously held an evolutionary perspective, but who have experienced a transformation of perspective and now support YEC science and the literal six-day interpretation of creation in the book of Genesis. Reversal of belief regarding origins is defined as a phenomenon of transformative faith accompanied by a rejection of a previous perspective and acceptance of an entirely new perspective as seen through the lens of Mezirow's (1991) adult transformative learning theory and Fowler's (1981) faith development theory.

CHAPTER FOUR: FINDINGS

Overview

The purpose of this qualitative phenomenological study was to explore and describe the perspective transformations of Christian high school science teachers who have experienced a paradigm shift in their perspectives, beliefs, and teaching praxis regarding the study of origins. The participants of this study had all experienced a perspective transformation from evolution or theistic evolution to YEC, and they currently believe the literal six-day creation account of Genesis is accurate and true. Chapter Four provides a description of the participants, my findings, and a summary of the chapter. An extensive phenomenological analysis of the data provided by the eleven participants enabled me to explore the perspective transformation phenomenon described in the study. I used two existing theories as a framework for my coding analysis. The first and most prominent theory was Mezirow's (1991) transformative adult learning theory (TALT), which includes 10 phases of transformation. The second was Fowler's (1981) faith development theory (FDT), focusing on cognitive-faith leading to perspective transformation. Perspective transformation attained through transcendent faith (i.e., spiritual transformation) accompanied by believing the Bible is the inerrant Word of God was also a component of my analysis.

The following questions provided guidance for my interview questions, types of data collected, and the direction of my analysis:

Central Question

How do the participants describe their perspective transformations from their previous evolutionary worldview to their current young-earth creationist worldview?

Sub-questions

1. How did the participants experience Mezirow's (1991) 10 phases of perspective transformation?
2. How does faith in God and the Bible contribute to the participants' perspective transformation?
3. How has the perspective transformation of the participants impacted their curriculum development regarding the study of origins?

Once all of the data was collected, I analyzed it through the theoretical lens of TALT and FDT, as well as the biblical concept of transcendent-faith using the selective approach recommended by Van Manen (1990) to help me select codes and isolate themes. The analysis enabled me to isolate a common essence and describe the shared experiences and narratives of the participants.

Participants

Originally my desire was to find 12 junior or senior Christian high school science teachers who fit the criteria for being a participant in this study as described in Chapter Three. Each participant experienced perspective transformation from believing the evolution or theistic evolution (e.g., old-earth creation) paradigm to believing and teaching YEC. Furthermore, each teacher must have taught science for at least two years to qualify as an acceptable candidate for participation. I received signed consent forms from thirteen potential participants, from which I collected three forms of data; (a) written lived-experience summaries, (b) semi-structured interviews, and (c) YEC curriculum samples. Once I began the analysis phase, I decided to delete the data from two of my original thirteen participants. One of the disqualifications was because, while she had definitely experienced a perspective transformation from the evolutionary

paradigm to creationism, she still held old-earth creation concepts that did not align with YEC. The other disqualification was due to the fact that this was her first year of teaching science, and my proposal required each participant shall have been teaching science for at least two years. Therefore, the number of qualified participants for my study was eleven. Each participant has been teaching science courses at different Christian junior or senior high schools in various states across America. Ten are high school science instructors, and one teaches science at the junior high level. The participants comprised eight females and three male teachers, all Caucasian with the exception of one American Indian female. Science course teaching experience ranged from seven to thirty-one years. Permission was obtained from the principals of each Christian school to contact potential participants for my research. All of the participants signed an informed consent form and returned it to me before data collection began. Each also filled out a demographic questionnaire that provided more information about their experiences (see Table 4.1).

Table 4.1

Participant information

Participants	Age	Yrs. Exp. Teaching Science	Grade Level(s)	Education
Barbara	50-59	20+	9 th -12 th	Bachelors
Daniel	50-59	10+	9 th -12 th	Masters
Jason	60+	20+	9 th -12 th	Bachelors
Kaylee	40-49	10+	9 th -12 th	Masters
Mike	60+	30+	9 th -12 th	Bachelors
Pam	40-49	10+	7 th -12 th	Bachelors
Patricia	50-59	10+	9 th -12 th	Bachelors
Paula	50-59	10+	9 th -12 th	Masters
Sandra	40-49	7	9 th -12 th	Masters
Sharon	60+	30+	9 th -12 th	Masters
Susan	20-29	7	7 th -8 th	Bachelors

Barbara

Barbara is currently teaching at a Christian high school in Minnesota. She has been teaching science courses for approximately 25 years. She teaches various science topics and courses, but she prefers teaching biology. Her story of perspective transformation followed the path of accepting evolution theory as truth in high school, leading to belief in old-earth creation during her early adulthood, and finally to YEC many years later.

She has been married for 37 years and has an adult son and daughter, as well as grandchildren, both boys, who visit her often. She also has two cats and says that she would

have more animals if she could. She has a love for plants, which led her to a degree in Botany. She and her husband like to fish and travel. According to Barbara, “The most satisfying thing for me in teaching at a Christian school is to be able to freely share teaching God’s Biblical creation. I simply can’t imagine not being able to give God the credit in all of the amazing living (and non-living) things in the universe.”

Daniel

Daniel is currently teaching at a Christian high school in Montana. He has been teaching science for 12 years. Daniel has a true love for science and prefers teaching a variety of topics, including physics, chemistry, astronomy, and calculus. Daniel is a retired military officer with 28 years of service. His duties took him to various places in the world where he did everything from work on radar systems to forecasting weather, from space operations to long-term strategic force shaping. His hobbies include shooting sports, hiking, traveling, and reading. Daniel reads a lot, and his choice of subjects are varied and eclectic -- from books on men's ministry and apologetics to titles looking at the history of scientific discovery and cutting-edge sciences of quantum mechanics and nuclear chemistry. Daniel assimilated the evolution narrative during his high school years, but sometime between undergraduate and graduate school he experienced a "profound encounter with the Holy Spirit" that initiated his perspective transformation to YEC.

Jason

Jason is currently teaching at a Christian high school in Nebraska and has been teaching science for approximately 27 years. He enjoys teaching all sciences but prefers the high school level rather than middle school because it allows him the flexibility to teach in more depth. He enjoys camping and maintaining a nice yard, as well as the peacefulness of solitude over being in a crowd.

According to Jason, since the time of his transformation he has spent about 30 years “mastering the areas of biology, human anatomy, and geology in respect to God as the designer and creator of life and the universe.” Due to his extensive knowledge of YEC, he considers teaching science at a Christian school a powerful apologetic tool for sharing the Gospel and defending the truth of Scripture with science.

Kaylee

Kaylee is currently teaching at a Christian high school in Arizona. She has been married for 23 years and has two daughters. Although she teaches a multitude of science disciplines, she prefers chemistry. She completed her MA for teaching chemistry in 2017. Kaylee grew up in a Christian home and attended Christian high school and a Christian liberal arts college, where her faith and belief system was challenged in college and she began to identify herself as an old-earth creationist. The first five years of her career were spent teaching science at public schools while completing her endorsement in science. It was during that time period she was saturated with evolutionary theory. Her perspective of origins changed soon after as a result of her husband’s interest in YEC books and articles, as well as the conversations between them regarding his acceptance of YEC in contrast to her theistic evolution paradigm. After taking three years off to stay home with her first daughter, she returned to teaching at a small Christian school. Currently, she is still teaching at a small Christian school and finds it satisfying that she has the “freedom to incorporate biblical beliefs in discussions about science, pray for students and their concerns, and use Scripture as truth to back up scientific models.”

Mike

Mike is currently teaching at a Christian high school in Montana where he has been teaching science courses for approximately 31 years, and particularly enjoys teaching biology.

Though Mike grew up attending a liberal Lutheran church, by the time he reached early adulthood, he considered himself an atheist. His mother became a Christian after he left home as an adult and joined the Navy. Through her love and ministry, as well as the prayers of others, Mike converted to Christianity. He is the father of two grown sons who each married godly women. He loves to hike, backpack, fish, hunt, and ski. Mike's most satisfying experience while teaching at a Christian school is, "knowing that my students are learning the truth regarding what the Bible teaches about creation and how the scientific evidence supports what the Bible teaches."

Pam

Pam is currently teaching at a Christian high school in Kansas. She has been teaching science courses for approximately 13 years. Pam prefers teaching biology, although she does teach other science topics. She has two children from her previous marriage, which have caused her to face difficulties raising them as a single mom. She grew up possessing an early childhood faith in God, but by the end of high school she considered herself "nearly an atheist." After exploring Hinduism and Buddhism, searching for answers to life and finding none, she turned back to Christianity and reading the Bible which ultimately led her to accepting Jesus as her Lord and Savior. Pam enjoys being involved in children's ministries at her church, running, playing soccer, lifting weights, watching science documentaries, and camping/outdoor activities. She finds working at a Christian school allows her to teach science from a Christian perspective, and gives her the ability to show students that science and Christianity are not mutually exclusive but completely compatible.

Patricia

Patricia is currently teaching at a Christian high school in North Carolina. She has been teaching science for approximately 14 years. Patricia prefers teaching biology or chemistry. She remembers believing in God at an early age, but educational shows on television provided her with intellectual stimulation causing a loss of faith in the Bible as she matured into early adulthood.

Patricia's career before teaching at a Christian Montessori school was as a research chemist where she had an "excellent income." Her hobbies then involved "spending money well: entertainment, decorating, traveling abroad." Upon her return to Jesus and career change to Christian education, her lifestyle has radically changed. She stated, "As a Christian school teacher, I earn little, but live simply. I love hiking and spending the entire summer camping (and not in an RV). In the school year, I love my tiny church that meets downtown, but in the summer, I am filled by God's chapel." Patricia finds teaching science at a Christian school is rewarding, enabling her to discuss faith in a non-threatening way. She stated, "Science is especially rewarding because I often expose them to the awe and wonder of creation at a level they have never thought about before. I love getting that amazed reaction from them!"

Paula

Paula is currently teaching at a Christian high school in Florida. She has been teaching science courses for approximately 10 years. Paula prefers teaching biology and chemistry. She described her initial perspective as a child as that of an evolutionist. Her main influence for believing evolutionary theory was television, movies, and the culture in which we live.

Paula received Christ as her Savior as a young mom. Knowing innately that the Scriptures were true, she did not want their four young children to attend public school with its

now opposing ideologies. Together with others from her church, they started a day school. It was then that Paula began to research curriculums and found biblical science curriculums that were rigorous and biblically based. It was through these curriculums that she was introduced to creation science. Today, teaching science at a Christian school affords her the opportunity to display Christ as creator to her students. Knowing that her students are growing in the wisdom and knowledge of God brings her great joy and satisfaction.

Sandra

Sandra is currently teaching at a Christian high school in Tennessee. She has been teaching science for seven years and prefers teaching biology as well as anatomy and physiology. She became a theistic evolutionist through the teaching of evolutionary theory in her college biology and anthropology classes.

Sandra is married with two kids, and she loves to hike, play with her children, and travel to new cities. She enjoys reading and spending time with her husband, as well as learning about God and studying His Word. Indeed, it was evident in her interview that her faith in God and the Bible is the dominant motivation in her life. Regarding her transformation, she stated, “My faith led me, and the more I studied, it only affirmed my beliefs and continues to.” She also finds teaching science at a Christian school very rewarding. She stated, “I love teaching science at a Christian school because I have the freedom to teach science from a biblical perspective while at the same time helping students learn about other perspectives.”

Sharon

Sharon is currently teaching at a Christian high school in Oregon, where she has been instructing science for 31 years. Her preference for teaching is biology and chemistry courses.

Sharon's original passion was to study and work with wildlife. She married after completing her B.S. and began working on her M.S. in Range Management, which was her primary interest. After a few years of working for the U.S. Forest Service, she was "irresistibly drawn to teach science" and has been doing so for the majority of her life. Currently, she lives with her husband on five rural acres in Oregon, and they have three grown sons, all graduates of Christian schools. Her love and involvement with animals are still evident. She told me, "I have a collection of animals that my husband lovingly tolerates: two cats, two guinea pigs, four ducks, twenty chickens, one Russian tortoise, and a pet sheep." She also exudes a particularly strong appreciation of God's creativity. She stated, "I continually find delight in the book of Genesis saying that animals were created as companions for man, albeit insufficient ones. Then came the FALL! I am constantly looking for those tiny glimmers of God's initial perfect creation in the animals around me." After reading Sharon's lived-experience summary and interviewing her, it was apparent that she has combined her love of animals and creation with her love of teaching science at a Christian school. When asked what she found most satisfying about her work as a teacher? She said, "It is hard to pinpoint what I love most about my job. Teenagers – love them. Being able to communicate truth in science and show them the validity of God's Word in the field of science is extremely satisfying."

Susan

Susan is currently teaching at a Christian junior high school in Arizona. She has been teaching science for seven years and prefers teaching life science and physical science. Susan is a vibrant young teacher whose childhood naiveté and willingness to accept what people in authority tell her is truth became somewhat of a blessing and a curse as she matured into adulthood. Her transformation was tremendously affected by her choice to work at a Christian

school that is firmly established in YEC science. She loves watching sports, particularly football, and she enjoys traveling to other places with her husband. Susan grew up in the church believing in God and the literal interpretation of Genesis, but later came to believe the earth was millions or possibly billions of years old due to her exposure to the public schools' narrative of naturalistic spontaneous generation of the universe and the gradual development of stars and planets over eons of time. She finds it very satisfying that she is now teaching truth about a topic that is widely misinterpreted.

Results

The purpose of this study was to explore the phenomenon of Christian high school science teachers who have experienced a perspective transformation from the evolutionary paradigm to YEC. Lived-experience summaries and semi-structured interviews of the participants were analyzed following Creswell's (2013) recommended procedures for phenomenological data analysis. This chapter provides a discussion of steps leading to the development of themes and participant responses relevant to the central and sub-questions of this study.

Theme Development

I began my analysis by carefully reviewing the lived-experience summaries and semi-structured interview transcripts using Atlas.ti qualitative data analysis and research software. Atlas.ti helped organize significant statements and words into codes, which were simply short phrases or word descriptions of important data regarding the central and sub-questions of this study. Further, I organized the list of codes into clusters from which themes emerged enabling me to write a narrative of the participants' lived-experiences regarding the phenomenon of this study.

Lived-experience summaries. Interviews are the commonly-accepted main source of data for phenomenological research, and I expected this to hold true for my study. However, after analysis procedures were completed, it became clear that I relied more on the written lived-experience summaries for participant quotes and thematic development. Participant summaries were submitted via email in response to a writing prompt that stated, “Please send me a written lived-experience essay regarding your perspective transformation from evolution, or theistic evolution, to young-earth creation.” Written summaries from each participant were collected before their interviews were conducted. Collecting lived-experience summaries before interviews was a purposeful strategy of data collection which enabled each participant to formulate and organize their thoughts and recollection of events leading up to their perspective transformations. This was done to better prepare them to answer the interview questions after their thoughts had coalesced in a written lived-experience summary.

Semi-structured interviews. All but two of the interviews for this study were completed over telephone communications. One of the in-person interviews was conducted at a local library, and the other was conducted in the teacher’s classroom during her curriculum preparation period. Interviews with the participants lasted in the range of 30 minutes to an hour. Although it is preferable to conduct in-person interviews in qualitative study, the difficulty of finding suitable local candidates for participation required nationwide recruitment that yielded nine out-of-state participants. Each of the interviews began with a brief introduction and explanation of the interview process, which helped put the interviewee at ease. All interviews were audio recorded with two recording devices and transcribed by the researcher. Choosing to transcribe the recordings myself rather than having them professionally transcribed enabled a

word-by-word review of the data within a few days of the original interviews. This allowed an immediate analysis of the data to begin.

Horizontalization and clustering. After collecting the data from the lived-experience summaries and semi-structured interviews, I began analysis by highlighting significant statements and developing code words and phrases to categorize and cross-reference the documents using Atlas.ti qualitative research software. Moustakas (1994) calls this step horizontalization.

Themes. Clusters of related codes were developed using the Atlas.ti group code feature. These clusters of meaning became the themes that helped fashion the narrative (see Appendix D). The themes created the framework for answering the central and sub-questions of this study.

The following eight themes emerged:

1. Initial evolution perspective
2. Spiritual awakening
3. Exposure to YEC science
4. Describing transformation
5. Experiencing transformation
6. Faith: cognitive and transcendent
7. Bible inerrancy
8. Post transformation perspective

Initial evolution perspective. Every journey through perspective transformation must begin with an initial perspective of a topic which has been developed over time through outside influences such as parental upbringing, church, school, the media, culture, peers, and personal experiences. These influences eventually led the participants to an evolution or theistic evolution

perspective of origins. Theistic evolution is a term I use to cover a broad spectrum of beliefs combining the creative ability of God with evolutionary-based perspectives such as progressive creation or belief in old-earth creation (OEC).

Analysis of the written lived-experience summaries collected before the interviews indicated nine of the eleven participants began their written summaries with childhood memories of church and an early belief in God. The remaining two summaries were void of church or godly parental influence during their childhoods. The prevalence for most of the participants to begin their summaries with their first impression of God is important considering I asked each of them to simply submit a written summary of their perspective transformation from evolution or theistic evolution to YEC. I gave no other details of where they should begin or how they should approach their lived-experience summary. The first three sentences in Mike's summary expressed how, at an early age, he was influenced by church and a belief in God.

I grew up attending a liberal Lutheran church. I don't remember ever hearing the Gospel while there. I did believe in God in my grade school years and I remember praying from time to time but all that changed in high school when I was taught about evolution, which had an eroding effect on my faith.

Susan described her early church experience and belief in God as follows, "I grew up going to church until I was about eight. During the first eight years of my life I believed in God and loved him. I believed every word the Bible spoke, even when it came to science."

Childhood influences that effected participants' early perspective and understanding of creation were dominated by parental and church influences.

After childhood, the dominant adolescent influence propagating the evolutionary paradigm was the teaching of evolution at public schools. Each of the participants, with the

exception of one, recounted they were heavily influenced by the teaching of evolution during their junior and senior high school years. Daniel, who attended a Lutheran church while growing up in a small town, exemplified the powerful influence of evolution taught within the confines of public education.

I think there was actually, from a biblical creation perspective, a lack of influence. There was nobody that ever pointed out to me that there was another better explanation.

Nothing from the pulpit, my pastor, youth leaders, nobody ever countered or pointed out the fallacies and the lack of rigor in the evolutionary argument. So, the authorities were, or the influences were those teachers that I studied under in junior high and high school, and there was no authority or influence against it. I had no alternative but to believe what I was being told.

The second most prominent evolutionary influence mentioned by the participants during their adolescent years was media and culture. When asked about the influences that caused her to believe or embrace evolution, Paula replied, “I probably was most influenced by culture; television, movies, things like that. I guess school, though I don’t ever remember learning directly about evolution, per say. Probably more culture.” To the same question, Susan stated:

Evolution...gosh, we watched so much Bill Nye, which I know sounds so silly because it’s like Bill Nye versus Ken Ham, but we did, we watched so much Bill Nye. Also, just hearing in science all of these are millions and billions of years old, that made sense to me.

While public education and culture were the main evolutionary influences of the participants’ adolescent years, there was one exception, and that was Kaylee, who was raised in a Christian home and had attended a Christian high school. She did not lose her belief in the literal

interpretation of Genesis until young adulthood. She embraced YEC until she began attending secular colleges with courses teaching evolution-based curriculum. Kaylee felt unprepared to handle the evolutionary paradigm being taught as fact. She stated:

It was very hard for me, you know, because I was raised Christian and I had Christian beliefs, but I'd never had that connection of how does that... How do you deal with science, and where do dinosaurs fall in there, and how does this all work?

Childhood, adolescent, and adult influences forged the participants' initial evolutionary perspectives, but there were variations of thought within those evolutionary paradigms. Analysis of the data indicated two types of initial evolutionary perspective. The first and most prominent type was theistic evolution. As I stated earlier, I use this term to cover a broad spectrum of beliefs and perspectives that include OEC and progressive creation. For example, Susan never accepted the idea of evolution as a means by which man evolved from ape-like creatures (i.e., hominids), but she did develop an initial perspective of OEC. She stated, "When we left the church, I started to believe what my teachers taught me in science. The earth was millions of years, if not billions of years old." Sandra's initial perspective was indicative of the standard definition of a theistic evolutionist. In her interview she stated, "I guess my only two big things if I had to put them together was one, there was a God; I at least came to that belief somewhere along the way. Second, that somewhere in our history we came from apes." Of the eleven participants, nine had developed an initial perspective of theistic evolution or OEC. The remaining two were categorized as atheistic evolutionists because their initial perspectives regarding origins leaned toward atheism or agnostic beliefs. Mike considered himself an atheist who embraced evolution. He stated, "All I know is that as soon as I left home and joined the Navy back in 1974, I considered myself an atheist... Evolution, I thought, provided an answer to

our existence that didn't require God or a creator." Pam was the other atheistic evolutionist. She lost her childhood belief in God during her high school years, accepting the evolutionary paradigm as factual truth. She stated:

By the end of high school, though, I was nearly an atheist. I think the shift in thinking was due to a lack of training at home, and the teaching in secular high school. I was very science oriented and was constantly bombarded with evolution and the Big Bang theory in my classes, and just accepted them as fact.

In summary, the participants' descriptions of their initial evolutionary perspectives provided a reference point for perspective transformation from evolution, or theistic evolution to YEC. Various influences (e.g., parental upbringing, church, school, the media, culture, peers, and personal experiences) helped develop each participant's initial perspective at different stages in their lives (i.e., childhood, adolescent, and adult).

Spiritual awakenings. As I read and compared the lived-experience summaries and interviews of each of the participants, it became apparent they considered their faith in God and the Bible a vital part of their perspective transformation experiences. Each of them included testimonials of how they came to know God, or how and when they committed their lives to Him. Some of the participants shared detailed information regarding their testimony. Mike wrote:

While in the Navy, my mom became a Christian and began witnessing to me. She knew that I loved science and so she would send me books and tracts that provided evidences for the reliability of the Word of God. I was a skeptic and didn't want to believe what I was reading, but I couldn't find anything wrong with the facts that I was learning. I just didn't want to believe and I didn't want to become a Christian. I can remember being

very impressed with all of the evidence of fulfilled prophecy in the Bible and I became convinced that the Bible could not have been written by man and that it was God's word and must be true. This transition actually took several months of struggle because I didn't like where all this thinking was heading. About this time, God brought a fellow shipmate and believer into my life and he challenged me to act on what I now believed to be true. I did that and committed my life to Christ that night.

Pam considered herself "virtually an atheist" by the time she left high school, but God miraculously intervened in her life. She described her testimony with clarity and conviction as follows:

I had been reading the Bible pretty noncommittally until, one day, I was reading the Sermon on the Mount and felt as though God was speaking directly to me. I could almost hear His voice lovingly drawing me to Himself. I finally let down the walls I had built up towards Him and submitted my heart and life to Him. The God of the universe had reached down into my life and saved me. Afterwards, I no longer felt empty, but bursting with joy. I couldn't get enough of His Word and its truth. All of the answers I had been looking for were there in the Bible.

Not all of the participants were as descriptive as Mike and Pam, but each included testimony of a spiritual awakening before their transformation. The following are examples of spiritual awakening statements by other participants. Patricia wrote in her lived-experience summary, "In 2000, God became very real to me after the death of my father, and I began attending a Methodist Church." Barbara wrote, "I came to know the Lord as my Savior at age 24, long after I had my degree in biology from university. Even then, I believed in God and felt that evolutionary theory had many holes in it." Paula's interview response connected her salvation

experience (i.e., spiritual awakening) with her perspective transformation to YEC. She stated in her interview, “I didn’t get saved until I was 27. I was already married with children. We were saved into a very good Bible believing Bible teaching church. It was then that I was really introduced to this understanding that God was a creator God, and I started reading some books by Henry Morris; honestly it just rocked my world.” Paula’s perspective transformation began with a spiritual awakening followed by exposure to YEC science in the form of books written by Dr. Henry Morris.

Exposure to YEC science. It was clear each participants’ faith had much to do with their perspective transformations, but there was a significant difference in how and when their perspectives regarding origins transformed after their spiritual awakenings. Nine of the eleven participants experienced a perspective transformation over time as they amassed knowledge of YEC. Their transformations required obtaining knowledge of YEC science to help bridge the gap between believing the evolutionary paradigm to fully accepting and believing YEC. Sandra mentioned in her lived-experience summary that she was influenced by “Behe’s book, *Darwin’s Black Box*, and *Signature in the Cell* by Steven Myer.” Websites, like “Answers in Genesis” (AiG) and the “Institute for Creation Research” (ICR) were also mentioned as information sources for YEC science, as well as YEC speakers working for ICR or AiG. Barbara stated in her interview, “I’d heard many, many speakers. Answers in Genesis had attended one of my ACSI conferences. I was getting a lot of good material, you know, listening to them talk and discuss some of the very questions that I had.”

Describing transformation. The central question of this study is focused on the participants’ descriptions of their perspective transformations. I isolated paragraphs from their lived-experience summaries specifying their perspective transformations. The following

descriptive quotes from each of the participant's transformative events are reviewed in this section. Quotations used for this theme (i.e., describing transformation) are exclusively taken from the participants' lived-experience summaries.

Daniel described his transformation as a solitary journey of exploring YEC science and understanding the Bible. He wrote:

Like a Secret Service agent who is trained to spot counterfeit currency by studying the real thing, the more of the truth I was exposed to the easier it was to spot the lies. My curiosity grew and I began reading resources that explained various positions on the age of the universe, the big bang theory, and evolution. I began to see circular logic and assumptions that fail and cause an entire explanation to topple. This journey was solitary; alone. Just me trying to better understand God's design.

My impression of Daniel obtained through reading his lived-experience summary and our interview was that he is scientifically orientated, logical, and methodical. His journey of transformation was based on a slow process of cognitive-faith and critical reflection of his prior presuppositions and assumptions.

Pam's story of transformation suggests her newfound faith in Christ transcended everything she had previously learned about life and God's creation. She wrote:

In short, because of the miracles God has done in my life and how he has used the Bible to dramatically change me inside and out, I completely trust Him and the infallibility of Scripture. I believe in young-earth creation and the literal six-day account in Genesis. If I could not trust this account, it would leave the rest of Scripture suspect also. I have believed this from the start of my conversion when I was 21.

Transcendent-faith leading to perspective transformation was the dominant theme of Pam's story. Furthermore, her statement that she would not be able to trust the rest of Scripture if she did not believe the literal six-day account of creation in Genesis highlights a theological question every Bible-believing Christian should critically reflect upon.

Paula described her transformation in the context of accepting Christ as her savior, as well as transcendent-faith leading to belief in YEC as soon as she was exposed to YEC literature. She wrote:

After college, I married and moved from NY to Florida where we raised our children outside of church. Our oldest and 2nd sons (ages 11 and 5 years at the time) were attending public school. It was at this time that both my husband and I received Christ as our Savior. Three years later, I, with the help of others, opened a day school at our church, and there I was introduced to science from a Biblical perspective. It was so exciting. I read everything I could find on creation.

Although there was a considerable gap of time between Paula's conversion to Christ and her exposure to YEC science she fully accepted the literal six-day interpretation of Genesis upon receiving Christ as her savior. Paula's acceptance of YEC was instantaneous. This was clear indication her YEC transformation was initiated by transcendent-faith working in her life.

In the early years of teaching at a Christian school, Barbara struggled with her initial OEC perspective. Her faith in the Bible was challenged as she explored differing perspectives and interpretations of Scripture. She wrote:

I began teaching 7th grade life science separately from my middle school combined science class and we ordered a textbook by Christian Schools International. This author suggested "appearance of age." God has made a mature and already functioning earth

and universe ready to support life and all the processes needed to accomplish stability on planet Earth. This fit with the literal interpretation of the Genesis record for me and I felt that this was the answer. God does what He says and we can take the Scripture literally for what He says by our faith.

Barbara's transformation combined faith in the Bible with the knowledge that God could have created everything with the "appearance of age".

Recognition of God's ability to create the universe and life mature and fully developed without the natural process of time was also a key factor that influenced Jason's transformation. In a conversation he had with an evangelist speaker at church his belief in the evolutionary paradigm was challenged and eventually transformed. He wrote:

The miracle came in what he then proceeded to say. He did not judge me, and with all sincerity he asked me this one question. "Assuming the Bible is true, how old was Adam when God created him?" I knew he was trying to lead me to something, so I said, "About 20 or so...a mature man." Then he said, "Let's take Adam and kill him 5 minutes after he was created. According to science, if we age-dated his body, how old would the carbon dating method date his body to be?" I knew the answer, and my brain began to hurt as I eked out the answer, "About 20 years old." Then, suddenly a light turned on in my head as he said, "But he was only created 5 minutes ago. Is it not possible that God took the earth, created it with age, set it in place, and now the science community is dating it, but finding their biased processes are off by...a few billion years?" I was speechless. God created an old earth just like he created an older man in Adam.' It was a turning point for me.

Jason's description of his formative years before his transformation followed the unique path of being angry at God for the death of his father; which led him to discrediting God's creative ability and power by proving evolutionary theory was the truth of creation. After his transformation Jason became an ardent young-earth creationist teacher of science and the Bible.

Mike experienced his spiritual awakening while still in the Navy. His transformation occurred after accepting Christ as Lord combined with his eventual exposure to YEC literature. He wrote:

As a new believer, I believed that the Bible was God's word and that the story in Genesis was very different from the story of evolution that my science teachers taught me, which I still believed. I can remember one of my first prayers was for God to help me resolve this problem. I was on-board a ship on a West-pack tour and the next port that we docked at was in Taiwan. We docked across the pier from the Logos. The Logos was a ship with an all-Christian crew that went all over the world selling Christian books. I found the section on creation/evolution and bought about a dozen books. I read them all in a week and was completely amazed at what I read. It was the first time that I had been exposed to any scientific problems with the theory of evolution. I could see how the flood of Noah could help explain the earth's geology much better than the uniformitarian model. It was an exciting time for me. I never expected God to answer my prayer in that way.

Mike had rejected God and considered himself an atheist before he joined the Navy. He attributes the prayers and faith of his mother, as well as his inquisitive nature and desire to uncover truth for his transformation from atheist to a follower of Christ and his acceptance of the YEC narrative.

Patricia was already teaching at a Christian school when she experienced her transformation from OEC to YEC. Although, she still questions whether there was a gap of time between the creation of earth and the creation of life on earth approximately twelve thousand years ago. She described her perspective transformation as follows:

I remember having lunch with my mom and a friend of hers who considered himself very well-read and was an Episcopalian. He'd always treated me with respect for teaching, but for the first time ever, he really insulted me for "damaging my students" for teaching that the 7-day creation of Genesis could actually be true. He told me it was just an oral myth and not meant to be literal. At my school, most middle school students often come to my class with very strong belief in literal Scripture, but don't think I didn't worry that I could be teaching them a myth. It was teaching Genesis 1 and 2 to them without bringing up any question of its validity that led me to have *faith* that God was able to do what to some seems like nonsense. Why couldn't God do what is written there? Who am I to say he couldn't? I believe God revealed to me the importance of Genesis 1 and 2, allowing me to resolve the conflict I felt between the scientific "evidence" of the age of rocks and young-earth creation.

Patricia's description of transformation followed a path of faith as a means by which one can transcend the gap of missing knowledge and understanding regarding origins.

Sharon had not begun her teaching career at the time of her transformation to YEC. However, her transformation clarified the truth of the Bible in her mind, and it was a contributing factor in her decision to teach science at a Christian school. She wrote:

After earning my B.S., I married and began working on an M.S. in range management, as large animal grazing was a primary interest of mine, and as there were good job

opportunities with the government in that field, at the time. Simultaneously, I attended a four-day seminar in Redding, California, put on by the Institute for Creation Research. I had also become deeply involved in a church along with my husband. This was the true turning point. The experience was much like having millions of small jigsaw puzzle pieces all floating around in my head, and they suddenly all fell into place and made a spectacular picture! The questions that had been rattling around in my head about evolution and creation all fell into place. Biblical truth was clarified to me.

Sharon's "jigsaw puzzle" metaphor of perspective transformation provided insight into her cognitive journey of transformation based on faith and her exposure to YEC science. For many of the participants, faith was the connection glue that held the pieces of the puzzle (i.e., answers to questions) in place long enough to provide an overall picture and acceptance of YEC.

Sandra's transformation progressed as she read articles regarding YEC and began teaching science at a Christian school. She wrote:

So, after some personal struggles in college, a battle with depression and an eating disorder, I began to really pray, read and study God's Word, dabbling here and there into articles on creation. Learning about who I am in Christ, and where I came from, I decided to put my trust in God's Word as infallible and inerrant, and that included Genesis. I also began to pray for what He wanted me to do and I found myself teaching high school science in a private school. Now I really had to study up if I was going to teach them. This is where I really began to see so many of the flaws in evolutionary theory and so much more science pointing to creation according to Genesis.

Sandra's spiritual awakening and her new teaching job at a private school led her to believe the Bible is inerrant and Genesis is a true and accurate description of the creation account.

Susan also suggested a major influence in her transformation was her experience teaching at a Christian school. She wrote:

I started teaching at a Christian school at the age of 22; we were required to go through a semester of “Foundations of the Faith.” We were required to read a book by Wayne Grudem that went over the basics of faith. In this, we talked about the creation of the world. I remember going to my pastor at the time and asking questions about the creation of the world. He talked to me about the Gap theory, and Progressive creationism. I was satisfied with those answers; they made science and Scripture make sense. I was naïve. A year later I started teaching earth science using the BJU textbook. As I was preparing for my lessons, I was reading about the Gap Theory, Progressive Creationism, Day Age theory, etc. I had many discussions with my principal at the time and realized that if I can’t believe the first sentence in the Bible, that God created the world, and take him at his word, then how could I believe the rest? This led me to “buy in” to YEC, and is where I still stand today, six years later.

Susan’s description of transformation revealed the experience of teaching science at a Christian school that promotes YEC can be a powerful influence on one’s perspective of origins and the Bible.

Kaylee’s story of transformation was the result of a series of non-epochal disorientating dilemma’s (i.e., eye-opening discussions) with her husband regarding YEC, and her faith. She wrote:

It was actually my husband’s sudden interest in the topic of creation vs. evolution that eventually won me back over to the Biblical account of creation view. He read a myriad of books dealing with the topic, from *The Genesis flood* by Morris and Whitcomb to

Starlight and Time by Russell Humphreys, and everything in between. On multiple occasions he called upon me to read the books aloud to him as he drove which led to in-depth discussions and sometimes disagreements. Finally, I had to conclude that there was no more evidence for evolution than there was for creation, and the decision to believe one or the other was a decision of faith rather than science.

Kaylee's ability to critically reflect on her previous assumptions and presuppositions regarding her perception of origins and her faith in God enabled a perspective transformation that has provided her a template for using critical reflection as part of her teaching praxis regarding YEC science. Furthermore, she attributes her transformation to faith more than her ability to critically reflect on her previous assumptions. The assertion that faith was more important than obtaining knowledge of YEC science for enabling their transformations was a common denominator amongst many of the participants.

Experiencing transformation. A theme that emerged in relation to Mezirow's (1991) 10 phases of transformation was the participants' cognitive and active experiences leading up to and after their perspective transformations. Equating phases of transformation with experiences of transformation provided the framework for this theme. I created a code group for experiencing transformation in Atlas.ti that listed the ten phases, along with abbreviations for each. They are listed as follows:

1. Disorientating dilemma (DD)
2. Self-examination with feelings of guilt, anger, or shame (SE)
3. Assessment of assumptions (AA)
4. Recognition of discontent (RD)
5. Exploration of new roles and actions (ERA)

6. Planning a course of action (PCA)
7. Acquiring knowledge and skills (AKS)
8. Provisional trying of new roles (PTR)
9. Building competence and confidence (BCC)
10. Reintegration into one's life (RIL)

The following table (4.2) lists the names of each participant, along with the corresponding experiences (i.e., phases) of transformation.

Table 4.2

Participants and corresponding phases of perspective transformation

Ten											
Phases	DD	SE	AA	RD	ERA	PCA	AKS	PTR	BCC	RIL	Total
Barbara	X		X		X		X		X	X	6
Daniel	X		X	X	X	X	X		X	X	8
Jason	X		X	X	X	X	X		X	X	8
Kaylee	X		X		X		X		X	X	6
Mike	X	X	X		X	X	X		X	X	8
Pam			X	X	X		X		X	X	6
Patricia	X		X		X		X		X	X	6
Paula			X		X	X	X		X	X	6
Sandra	X		X		X	X	X		X	X	7
Susan	X		X		X		X		X	X	6
Sharon	X		X		X	X	X		X	X	7
Total	9	1	11	3	11	6	11	0	11	11	74

None of the participants experienced all ten phases of perspective transformation. Six experienced six of the phases, two experienced seven phases, and three experienced eight phases. In total, the 11 participants experienced 74 of the possible 110 phases. This equates to the group of all participants experiencing 67 percent of the 10 phases of perspective transformation. While 67 percent is not 100 percent, it does indicate the participants of this study experienced well over half of Mezirow's (1991) 10 phases, which suggests their transformations were authentic and should be included in the literature and study of transformative adult learning theory (TALT).

Analysis of the data taken from the lived-experience summaries revealed nine of the eleven participants experienced disorientating dilemma's (DD's) which helped initiate their perspective transformations from an evolutionary paradigm to YEC. None of the DD's experienced were epochal events; rather, they were based on eye-opening discussions, YEC literature, the Bible, or YEC speakers. Kaylee experienced her DD through discussions with her husband regarding YEC books. She explained in her interview:

I learn from seeing, doing, having a conversation. I'll remember much more about that then reading. So, he [husband] would read the books and then want to talk to me about them, and so, I would talk with him. Then sometimes, I can read in the car, he can't, he gets car sick, so he drives, and I read. I would read to him, and we'd stop and talk about what it was saying. Through that process, I would say over the course of about the next three years, my perspective changed dramatically to now I fully believe in the six-days of creation.

Analysis of self-examination with feelings of guilt, anger, or shame (SE) in the participants' lived-experience summaries revealed only one participant experienced this phase of transformation. Jason was the lone participant who experienced SE as described in Mezirow's

(1991) 10 phases of transformation. His anger toward God for the death of his father led him to embrace evolutionary theory. This led him to examine his feelings of hypocrisy, and ultimately his perspective of origins. He wrote, “Because of my negative drive against God, my marriage suffered greatly, and while I was still going to church with my wife so as not to reveal my intents of leaving her and Christianity behind, deep down I hated being the hypocrite.”

All eleven participants experienced assessment of assumptions (AA’s) along their perspective transformation journeys. Daniel’s research into his assumptions of earth’s timeline of creation and historical events brought him ever closer to his perspective transformation. He wrote in his lived-experience summary, “My curiosity grew and I began reading resources that explained various positions on the age of the universe, the big bang theory and evolution. I began to see circular logic and assumptions that fail and cause an entire explanation to topple.”

Three of the participants experienced the recognition of discontent (RD) phase of transformation. Daniel was one of the three who seemed discontent. He struggled with the answers to life that his evolutionary paradigm had provided. He stated in his interview:

I began searching, there was a time in my life when I as a young adult in my mid-twenties; started looking around after I had already gotten my bachelor’s degree; started looking around at the world and wondering what was going on. I had a mother who was very heavily steeped in the New Age movement, and I had bought into a lot of the lies that she had at that time. I investigated and got closer to the truth by reading the Bible and investigating some of the lies that came out of the New Age movement. I also started looking into, well, where else am I being deceived?

Soon after each of the participants’ perspective transformations had taken place, they began an exploration of new roles and actions (ERA’s). Their perspective transformations were

demonstrated by the active changes and adjustments each made to their curriculum. Susan's example of curriculum changes fit together with her perspective transformation and exploration of her new role as a science teacher who fully accepted the YEC narrative. She wrote in her lived-experience summary:

A year later I started teaching earth science using the Bob Jones University (BJU) textbook. As I was preparing for my lessons, I was reading about the Gap Theory, Progressive Creationism, Day Age theory, etc. I had many discussions with my principal at the time and realized that if I can't believe the first sentence in the Bible, that God created the world, and take him at His word, then how could I believe the rest?

Six of the ten participants planned a course of action (PCA) after their perspective transformations, which furthered their knowledge of YEC, as well as their ability to teach and encourage their students to firmly believe in the Genesis account of creation. Jason focused on learning as much as he could about YEC soon after his transformation. He wrote:

It was a turning point for me. God had allowed me to learn all this knowledge about evolution by letting me delve into it for two years under some of the best and brightest professors, and now He was asking me to delve into the creation side of things. I did. I got together with ICR and AiG, even tutoring under Ken Ham for a time.

Acquiring knowledge and skill (AKS) is also an important phase of TALT. All ten of the participants had acquired knowledge of YEC to further their teaching skills. Sharon wrote:

With new vigor I immersed myself in history, literature, mathematics and science (again). This time it was with the eyes of a firm believer. All I learned and read kept pointing the finger back to the Creator. This, not being a literary or historical testimony, I will say

that the preparation I put myself through continued to illumine the truth found in the Bible.

Provisional trying of new roles (PTR's) was conspicuously absent from the participants' descriptions of perspective transformation. This was an indication that most of the participants of this study were already science teachers during their perspective transformations. There was no need to provisionally try new roles or careers.

Building competence and confidence (BCC) was apparent in each of the participants descriptions. Sandra exuded a sense of competence and confidence in her newly acquired teaching skills and knowledge of YEC. She wrote in her lived-experience summary:

I read many articles and books. I remember *Signature in the Cell* by Stephen Meyer being very influential on me, as well as *Darwin's Black Box*. I began to teach my students both theories so they understood them fully. I also pointed out the flaws in molecules to man theory, as well as pointing out the science that backs up creation, and the questions that are still unanswered.

Reintegration into one's life (RIL) was also experienced by all of the participants. This was demonstrated by the fact that each of them submitted samples of curriculum (e.g., lesson plans, PowerPoints, quizzes, and lists of YEC resources) they have used for teaching YEC science. Moreover, reintegration of YEC extended into the participants' worldviews. Sharon's description of how her life and work has been impacted by integrating YEC into her worldview and curriculum can be clearly seen. She wrote:

Today I am in my 31st year of teaching high school science in Christian schools. I am a firm and committed believer in young earth creationism. At my present school, I am a master teacher and work with the faculty in developing a Christian worldview in their

areas of study/teaching. I serve on the curriculum development committee and make recommendations about the types of curriculum my school uses in all disciplines. I feel strongly that we are developing Christian minds in school, and teaching our students to think biblically; therefore, the choice of textbooks is of critical importance.

Faith: cognitive and transcendent. The theme of faith, both cognitive and transcendent, was evident in the lived-experience summaries and interviews of all the participants. Nine of the eleven experienced their transformations as the result of a relatively slow process of hearing, assimilating, and believing the YEC paradigm. This is what I call cognitive-faith due to the cognitive processes involved in believing and trusting God and the Bible. For example, Daniel stated in his interview that his transformation was a slow process requiring research:

I had a mother who was very heavily steeped in the New Age movement, and I had bought into a lot of the lies that she had at that time. As I investigated and got closer to you know, the truth, by reading the Bible and investigating some of the lies that come out of the New Age movement I also started looking into, well, where else am I being deceived? So, starting that journey into those fallacies and then listening to a young-earth creationist come in... I can't remember the man's name, but he presented as a special speaker in a church service when I was stationed in Alaska. He came in and pointed out a few of the holes that I had seen, or had wondered about, and so I started reading up on things and checking them out. So, by then I was mid to late twenties going into my thirties was when I really started to make this slow transformation.

Sandra described her perspective transformation within the scope of cognitive-faith and a relatively slow process. She wrote in her lived-experience summary:

I would say that my transformation was a very slow process at first. Not being saved until later in life. You know, late teens, then actually surrendering to the Lord in my twenties. I think that's when I started questioning origins because I had such a profound secular education where the other options are not taught...and like I said, my faith growing at the time, I learned that trusting God is always a much better option than trusting man, so why not in the science realm?

In contrast to the relatively slow methodical process of cognitive-faith, transcendent-faith allows a believer to leap over the cognitive processes of researching and assimilating new information. It is an instantaneous belief in what one hears or reads. Analysis of the data from the participants' lived-experience summaries indicated two experienced perspective transformation through transcendent-faith. Paula was one of the two who instantly believed the truth of the Bible; she did not need to research YEC or experience cognitive assimilation of new information as part of her transformation. She wrote:

It was so exciting. I read everything I could find on creation. Nearly everything I read was from Answers in Genesis or the Institute of Creation Research. I knew as soon as I read an article, that the Biblical understanding of creation was true. Though I never thought to challenge the philosophy of evolution, and I hadn't given any thought to the principles or mechanisms of evolution, I knew immediately, when faced with the truth, that evolution was wrong.

Pam's description of perspective transformation was also instantaneous, transcending time and knowledge of YEC science. The final paragraph of her lived-experience summary states:

In short, because of the miracles God has done in my life and how he has used the Bible to dramatically change me inside and out, I completely trust Him and the infallibility of Scripture. I believe in young-earth creation and the literal six-day account in Genesis. If I could not trust this account, it would leave the rest of Scripture suspect also. I have believed this from the start of my conversion when I was 21. Being a biology major at the time, the topic of evolution was one of the first that I had to decide on as a young Christian. Once I was saved I could clearly see all the holes in evolutionary theory and how even a theistic evolutionary view would not be sufficient for what we see in Scripture and nature.

Bible inerrancy. The theme of Bible inerrancy is related to the participants' faith in God and the Bible, as well as what they believe regarding the literal six-day creation event and the Flood of Noah recorded in Genesis. At the core of the debate between theistic evolutionists, old-earth creationists, and young-earth creationists is a theological doctrine known as Bible or biblical inerrancy. Essentially, biblical inerrancy means the Bible is without error. This inerrancy isn't just in passages that speak about salvation, but also applies to all historical and scientific statements. Five questions from the interviews addressed participants' current biblical perspective of creation and biblical inerrancy. Those questions are listed as follows:

1. Please describe your thoughts regarding the doctrine of inerrancy of the Bible.
2. Please describe your current perspective of the creation account found in the Bible.
Was it created in six solar-days?
3. Please describe your current perspective of the fall of man and original sin.
4. Please describe your current perspective of the flood of Noah found in the Bible. Did it happen like it says it happened?

5. Please describe how your current perspective of young-earth creation has impacted your faith.

Assessment of each participants' current doctrinal beliefs regarding these five questions provided insight into how their faith in God and the Bible contributed to their perspective transformations. When asked about their thoughts regarding the doctrine of inerrancy, all eleven participants affirmed they believed the Bible is inerrant. Sandra stated:

I believe the Bible is the inerrant Word of God. I believe it is what He has given us, written down by Him through men for us to know Him, glorify Him, and live for Him. I believe it can be used as a history book, a science book, a guide book, you know, so many things. I don't believe there is error in the Bible.

When asked about their perspectives of the creation account, ten of the participants affirmed they believed the earth was created in six-solar-days, and that it was created approximately six to twelve thousand years ago. Mike described his reasons for believing in the literal interpretation of Genesis. He stated:

I believe that when you do a word study on the word 'day', you see that there's really no other way to interpret that as a literal 24-hour solar-day. So, from hermeneutics I believe that's the case. Also, I believe that God has the power to create in six seconds if He wanted too. He chose six days. I think a long age just doesn't seem to match up with God's character, and what we know about God, how unlimited He is, and that He chose six literal days to set a pattern for a work week and rest on the Sabbath day. The other thing, the long ages just doesn't seem to match with what I see in science.

Patricia was the one participant who had difficulty with the age of earth's creation. She believes the literal six-day creation account happened approximately twelve thousand years ago,

but she also believes there may have been a gap of time between God's original creation of earth and His creation of life on earth.

When asked about the Fall of Mankind and original sin, all of the participants affirmed there truly was a Fall of Mankind into sin that brought forth a curse on the earth. Mike stated:

I believe it says that God, when Adam sinned, He cursed the ground, and of course it separated man from God. Sin entered the world, and death through sin, not only for Adam and Eve but for the whole creation. That curse set in motion a degenerative process that is causing things to break down.

Ten of the eleven participants' current perspective of the flood of Noah was consistent with it being a global flood, with God using Noah and his family to build an ark capable of preserving their lives, and the lives of land-dwelling creatures. Paula described her perspective of the flood of Noah quite well:

Noah's flood was a consequence of man's depravity. God saved righteous Noah and his family on the Ark. He brought two of every unclean and seven of every clean animal to Noah to be placed on board the ark; I guess within 120 years of Noah's proclamation of coming judgement for people to repent, which they didn't. The fountains of the great deep broke open, and there was a cataclysmic life altering event that is evidenced in the fossil record and lots of the geological formations that we see on the earth today.

Patricia was the one participant who had difficulty accepting the entire earth was flooded over the highest mountains. However, she does believe God flooded the earth, and that Noah and his family built an ark to preserve their own lives and the lives of land animals and creatures of all kinds.

Post transformation perspective. The participants transformed their perspectives and worldview beyond simply exchanging the evolution paradigm for YEC. When asked how their current perspectives of YEC have impacted their faith, they all affirmed their transformations have been a positive and beneficial influence on their faith. Pam suggested YEC has not only strengthened her faith but has also allowed her a better understanding of social problems facing mankind. She stated:

I think it has definitely strengthened it [faith]. Personally...it explains why things are the way they are. Not just like the earth's physical landscape, but people, you know, why we're seeing all these social problems. Even in my classroom kids have all these different social problems, or even in my marriage, or with my kids, it's very real and very applicable. So, it has strengthened my faith, and God knows what He's talking about.

Mike affirmed believing YEC not only strengthened his faith, but also helps him deal with opposition and persecution. He stated:

Oh, yeah, it has strengthened it [faith] immensely in a couple of ways. Every day I keep finding more and more evidence that supports a young-earth view, and a flood model view. I see it all the time, I'm in contact with other creation scientists and I go to a lot of conferences, and every time they reinforce what I believe about God and that I can trust the Bible. No matter how amazing it is, and this view is a very amazing view, God is amazing and it strengthens my faith. The other way it does that is by dealing with the opposition, the persecution, you know, just dealing with...in that battle, that's a spiritual battle, it strengthens my faith to see God coming through and helping me.

Susan's reply to the impact on her faith question drew a direct line to believing the first words of the Bible, which enabled her to believe the rest of it is accurate and true. She stated:

Oh, tremendously. Absolutely tremendously, because like I said, when a friend said ‘if you can’t believe the first sentence of the Bible how can you believe the rest of it?’ That was really convicting. Am I going to take God’s Word as ultimate truth in my life? If I am, then that needs to impact everything.

Kaylee affirmed believing YEC and the literal interpretation of Genesis strengthens her faith and gives her a firm foundation for believing the rest of the Bible. She stated, “I would say it [new perspective of YEC] definitely strengthened my faith. I feel very comfortable... like I have a very solid foundation. I feel it has really increased my faith; I can trust that the whole Bible is true, I can trust that God is true.” Sharon suggested that her perspective transformation strengthened her faith by giving her confidence the Bible is truth throughout. She stated, “Yeah, I think it has made my faith much richer. I guess I believe so deeply in creation and seeing God’s fingerprints all over creation, it just gives me a confidence in those things that God has said in the Bible; they are truth.”

While the participants consistently affirmed their post transformative perception that believing in YEC has strengthened their faith, they also expressed teaching YEC gives them a general sense of purpose or mission. A quote from Mike’s interview is a perfect example of how his transformation lead to a sense of purpose. He stated:

I began to realize there was scientific support for a young-earth creation, for a literal global flood, and it was really an answer to prayer. It totally changed my worldview and basically set me on a trajectory where I...that was my main ministry, or my main purpose was to share that information, and that’s what I’ve been doing with my students for 30 plus years.

Other participants also harbored strong feelings and perspectives regarding teaching YEC with a sense of purpose to apologetically defend the Bible and encourage development of a Christian worldview in their students. Sharon stated, “I definitely regard YEC as part of my mission and purpose for teaching. I work hard to keep up with current arguments on both sides and welcome my students’ questions and classroom discussion.” When Susan was asked if she felt teaching YEC was part of her mission or purpose, she stated, “I don't think it started that way but it definitely grew into that. I love coming to work, knowing I am teaching foundational truths about a topic that is often controversial in the church. Christians have a hard time believing in YEC and I love that I get to be a part of changing that.”

Textural and structural descriptions. After themes had emerged from the data, textural descriptions for each participant were written to determine what they experienced. Structural descriptions for each participant were also written to determine how they experienced perspective transformation. A composite textural-structural description was then written for the group of participants to extract the essence of their perspective transformations.

Composite textural-structural description. The participants of this study developed an initial evolutionary perspective as a result of their childhood, adolescent, and young-adult influences and experiences. Most reported their assimilation of the evolutionary paradigm was the result of public high school and college education, as well as cultural influences and television productions such as *Bill Nye the Science Guy* and Carl Sagan’s *Cosmos*. The majority of participants’ initial evolutionary perspectives combined belief in God and the Bible with the evolution paradigm and eons of time since the creation of earth, becoming theistic evolutionists or old-earth creationists.

YEC science is based on the literal six-day biblical account of creation, therefore, it is reasonable to assume each of the participants have committed their lives to Christ and believe the Bible is the Word of God. Indeed, all of them described testimonies of accepting Christ, or at least Christian spiritual awakenings that led to their transformations. Furthermore, all of them believe their faith in God and the Bible is what made their perspective transformations to YEC possible, and many of them stated their transformations have strengthened their faith.

Although it may seem like becoming a Christian and having faith in God and the Bible is all that would be needed for transforming one's perspective of origins, this was not the case for most of the participants in this study. All but two experienced a relatively slow transformation of perspective. The majority needed to supplement their faith with YEC science before they could transcend the gap between their initial evolution paradigms and YEC. Critical reflection on their past assumptions regarding the evolution paradigm and the age of the earth played a key role in their perspective transformations. The two participants who instantaneously transcended the gap between their evolutionary paradigm and YEC believe their perspective transformations were the direct result of faith initiated by their acceptance of Christ as Lord and Savior. Their previous perspectives of evolution or OEC vanished, replaced with believing the literal six-day interpretation of creation in the book of Genesis and the YEC narrative. The knowledge of YEC science which came later simply reinforced what they already believed regarding origins.

Research Question Responses

Central research question. "How do the participants describe their perspective transformations from their previous evolutionary worldview to their current young-earth creationist worldview?" To answer this question, it was necessary to have the participants write a lived-experience summary of their perspective transformations from the evolution paradigm to

YEC. I also interviewed each participant to explore his or her thoughts, feelings, and experiences associated with important questions related to their transformations.

Participants began their descriptions of perspective transformation by discussing how their initial evolutionary perspectives were developed during their formative adolescent years in high school and college. Outside influences, such as parental upbringing, church, school, the media, culture, peers, and personal experiences combined to develop the participants' initial evolutionary perspectives. Nine of the eleven participants' initial perspectives were based on theistic evolution or OEC; the remaining two described an initial atheistic perspective of evolution. Each of the participants experienced a spiritual awakening, usually describing it in terms of a salvation testimony or accepting Christ as Lord. After their spiritual awakenings, exposure to YEC literature, websites, and discussions with others caused participants to critically reflect on their previous evolutionary assumptions; this was a vital step in the perspective transformations of nine participants. The transcendent-faith of two participants at the time of their spiritual awakenings fostered instantaneous perspective transformation from the evolution paradigm to YEC, but cognitive-faith over time combined with critical reflection of previous assumptions were the prime ingredients of perspective transformation for most of the participants.

Sub-question one. "How did the participants experience Mezirow's (1991) 10 phases of perspective transformation?" The answer to this question is closely entwined with the theme of experiencing transformation. Therefore, the following narrative is a summary review of experiencing transformation through Mezirow's (1991) 10 phases.

Non-epochal disorientating dilemmas (e.g., an eye-opening discussion, book, poem, or painting) were experienced by nine of the eleven participants as precursors to their perspective

transformations. Contrary to Mezirow's (1991) focus on epochal disorientating dilemmas for initiating perspective transformation, the findings of this study suggest spiritual awakenings followed by non-epochal disorientating dilemmas are the primary initiators of transformation.

Only one of the participants experienced self-examination with feelings of guilt, anger, or shame before their transformations. The lack of negative feelings experienced by the participants in this study is an indication they did not experience epochal disorienting dilemmas prior to their transformations.

All of the participants made assessments of their assumptions as they progressed through their perspective transformations. Assessment of prior assumptions is a primary cognitive facet of Mezirow's (1991) 10 phases of perspective transformation. Therefore, it is not surprising all of the participants experienced this phase.

Three of the participants recognized discontent with their lives before their transformations. Discontentment can be powerful motivation to change the conditions and perceptions of an individual. The findings of this study suggest most of the participants found a positive motivation for change (e.g., spiritual awakenings and reading the Bible).

All of the participants explored new roles and actions after acquiring their new perspective of origins. Three of the participants acquired the new role of becoming a teacher after their perspective transformations. The other eight were already teaching, but they explored new actions by realigning their curriculum and pedagogy to fit the YEC paradigm.

Six of the participants planned a new course of action after their transformations. Although this phase of transformation is closely related to the previous phase, which all experienced, I found a distinction between the two. Upon close examination of the participants' statements of action taken after their transformations, six of them purposely planned courses of

action to fit their new YEC paradigm into their curriculum and pedagogy; the other five simply added to and adapted their existing science curriculum.

All 11 acquired knowledge and skills regarding YEC during and after their transformations. Assimilating new knowledge and skills is essential to effectively teach a new paradigm. Furthermore, there are many differing perspectives regarding the study of origins and interpretation of the Bible; this made it absolutely necessary that participants of this study would need to acquire extensive knowledge of YEC science, as well as sound biblical doctrine.

None of the participants attempted to provisionally try new roles. This was not surprising since there was no need for them to try or test a new role in life.

All of the participants exuded competence and confidence for teaching YEC to their students after their perspective transformations. There was also a sense of better preparedness for biblical discussions with their peers and church families regarding their new perspective of YEC and the literal six-day interpretation of Genesis.

All of the participants experienced a reintegration into their lives of their new perspective as demonstrated by their curriculum changes and adjustments. For some, career changes and decisions were motivated in part by their perspective transformations.

Finally, while the participants of this study did not experience all 10 phases of perspective transformation, they did experience the most important ones, such as, disorientating dilemmas, assessment of assumptions, exploring new roles and actions, acquired new knowledge and skills, as well as reintegration of their new perspective into their lives and teaching pedagogy. It is clear that the participants of this study experienced an authentic perspective transformation aligned with Mezirow's (1991) transformative adult learning theory.

Sub-question two. “How does faith in God and the Bible contribute to the participants’ perspective transformation?” Each of the participants described a turning point (i.e., spiritual awakening) toward God before their perspectives transformed from evolution or theistic evolution to YEC. These spiritual awakenings unlocked the power of faith in each of the participants’ lives, enabling transformation of many of their perspectives, as well as altering their worldviews to align with Christianity and the Bible.

After their spiritual awakenings, nine of the eleven participants experienced perspective transformations from evolution to YEC as a progressive process of cognitive-faith, which is change over time facilitated by faith in God and the Bible, as well as exposure to and assimilation of YEC science. Jason was one of the participants whose transformation was due to faith combined with his cognitive prowess. He stated:

Well, I guess the thing is, what I’ve learned, when I first changed my worldview I thought I was doing that, I thought it was me, you know, just being smart enough. I thought I had a big role in that, but more and more...and as I’ve seen many others go through this, the more I see how much of it is a spiritual issue. That prayer and just trusting God to open eyes is so much more important than the evidence. For me, I would have never had looked at the evidence contrary to evolution if I hadn’t had my eyes opened spiritually.

The remaining two participants experienced perspective transformation through transcendent-faith: instantaneously believing the literal six-day interpretation of creation and YEC science. Their transformations were a miraculous by-product of their salvation experience and declaration of Christ as Lord and Savior.

Although faith in God spiritually empowered the participants to seek perspective transformation, it was their faith and trust in the Bible as the Word of God that provided the knowledge and narrative of God's creation. Therefore, it was not surprising that all of the participants affirmed their belief that the Bible is inerrant. Further, it was not surprising all believed the earth was created in six literal days, and the fall of man which brought sin, death, and a curse actually occurred. Finally, 10 of the 11 participants' current perspectives of the flood of Noah were consistent with it being a global flood. One of the participants felt it may have been a large flood, but not necessarily a global flood.

To explore sub-question two in more depth, I asked each participant a follow-up question not found on my original list of interview questions. It focused on how their faith has contributed to their perspective transformation. The question was, "If you were to quantify, in a percentage ratio of faith to knowledge of YEC, to what would your perspective transformation from evolution or theistic evolution to YEC be attributed?"

Their faith to knowledge ratio answers are listed as follows (see Table 4.3).

Table 4.3

Percentage ratio of faith to knowledge

Teachers	Faith	Knowledge of YEC
Barbara	60%	40%
Daniel	25%	75%
Jason	25%	75%
Kaylee	20%	80%
Mike	20%	80%
Pam	90%	10%
Patricia	80%	20%
Paula	90%	10%
Sandra	75%	25%
Susan	50%	50%
Sharon	50%	50%

The average group participant perception of their faith to knowledge ratio was approximately 53% faith and 47% knowledge of YEC science. This ratio of participant perceptions of the impact faith had on their perspective transformations suggests they recognize the importance of faith being the prime component or initiator of their transformations. It also clearly suggests obtaining knowledge of YEC science was almost as important as faith in those same transformations. Moreover, the consistent pattern of belief that the Bible is inerrant, including Genesis, clearly indicates a correlation between trusting the Bible as the Word of God with believing the YEC narrative.

Sub-question three. How has the perspective transformation of the participants impacted their curriculum development regarding the study of origins? The answer to this

question is associated with Mezirow's (1991) assertion that taking appropriate action after transformation is an "indispensable component of transformative learning" (p. 209).

Each of the participants submitted samples of curriculum they have used, or currently use for teaching YEC. Their submissions range from complete lesson plans, PowerPoint presentations, tests and quizzes, to YEC resources such as books, articles, and websites. Their curriculum samples supplied evidence of post transformative actions commensurate with the magnitude of their perspective transformations. Furthermore, participants expressed a general sense that teaching YEC science gives them an apologetic purpose or evangelical mission in life which helps motivate them in developing their YEC curriculum and knowledge. Barbara stated, "I would say the main reason I wanted to teach in a Christian school is so that I could freely share about Jesus. Firmly believing in Genesis creation is parallel to sharing the gospel message." Paula wrote, "My YEC perspective is part of my teaching objective. I do want my students to leave my classes having a better understanding of the young-earth perspective, as I believe it is the perspective that best compliments Scripture." Consequently, this same sense of purpose or mission motivates them to transform and refine their YEC lesson plans and curriculum.

Some of the participants choose to integrate YEC within the science curriculum used in their schools; others have developed unit plans designed to teach YEC separate from their standard science textbooks and curriculum. Moreover, each of them teaches a two-model approach for the study of origins. In other words, they prefer teaching evolution theory and uniformitarian perspectives of earth's age alongside YEC to give their students the ability to compare and contrast in preparation for the challenges they may face in college. Sandra's

preference for teaching the two-model approach is evident in her description of how she teaches YEC. She stated,

I don't ever like to shove my beliefs down anybody's throat. Even in a Christian school, especially in a Christian school where I have the right to be able to express it. I think they definitely know where I stand. I like to cover evolutionary theory fully so they can know why people believe it so much, but then they can also see at the same time, I can teach the flaws in it. These are the flaws, some of the major flaws, and these are the questions that are out there. Then I teach them creation. I teach them all about what God says, we go back to the Word. I teach them both sides of the coin for the different theories.

Extensive use of the Bible as a supplement and companion to YEC curriculum was apparent in the curriculum submissions of four of the participants. They included PowerPoint presentations for the biblical perspective of creation alongside the Darwinian uniformitarian perspective, as well as worksheets and lecture notes that enable students to compare and contrast both narratives. Mike's perspective of teaching YEC as his "ministry or purpose" provided extra motivation for his YEC curriculum preparation. His PowerPoint presentation titled "Creation" has 54 excellently-depicted slides he uses to teach YEC. He begins with the biblical and Christian worldview compared to the naturalistic worldview of origins, progressing to multiple creation theories such as theistic evolution, Gap theory, and the Day Age theory. Further, he reviews Flood geology, time dating methods, Darwinian evolution, mutation theory, homologous structures, and intelligent design. Mike's 30 plus years of teaching YEC as his ministry has produced curriculum with biblical apologetic overtones and a keen sense of the science and study of origins.

Finally, curriculum submissions and comments from the participants indicated they rely on outside YEC resources such as websites, books, creation magazines, and videos to supplement their schools' authorized science textbooks. This was especially apparent for two participants who reported their schools maintain secular science textbooks. Paula is one of those who must prepare a separate YEC curriculum to supplement her school's secular textbook. She wrote in her lived-experience summary:

Teaching with a secular textbook in life science requires my students learn to read closely and that I find lots of acceptable resources for them. I use Randy Guliuzza's 'Made in His Image' for my Biology classes, and articles and videos from both AiG and ICR. I am finishing my Master's degree in Biblical Creation Apologetics and often use those resources with my students. I have several textbooks from Bob Jones Publishers and use them as a personal resource when preparing for classes. I am most thankful for the '*Genesis Record*' and '*The Genesis Flood*' by Dr. Henry Morris. These were really the first books I ever read from a biblical perspective. His work has changed my life and I continue to go back to his writings and ICR for most of my resources.

Summary

This chapter provided a description and introduction of the participants involved in this study, discussed the procedures leading to themes which emerged from the data, and reported the findings by answering the research questions. It was evident the participants' experience of perspective transformation was initiated by spiritual awakenings and testimony of accepting Jesus as Lord and Savior. Their faith in God and the Bible combined with exposure to YEC science facilitated the relatively slow process of transformation in all but two of the participants, who experienced instantaneous transformation through transcendent-faith upon their acceptance

of Christ as Lord and Savior. The participants' ability to critically reflect on their previous evolutionary assumptions and presuppositions played a vital role in their transformations and subsequent actions after transformation. Post transformation perceptions of teaching YEC as part of their purpose or mission motivated the participants to supplement and refine YEC science and biblical worldview curriculum.

CHAPTER FIVE: CONCLUSIONS

Overview

The purpose of this study was to describe the perspective transformations of Christian high school science teachers who discarded their previous evolutionary paradigms and who currently believe and teach YEC science and the literal interpretation of Genesis. Developing an understanding of the occurrence of this type of perspective transformation is the focus of this chapter.

This chapter presents a concise summary of the findings pertinent the research questions, followed by a discussion of the findings relevant to the theoretical and empirical literature discussed in Chapter Two. Implications, delimitations and limitations of the study, and recommendations for future research are also discussed.

Summary of the Findings

This study explored Christian school science teachers' perspective transformations from the evolution paradigm to YEC using Mezirow's (1991) transformative learning theory (TALT) and Fowler's (1981) faith development theory (FDT) as theoretical guides to help analyze the data and provide a framework for answering the study questions. The central research question was, "How do the participants describe their perspective transformations from their previous evolutionary worldview to their current young-earth creationist worldview?" Based on the data obtained through the lived-experience summaries and semi-structured interviews, the participants described their perspective transformations in the context of their initial perspective of evolution or theistic evolution which had developed during their formative years from an accumulation of outside influences, such as parental upbringing, church, school, the media, culture, peers, and personal experiences. However, the evolutionary paradigm taught at school (i.e., public

education) was the dominant influence leading to their initial evolution paradigm perspective. Spiritual awakenings or salvation experiences provided the impetus of faith and biblical doctrine needed for the foundational aspects of their perspective transformations. Exposure to YEC science literature, speakers, and websites provided the knowledge needed to facilitate transformation for nine of the eleven participants. The remaining two transcended the gap of time and YEC knowledge normally needed for perspective transformation through transcendent-faith initiated by their salvation experiences.

Research sub-question one explored how participants experienced Mezirow's (1991) 10 phases of perspective transformation, and the 10 phases briefly describe the process of transformation as depicted in TALT. None of the participants experienced all 10 phases of perspective transformation. Six of them experienced six of the phases, two experienced seven phases, and three experienced eight phases. In total, the eleven participants experienced 74 of the possible 10 phases. This equates to the group of all participants experiencing 67 percent of the 10 phases of perspective transformation.

Research sub-question two explored how each participants' faith in God and the Bible contributed to his or her perspective transformations. Analysis of the written lived-experience summaries and the semi-structured interviews suggests participants' spiritual awakenings and their faith in God and the Bible were essential aspects of their transformations. All of the participants experienced a spiritual awakening or salvation experience before their transformations. Each of them affirmed their belief in the inerrancy of the Bible and agree their belief in YEC has strengthened their faith. Finally, when asked the question, "If you were to quantify faith to knowledge of YEC as a percentage ratio, to what would you attribute your perspective transformation from the evolutionary paradigm to YEC?" The average group

participant's perception of their faith to knowledge ratio was approximately 53% faith and 47% knowledge of YEC.

Research sub-question three explored actions and YEC curriculum development of the participants as a result of their perspective transformations. Participants' curriculum samples supplied evidence of post transformative actions consistent with their perspective transformations. Moreover, differing levels of lesson and unit plan development may indicate each participant possessed divergent senses of purpose or life mission for teaching YEC. Kroth and Boverie's (2000) study, using TALT as their guiding theory, concluded an individual's sense of purpose or life mission after their prospective transformation provides motivation and self-direction for taking appropriate action after their perspective transformation. Participants' expressions of their sense of purpose or life mission for teaching and developing YEC curriculum were found in their lived-experience summaries and their interviews, although, it was apparent there were differing levels of that same sense of purpose. Moreover, the impact on YEC curriculum development derived from each participants' transformation seemed dependent on the magnitude of their sense of purpose or mission.

Discussion

The findings of this study add to the empirical and theoretical literature reviewed in Chapter Two. This section will discuss the findings of this study related to Mezirow's (1991) transformative adult learning theory (TALT) and Fowler's (1981) faith development theory (FDT). These two guiding theories provide a structure for answering the study questions and understanding the essence of this study's perspective transformation phenomenon.

Transformative Adult Learning Theory

Mezirow's (1991) TALT describes how individuals' perspectives transform through critical reflection of the assumptions and presuppositions they had assimilated during their childhood and adolescent years. Included within TALT is a list of 10 phases of transformation derived from Mezirow's "national study of women returning to college after a hiatus to participate in specialized reentry programs in 1975" (Mezirow, 1991, p. 168). Each phase is a specific cognitive marker indicating perspective transformation has occurred in an adult's schema or worldview. No mention was made regarding how many, or which of the 10 phases are required for validation of perspective transformation. Sub-question one of this study is an exploration of how the participants experienced Mezirow's (1991) 10 phases of transformation. The findings of my research indicated the group of participants experienced 74 of the 110 phases possible for 11 participants, or approximately 67 percent of the phases. One of the phases, provisional trying of new roles (PTR), was not experienced by the participants of this study. This may have been due to the fact that this particular perspective transformation did not require changing roles, or careers as science teachers. Their transformations were simply a reinforcement of their current belief in the Bible as the inerrant Word of God.

Nine of the 11 participants' ability to critically reflect on their previous assumptions regarding the evolution paradigm, and their ability to assimilate new information when exposed to YEC science literature and speakers enabled a cognitive bridge for their perspective transformations. An adult's heightened ability to critically reflect on previous assumptions is an indispensable component of Mezirow's (1991) TALT. This study confirms that critical reflection on previous assumptions is an essential aspect of perspective transformation.

Moreover, the results of this study indicate the entire group of participants took appropriate further actions to increase their knowledge of YEC and adjust their science curriculum and teaching praxis. Therefore, the findings of this study align with Mezirow's (1991) assertion, "Action is an integral and indispensable component of transformative learning" (p. 209).

Analysis of how the participants experienced Mezirow's (1991) 10 phases of transformation suggests the entire group experienced valid perspective transformations from the evolution paradigm to YEC. Their transformations were not initiated by crisis epochal disorientating dilemmas (DD's); rather, they were initiated by their spiritual awakenings, non-epochal DD's, and a combination of faith in God and the Bible. Therefore, the findings of this study extend Mezirow's (1991) transformative adult learning theory by including spiritual awakenings and faith as the prime initiator and driving force of perspective transformation.

Faith Development Theory

Fowler's (1981) FDT does not define faith in the classical sense of believing or trusting in God, though he stipulates faith is an integral part of all religions. He defines faith as follows:

Faith is not always religious in content or context. To ask these questions seriously of oneself or others does not necessarily mean to elicit answers about religious commitment or belief. Faith is a person's or group's way of moving into the forcefield of life. It is our way of finding coherence in and giving meaning to the multiple forces and relations that make up our lives. (p. 4)

Fowler (1981) believed faith is an extension of the cognitive and psychological prowess of mankind; elevating their ethical and moral character for the good of all. Further, Fowler's (1981) description of faith is aligned with cognitive-faith, which is a pervasive theme throughout participant descriptions of their transformations.

Fowler's (1981) faith development theory elucidates progression of faith, as he defines it, through six stages of life that run parallel with psychological and cognitive stages of human development. The six stages are as follows:

1. Intuitive-projective faith - children (ages, 2-6)
2. Mythic-literal faith - children (ages, 7-12)
3. Synthetic-conventional faith - adolescence (ages, 13-21)
4. Individuative-reflective faith - young adulthood (ages, 21-35)
5. Conjunctive faith – adulthood (ages, 35-60)
6. Universalizing faith – maturity (ages, 60--)

Stages two, three, and four are relevant to this study. Stages one, five, and six are not within the scope of this study and will not be discussed. According to Fowler (1981), it is not surprising that participants in this study assimilated the beliefs and perspectives of their parents regarding the biblical narrative of creation and Noah's flood during childhood. Stage two of FDT, mythic-literal faith, suggests a child of about 10 years old has the ability to "bind experiences into meaning through the medium of stories." Moreover, stories of adventure and big picture narratives "become the media for the extension of the child's experience and understanding of life" (Fowler, 1981, p. 136). Before the participants reached adolescence, nine of them reported a childhood faith in God and belief in the biblical narrative of creation as a result of their parental upbringing and church influences. The remaining two were raised with an atheistic worldview. The lived-experience summaries of the entire group of participants described their childhood beliefs and faith toward God, or atheism, before their initial evolutionary perspectives had formed during their adolescent years. Participants' prevalence for describing their earliest impressions of God and faith within the context of their transformations

suggested their childhood faith provided an orientation and reason for why they eventually chose to abandon the evolutionary paradigm and embrace YEC during their young adulthood stage. The transition from stage two, mystic-literal faith, to stage three, synthetic-conventional faith, fostered their initial evolutionary perspective. This was primarily due to their assimilation of the evolution paradigm taught at public educational institutions. Fowler (1981) asserted, “A factor initiating transition to stage 3 is the implicit clash or contradictions in stories that leads to reflection on meanings...Conflicts between authoritative stories (Genesis on creation versus evolutionary theory) must be faced” (p. 150). Participants in this study intuitively described the conflict between what they originally believed about God and creation during childhood to what became their initial evolutionary perspective during adolescence. As they progressed into young adulthood, which Fowler (1981) considered stage four, individuated-reflective faith, their ability to critically reflect on their prior assumptions regarding evolution became apparent. Both Fowler (1981) and Mezirow (1991) asserted that unlike children and adolescents, adults have the ability to critically reflect on their previous assumptions and presuppositions. The results of this study confirm the importance of an adult’s ability to critically reflect on past assumptions to help initiate and facilitate perspective transformation. Moreover, it was not a surprise that all of the participants of this study experienced perspective transformations during their young-adult years (21-35). Further, the results of this study confirm Fowler’s (1981) findings that the most likely stage of life for experiencing perspective transformation is during young-adulthood.

Evolution and Theistic Evolution Perspective

Nine of the 11 participants’ initial perspectives were based on theistic evolution or old earth creationism before their transformations. The remaining two considered themselves atheistic evolutionists. It was not surprising the majority of participants in this study expressed

an initial perspective of theistic evolution. Mixing belief in God with current scientific and academic dogma, which proclaims all of creation and life has come about by naturalistic processes and random chance, has become vogue within society, and to a lesser extent, within the church and Christian education. It was also not surprising that two of the participants expressed an initial perspective of atheistic evolution. Atheism and agnosticism have steadily risen in American society, as has the number of those who identify as no-religion. The dogmatic proclamations of purportedly unbiased scientists who claim to have ‘proven’ the precepts of evolution and naturalistic processes of creation have provided a philosophical base and reason for not believing in God. Ironically, some of those same scientists have experienced perspective transformations to YEC and now propagate YEC science.

The results of this study’s sample of individuals suggest people who initially believe in God are more likely to experience perspective transformation to YEC than people whose initial perspective is atheistic evolution. This is likely due to the fact that there are fewer people who express atheism or no religion than those in society who believe in God. It also might indicate that people who already express a belief in God have less distance to travel in their YEC transformation journeys than those who have abolished God from their perspective of origins.

Exposure to YEC Science

Nine of the eleven participants required exposure to YEC literature, speakers, and eye-opening discussions regarding YEC science to further their perspective transformations from evolution to the YEC paradigm. The need for exposure to YEC knowledge to perpetuate transformation is aligned with the conclusions of DeWitt, Deckard, & Henderson’s (2003) quantitative study of college students who attended a YEC science course. Their findings suggested exposure to scientific evidence and knowledge supporting YEC is a key component

for an individual's perspective transformation regarding origins. This qualitative study confirms DeWitt et al. (2003) conclusion; exposure to evidence and knowledge supporting YEC is a critical component of perspective transformation from the evolutionary paradigm to the YEC paradigm.

Spiritual Transformation

Two participants experienced transcendent-faith as a result of their spiritual awakenings, which short-circuited the need for critical reflection of their previous assumptions. Their experience of perspective transformation closely aligns with the findings of McLaughlin's (2015) research, which concluded the spiritual renewal and perspective transformations of students and faculty at Wheaton College in 1995 was facilitated by an outpouring and presence of the Holy Spirit. This same outpouring of the Holy Spirit became the "disorientating dilemma" described in Mezirow's (1991) transformative adult learning theory. The findings of this study suggest a cognitive perspective transformation can happen instantaneously through a positive spiritual experience that supersedes the need for a disorientating dilemma, be it epochal or non-epochal.

Purpose or Mission

The participants of this study exuded a sense of purpose or mission as a result of their transformations. This same sense of purpose or mission cultivated by belief in God and the Bible may have been a motivating factor in their perspective transformations. Kroth and Boverie (2000) asserted that self-reflective questions such as, "Who am I?", "Why am I?", and "What is my purpose in life?" provide opportunity for individuals to question their underlying assumptions about what is true. Furthermore, the participants' sense of purpose or mission for teaching YEC science and furthering their personal knowledge of YEC has helped solidify their

personal transformations and perpetuate YEC perspective transformations in their students. The results of Kroth and Boverie's (2000) study of perspective transformation suggested a sense of purpose or mission should be included as an additional component of Mezirow's (1991) transformative adult learning theory. The findings of this study confirm Kroth and Boverie's (2000) study conclusion, purpose, or mission should be added to TALT; possibly as an addition to the 10 phases of transformation.

Implications

This study of Christian high school science teachers' perspective transformations revealed specific implications that can benefit Christian science teachers and administrators of Christian schools. This section discusses the theoretical, empirical, and practical implications of the research findings.

Theoretical Implications

TALT is the main guiding theory of this study. To this author's knowledge, there is no known empirical research exploring TALT through the lens of faith, specifically, how faith in God and the Bible can affect or initiate perspective transformation.

Each of the participants described a spiritual awakening and faith in God and the Bible as part of, and possibly, the main initiator and motivator for their perspective transformations. Their experiences implied faith can supplant disorientating dilemmas as the prime initiator of perspective transformation. This also suggests faith sometimes transcends the need for critical reflection of previous assumptions; although, the transformations of most of the participants in this study were dependent on their ability to critically reflect on their previous assumptions.

Participants' belief that the Bible is inerrant combined with their ability to critically reflect on previous assumptions provided fertile ground for perspective transformation. The

findings of this study suggested faith could be an additional component of TALT, at least within a Christian school environment. Therefore, Christian science teachers who desire to enhance the biblical worldviews of their students must emphasize biblical inerrancy, as well as critical reflection on previous assumptions regarding origins. These are vital components for transforming the worldviews and biblical perspectives of their students.

A secondary theory used in this study as a lens to evaluate faith was Fowler's (1981) FDT. The findings of this study were in partial agreement with Fowler's (1981) concept of faith developing over progressive stages of cognitive and physical development. It was partial agreement due to the fact that the scope of this study was limited to (a) stage two (i.e., mythic-literal faith; childhood: 7-12), (b) stage three (i.e., synthetic-conventional faith; adolescence: 13-21), and (c) stage four (i.e., individuative-reflective faith; young adult: 21-35). Essentially, most of the participants experienced a mythic-literal faith stage of belief in God and the biblical narrative of creation. Progression to the adolescent synthetic-conventional stage caused them to question their earlier beliefs about the creation narrative and accept the evolutionary paradigm. Lastly, they progressed to the young adult individuative-reflective stage, maturing to a point which allowed them to critically reflect on their previous assumptions developed during adolescence. The ability to critically reflect on prior assumptions combined with faith enabled their transformation from believing the evolution paradigm to belief in YEC. Therefore, Christian high school science teachers should incorporate critical reflection of prior assumptions mixed with faith in God and the Bible into their YEC curriculum development. This can be accomplished by using Deckard's (1997) creation worldview test as a template for assessing their students' initial perspectives of creation, biblical doctrine, and their views regarding the age of the earth. Teachers who have knowledge of their students' perspectives of origins can

uniquely tailor science studies and questions that will stir critical reflection of their prior assumptions. Further, teachers who share their own faith in the Bible as the inspired and inerrant Word of God, and who liberally use the biblical narrative of creation and the flood of Noah as their presuppositional basis for the study of origins, can greatly impact the hearts and minds of students who have already assimilated the evolution paradigm or OEC.

Empirical Implications

It is also necessary to discuss the empirical implications of this study based on the related literature of Chapter Two. This section will address the empirical implications of developing a biblical worldview through teaching science, as well as the impact of developing a sense of purpose or mission on perspective transformation.

Science and worldview formation. Developing strong biblically-based worldviews in the student body of many Christian schools is an important part of their mission, purpose, and reason for existence apart from the public-school system. In the context of this study, a strong biblical worldview means truly believing the Bible is the inerrant Word of God. Research suggests that the success or failure of developing such a worldview is dependent on hiring a staff of administrators and teachers who possess and emulate a strong biblical worldview as role models for their students. Research also indicates science has substantial worldview content. Therefore, it is important science instructors teaching at Christian schools develop and maintain science curriculum that reinforces a strong biblical worldview. These objectives can be accomplished if the teachers themselves possess a YEC perspective, and they teach science apologetically through the lens of the Bible rather than the naturalistic lens of the world. For example, science teachers should be able to clearly demonstrate the study of origins is based on historical science which cannot be observed or tested. Therefore, scientific disciplines such as

archeology, biology, cosmology, and geology base their theories regarding origins on presuppositions and assumptions of what really happened in the past. Historical science cannot be used to “prove” or establish factual evidence for what happened in the distant past. The study of origins is still a matter of faith in one’s presuppositions, much like believing the Bible’s narrative of origins is a matter of faith. Furthermore, YEC science teachers should consistently stress the authority of the Bible and its historical authenticity as the lens through which the study of origins should be viewed. This can be accomplished by interweaving passages of Scripture related to the topic being studied. For example, the story of Noah’s worldwide flood should be taught as the biblical reason for the abundance of sedimentary layers of rock and fossil record forming quickly rather than the uniformitarian perspective of slow natural processes taking hundreds of millions of years. Additionally, science instructors should stress the theological and doctrinal implications of believing Genesis is an accurate and truthful account of creation. Moreover, the foundations of Christianity are built upon the first eleven chapters in Genesis. If those chapters are removed due to not believing them as truth, or they are relegated to metaphors for what really happened, the need for Jesus to redeem us from our sinful nature simply vanishes.

Purpose or mission. Participants in this study who believe their perspective transformations have given them a sense of purpose or life mission were more likely to take appropriate actions as a consequence of their transformation. They provided better quality and quantity of curriculum samples, and possessed increased knowledge of YEC science.

Kroth and Boverie’s (2000) research study concluded transformative learning of individuals can be enhanced when they feel a strong sense of purpose or mission. Additionally, possessing a sense of purpose for what is being learned is an important aspect of the transformative learning process. Students often question why they need to learn certain subjects

(e.g., math, science, or the study of origins) as they don't always understand the purpose of what they are learning. Likewise, Christians often do not understand the need for studying origins. Two questions are often asked. "Why do we argue and debate about how and when we came into existence?" "Isn't it enough to believe in God and Jesus?" While it is true that our salvation is not dependent on what we believe about origins, the development of an individual's faith in the Bible and Jesus can be seriously eroded if there is a refusal to believe Genesis is accurate and true. Therefore, Christian science teachers must diligently seek to establish a sense of purpose or mission in their students for the study of origins, as well as other related sciences, to be a meaningful and transformative learning experience. YEC science teachers can accomplish this by connecting the concept of biblical inerrancy with their students' overall biblical worldview and faith. In other words, their students should understand that the strength of their personal faith in Jesus is dependent on what they believe about the Bible as a whole.

Practical Implications

The practical implications of this study should benefit Christian schools having mission and faith statements which uphold the inerrancy of the Bible, and stress developing a strong Christian or biblical worldviews within their students.

Christian school administrators. Administrators at Christian schools are responsible for setting the tone, hiring the teachers, choosing and approving curriculum, and leading the school and staff toward fulfilling the objectives of their school's mission and faith statements. As such, they should be cognizant of their teaching staff's perspectives regarding the doctrine of inerrancy of the Bible, the study of origins, and their biblical worldview. Administrators who do not develop teachers who are of one accord regarding the study of origins and how it relates to Bible inerrancy, will find themselves with a staff who teaches theories and perspectives utilizing

a watered-down version of the Bible, which could erode the faith and biblical worldviews of their students.

Christian school science teachers. Christian science instructors teaching at Christian schools should integrate sound biblical doctrine and stress the need for faith as primary components of their YEC curriculum and study of origins. This will help facilitate and develop biblical worldviews in their students, which is often a primary objective of the schools in which they teach. Moreover, science instructors should embrace YEC curriculum development as part of their mission or purpose for teaching science. Recognition of God's purpose or mission in life can be a powerful motivator in the lives of teachers, as well as the students who are impacted by their influence.

Delimitations and Limitations

There were three specific delimitations of this study outlined in the 'Participants' section of Chapter Three. The first was recruiting participants who are currently teaching science at Christian high schools. This criterion enabled me to study participants who could freely express their beliefs and could act on their perspective transformations by developing curriculum and teaching YEC science in their classrooms. The second delimitation for participation in this study was their teaching experience. All participants were required to have taught science for at least two years. This criteria for participation ensured first year teachers with limited experience teaching science and YEC were not part of the data set. The third delimitation recorded in Chapter Three was recruiting a heterogeneous group of participants to provide greater transferability of the findings to diverse groups of science teachers. Unfortunately, I was unable to find such a group; therefore, this delimitation became a limitation of the study. The group of participants for this study consisted of eight female and three male teachers; all were Caucasian

with the exception of one American Indian female. This could hardly be considered a heterogeneous group. The reason I was unable to solicit a group with diverse ethnicity was due the difficulties I encountered eliciting volunteers to study such a controversial topic. The process of participant solicitation took approximately nine months. I contacted 455 Christian high schools in thirty-three states across America, and received consent to contact science teachers from 102 administrators. Many of the principals did not respond to my inquiry, even after follow-up attempts. Forty-nine principals responded negatively for various reasons which included science teachers having a heavy workload, and participation in the study could subsequently cause distractions. Another often-repeated response was the belief that their science teachers did not fit the criteria of my study. The 102 principals who responded positively allowed me the opportunity to contact, via email, 220 prospective participants. Most of the teachers I contacted responded to my inquiry; many stated they had grown up in the church and had always believed in the literal six-day interpretation of creation. Some stated they did not feel they would be a good fit for my study. Others wanted to share with me how important it is to believe and teach a plurality of perspectives regarding origins, as well as the fact that they themselves did not believe in the six-day interpretation of creation. Lastly, a few took offense that I would dare ask them if they currently believed in the literal six-day interpretation of creation in Genesis, as they felt I implied they were not truly believers in Christ if they did not believe the literal interpretation of Genesis or teach YEC as part of their curriculum. This was certainly not what I was implying with my inquiry as my personal belief is that one's salvation is not dependent on their belief regarding origins.

The second limitation, which is related to the first, is the controversy that exists in Christian schools regarding the proper interpretation of Genesis, and how best to teach children

and adolescents historical science. This was one of the factors that limited my ability to recruit participants; many Christian schools simply do not take a strong stand on such a controversial issue. Many of the administrators and teachers of these same schools are theistic evolutionists or old-earth creationists who have not experienced a perspective transformation from the evolutionary paradigm to YEC.

The third limitation was, to this author's knowledge, there is no comparative study that has previously explored perspective transformation from the evolutionary paradigm to YEC. While I was successful in finding a gap in the literature on which to base my research, another comparative study could have added to, or contradicted my findings and conclusions.

Recommendations for Future Research

The phenomenon explored in this research study focused on the perspective transformations of Christian high school teachers from the evolutionary paradigm to YEC. Exploring the participants' perceptions and experiences of this type of transformation revealed further topics for research, the first of these being how faith can help initiate and facilitate perspective transformation. Faith in God and believing in the inerrant truth of the Bible were the overriding factors that enabled the perspective transformations of the participants in this study. Ultimately, the perspective transformations of the group of science teachers in this study will affect or initiate YEC perspective transformations in the students they teach. Future research such as a phenomenology or case study of how Christian schools or teachers integrate faith and education into perspective transformation leading to a Christian worldview would further enhance knowledge of how cognitive processes of the mind are affected and motivated by faith.

A second recommendation for future research is an exploration of the controversy surrounding the issue of teaching YEC at Christian schools. My review of the mission and faith

statements of the schools I contacted revealed a large percentage expressed belief in Bible inerrancy. Many of these same schools seemed cold to the idea of teaching YEC and the literal six-day interpretation of creation. A quantitative nationwide survey of Christian high school administrators, as well as science and Bible teachers' perspectives regarding YEC, and their concept of Bible inerrancy would shed light on a controversial issue that is pervasive in Christian schools and churches.

A final recommendation for future research is a case study of differing approaches to the study of origins used in Christian high schools. A study such as this would explore the mission and faith statements, as well as the perspectives of administrators, staff, and teaching praxis on a schoolwide level. Researching how Christian schools approach the teaching of origins will again shed light on a controversial issue that is often covered over or ignored.

Summary

The purpose of this hermeneutical phenomenology was to investigate and describe the transformations of Christian high school science instructors who at one time believed the evolutionary paradigm of origins but experienced a transformation of perspective and now believe and teach YEC to their students. The data collected from 11 participants' lived-experience summaries, semi-structured interviews, and curriculum samples analyzed through the lens of Mezirow's (1991) TALT and Fowler's (1981) FDT provided a thick, rich, narrative of their experiences, and insight into why and how they radically changed their perspectives regarding a controversial topic that has worldview implications. Inherent within their descriptions of transformation was the overriding theme of faith in God and the inerrancy of the Bible. TALT does not incorporate faith as one of its 10 phases of transformation, but FDT provided a lens through which the concept of cognitive-faith was examined as a primary

component of transformation. Analysis of the data through the lenses of these two theories suggests faith should be included as a component of TALT; it was the prime initiator and motivator of perspective transformation in this study. Furthermore, spiritual awakenings initiated by faith could be considered the participants' "epochal disorientating dilemmas" that Mezirow (1991) described in his 10 phases of transformation. This implies that radical transformations of perspective and lifestyle can be achieved through positive spiritual renewal and critical reflection on past assumptions and presuppositions. Indeed, the Apostle Paul expressed a cogent argument for combining faith and spirituality with the cognitive ability to critically reflect on past assumptions and lifestyle when he stated, "Do not be conformed to this world, but be transformed by the renewal of your mind, that by testing you may discern what is the will of God, what is good and acceptable and perfect" (Romans 12:2, English Standard Version).

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APPENDIX A

QUALITATIVE STUDY OUTLINE AND CONSENT FORM

Christian high school science teachers' perspective transformation: The journey from evolution
to creationism

Liberty University

School of Education

To Whom It May Concern:

My name is Paul Thorpe; I am an educational doctoral student attending Liberty University.

Presently, I am seeking to enlist research participants for my dissertation study. Suitable candidates for my study are Christian high school science teachers who have previously believed in evolution, theistic evolution, or old-earth creationism, but have experienced a perspective transformation and now adhere to young-earth-creationism (YEC), as well as the literal six-day interpretation of the creation account in the book of Genesis. YEC is defined as believing the earth was created approximately six to ten thousand years ago.

Purpose:

The purpose of this phenomenological study is to describe the perspective transformation of science instructors working at Christian high schools who previously held worldviews and perspectives supporting evolution, theistic evolution, or old-earth creationism, but have since rejected those perspectives, and now believe and teach YEC science and the literal six-day interpretation of creation found in the book of Genesis. At this stage in the research, the transformation of belief regarding origins will be defined as a phenomenon of transformative faith accompanied by a rejection of a previous perspective and acceptance of an entirely new

perspective as seen through the lens of Mezirow's (1991) transformative learning theory and Fowler's (1981) faith development theory.

Background Information:

The significance of this study is situated between the theological implications of believing or not believing the literal six-day creation interpretation of Genesis, along with the apologetic overtones of teaching YEC science to students attending Christian high schools. The focus of inquiry is an exploration of the transformational experiences of Christian high school science teachers which caused them to reject their previously held paradigmatic perspective supporting evolutionary based science in favor of teaching YEC science and the literal six-day interpretation of Genesis. The findings of this study will add significant information to the current body of literature as there is currently no empirical data or research regarding the transformation of an individual's perspective from evolution, theistic evolution, or old-earth creationism to young-earth-creationism.

The settings for this qualitative phenomenology will be the Christian high schools where the participants teach. In accordance with Creswell's (2013) admonition to select a heterogeneous group of around 10 to 15 participants who have experienced the same phenomenon, this study will seek a purposeful sample of approximately twelve science instructors currently teaching at Christian high schools. Each participant will have previously supported an evolution, theistic evolution, or old-earth-creation perspective (i.e., worldview), but have experienced a transformation of perspective and now adhere to YEC and the literal six-day interpretation of Genesis.

Procedures:

Data collection during the research phase of this study will involve multiple sources of information. Such as (a) one recorded interview of each participant, b) a written account of each participant's experience(s) associated with their perspective transformation from evolution vs. creationism (c) document analysis of each participant's lesson plans regarding study of origins or YEC science. Data obtained during this study will help the researcher develop a composite picture of each participant's experience with the phenomenon (i.e., perspective transformation from evolution to young-earth-creationism).

Confidentiality

Teacher participation in this study will be completely voluntary, they can choose to leave the study anonymously at any time. All names of teachers and school sites participating in this study will be kept confidential by using pseudonyms. All data collected during this study will be kept confidential and placed in secured and locked location for a minimum of three years and then destroyed.

Written Consent to Contact Science Teachers

If, after careful consideration you choose to allow me to contact your school's science teachers, I will need written consent from your school administration. If I obtain written consent, I will ask your school science teacher(s) to voluntarily fill out a demographic survey (see page 4) of their historical and current beliefs and perspectives regarding the study of origins and creation.

I will be happy to answer any questions you have regarding this study; my cell phone number is

██████████. My email address is ██████████.

Sincerely,

Paul Thorpe (doctoral student, Liberty University)

APPENDIX B

TEACHER REQUEST TO FILL OUT DEMOGRAPHIC QUESTIONNAIRE

Christian High School Science Teachers,

My name is Paul Thorpe; I'm an educational doctoral student attending Liberty University. I have obtained written consent to contact you through your school administration. Currently, I am seeking to enlist research participants for my dissertation study. Suitable candidates for my study are Christian high school science teachers who have previously believed in evolution, or theistic evolution, but have experienced a perspective transformation and now adhere to young-earth-creationism (YEC), as well as the literal six-day interpretation of the creation account in the book of Genesis. YEC is defined as believing the earth was created approximately six to ten thousand years in the past.

Purpose:

The purpose of this phenomenological study is to describe the perspective transformation of science instructors working at Christian high schools who previously held worldviews and perspectives supporting evolution, old-earth creationism, or theistic evolution, but have since rejected those perspectives, and now believe and teach YEC science and the literal six-day interpretation of creation found in the book of Genesis. At this stage in the research, the transformation of belief regarding origins will be defined as a phenomenon of transformative faith accompanied by a rejection of a previous perspective and acceptance of an entirely new perspective as seen through the lens of Mezirow's (1991) transformative learning theory and Fowler's (1981) faith development theory.

Significance:

The significance of this study is situated between the theological implications of believing or not believing the literal six-day interpretation of Genesis, along with the apologetic overtones of teaching YEC science to students attending Christian high schools. The focus of inquiry is an exploration of the transformational experiences of Christian high school science teachers which caused them to reject their previously held paradigmatic perspective supporting evolutionary science in favor of YEC science and the literal six-day interpretation of Genesis. The findings of this study will add significant information to the current body of literature as there is currently no empirical data or research regarding the transformation of an individual's perspective from evolution to young-earth-creationism.

Settings:

The settings for this qualitative phenomenology will be the Christian high schools where the participants teach. In accordance with Creswell's (2013) admonition to select a heterogeneous group of around 10 to 15 participants who have experienced the same phenomenon, this study will seek a purposeful sample of approximately twelve science instructors currently teaching at Christian high schools. Each participant will have previously supported an evolutionary or old earth creation perspective, but have experienced a transformation and now adhere to YEC and the literal six-day interpretation of Genesis.

Design:

Data collection during the research phase of this study will involve multiple sources of information. Such as (a) one recorded interview of each participant, (b) a written account of each participant's experience(s) associated with evolution vs. creationism, and (c) document analysis of each participant's lesson plans that include the study of origins or YEC science. Data

obtained during this study will help the researcher develop a composite picture of each participant's experience with the phenomenon (i.e., perspective transformation from evolution or old-earth creation, to young-earth-creationism).

Voluntary/Confidential:

Participation in this research is completely voluntary. If you volunteer to be involved in the study you can choose to leave anonymously at any time. All names of teachers and school sites participating will be kept confidential by using pseudonyms. You will be able to read and correct the transcript of your interview (i.e., member check) to help validate its accuracy, as well as correction of possible misconceptions in your meaning and perspective. All data collected by the researcher of this study (Paul Thorpe) will be kept confidential and placed in a secured and locked location for a minimum of three years and then destroyed.

If you would like to volunteer to be a participant in this study please fill out the demographic questionnaire on the next page and email it to me at [REDACTED]. If you are chosen to be a participant, I will send you a participant consent form that you will need to sign and return to me before data collection can begin.

I will be happy to answer any questions you have regarding this study; my cell phone number is [REDACTED]. My home email is [REDACTED].

Sincerely,

Paul Thorpe (doctoral student, Liberty University)

Demographic Questionnaire

Name: _____ Email: _____

Age: _____ Gender: _____ Ethnicity: _____

Currently teaching at - H.S. Name: _____

Years of science teaching experience: _____

Currently teaching which subjects: _____

Preference of science disciplines: Examples, Biology, Chemistry, Physics...

Educational degree level: _____

Science teaching credentials: _____

Agree or Disagree – Do you presently consider yourself to be a young-earth creationist? In other words, do you believe that the earth was created approximately 6,000 to 10,000 years ago?

Agree or Disagree – Do you believe that the doctrine of Bible inerrancy is a foundation for correctly interpreting Scripture? _____

Agree or Disagree – Do you believe in the literal six-day interpretation of the creation account in the book of Genesis? _____

Agree or Disagree – Do you presently consider yourself to be a theistic evolutionist or old-earth creationist? In other words, do you believe that God used the processes of evolution to create life on earth over eons of time? _____

Yes, or No – If you presently consider yourself to be a young-earth creationist, have you ever believed that Darwinism, theistic evolution, or old-earth creationism is the proper way to teach the study of origins, or interpret the creation account found in Genesis? _____

If you answered *yes* on the question above, at approximately what age did your beliefs (i.e., perspective) change or transform into a young-earth creationist? _____

APPENDIX C

Liberty University Institutional Review Board has approved this document for use from

3/31/2017 to 3/30/2018 Protocol # 2805.033117

CONSENT FORM

Christian High School Science Teachers' Perspective Transformation: The Journey from

Evolution to Creationism

Paul Thorpe

Liberty University

School of Education

You are invited to be in a research study of perspective transformation from evolution, or theistic evolution to young-earth creationism. You were selected as a possible participant because the demographic questionnaire you filled out indicated that you have previously experienced a perspective transformation that matches the criteria of this study. Please read this form and ask any questions you may have before agreeing to be in the study.

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

Background Information: The purpose of this study is to describe Christian high school science teachers' perspective transformations from their previous evolution, or theistic evolutionary worldview to their current young-earth creationist worldview.

Procedures: If you agree to be in this study, I would ask you to do the following things:

1. Send me a written lived-experience essay regarding your perspective transformation from evolution, or theistic evolution, to young-earth creationism. **Estimated time to complete (30 minutes).**

2. Complete a semi-structured interview over telecommunications, or in person. **Estimated time to complete (45 minutes)**. This interview will be recorded and transcribed verbatim for data analysis.
3. Send me copies of the lesson plans you teach that include young-earth creationist perspectives or scientific evidences supporting young-earth creationism. **Estimated time to complete (30 minutes)**,

Risks and Benefits of Participation: The risks involved in this study are minimal, which means they are equal to the risks you would encounter in everyday life.

Participants should not expect to receive a direct benefit from taking part in this study.

The conclusions of this study may benefit Christian school administrators, staff, and parents.

Ultimately, the creation perspectives of science instructors teaching at Christian schools will have a powerful influence on the biblical worldviews of the students they teach (Ham & Hall, 2011; Schultz, 1998). The findings will also build on existing literature associated with Christian apologetics, and therefore could find application in Christian churches seeking a transformation of perspective in their congregations regarding their beliefs about Genesis.

Compensation: Participants will not be compensated for participating in this study.

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Confidentiality: The records of this study will be kept private. In any report I might publish, I 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. I may share the data I collect from you for use in future research studies or with other researchers; if I share the

data that I collect about you, I will remove any information that could identify you, if applicable, before I share the data.

Your privacy is of the utmost importance to me. Therefore, all interviews will be done through private and secure telecommunications, or in a place where personal information cannot be easily heard. Privacy, confidentiality, and safety will be given high priority by using pseudonyms for the participants and sites of the study.

- All physical documents will be stored under lock and key and destroyed after a period of three years. All electronically saved files and recordings will be kept on computers that are encrypted and password protected to help ensure confidentiality. All data will be destroyed or permanently erased after a period of three years.
- All recordings will only be accessible to me, the researcher, and to a professional transcriptionist during the transcription process. All recordings will also be erased after a period of three years.

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 Liberty University or your employer. If you decide to participate, you are free to not answer any question or withdraw at any time without affecting those relationships.

How to Withdraw from the Study: If you choose to withdraw from the study, please contact the researcher at the email address/phone number included in the next paragraph. Should you choose to withdraw, data collected from you will be destroyed immediately and will not be included in this study.

Contacts and Questions: The researcher conducting this study is Paul Thorpe. You may ask any questions you have now. If you have questions later, **you are encouraged** to contact him at [REDACTED] or [REDACTED]. You may also contact the researcher's faculty advisor, Tracy Pritchard, at [REDACTED].

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 Institutional Review Board, 1971 University Blvd., Green Hall Ste. 1887, Lynchburg, VA 24515 or email at irb@liberty.edu.

Please notify the researcher if you would like a copy of this information for your records.

Statement of Consent: I have read and understood the above information. I have asked questions and have received answers. I consent to participate in the study.

(NOTE: DO NOT AGREE TO PARTICIPATE UNLESS IRB APPROVAL INFORMATION WITH CURRENT DATES HAS BEEN ADDED TO THIS DOCUMENT.)

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The researcher has my permission to audio-record me as part of my participation in this study.

Signature of Participant Date

Signature of Investigator Date

APPENDIX D
THEMES AND CODE CLUSTERS

Emergent Themes Aligned with Code Clusters/Groups

<i>Emergent Themes</i>	<i>Codes</i>
Initial evolution perspective	Atheist
	Childhood and adolescent influences
	Church not interested in addressing evolution
	College teaching of evolution
	Cultural influences, (i.e., TV, movies, culture)
	Evolutionist
	Gap theory
	Grade school teaching of evolution
	High school teaching of evolution
	Initial perspective
	Parental or guardian influence
	Raised in a Christian home
	Religious upbringing
	Separated science and faith
Theistic evolutionist	
Spiritual awakening	Prayer
	Salvation experience

<i>Emergent Themes</i>	<i>Codes</i>
	Strengthened faith
	Transcendent faith
	Turning point
Exposure to YEC science	Appearance of age
	Discussions with others
	Knowledge of YEC
	YEC literature
	YEC speakers
	YEC websites
Describing transformation	Approximate age of transformation
	Transformation description
Experiencing transformation	Assessment of assumptions (AA)
	Acquiring knowledge and skills (AKS)
	Building competence and confidence (BCC)
	Disorientating dilemma (DD)
	Exploration of new roles and actions (ERA)
	Planning a course of action (PCA)

<i>Emergent Themes</i>	<i>Codes</i>
	Provisional trying of new roles (PTR)
	Recognition of discontent (RD)
	Reintegration into one's life (RIL)
Faith: cognitive & transcendent	Faith Development Theory (FDT)
	Impact on faith
	Individuative reflective faith (stage IV)
	Mythic-literal faith (stage II)
	Strengthened faith
	Synthetic-conventional faith (stage III)
	Transcendent faith
Bible inerrancy	Age of the earth?
	Bible inerrancy
	Global flood?
	Literal 6-day creation event?
	Original sin and death?
Post transformation perspective	Biblical worldview
	Impact on faith

<i>Emergent Themes</i>	<i>Codes</i>
	Increased knowledge of YEC science
	Planning a course of action (PCA)
	Purpose or mission in teaching science
	Strengthened faith
	Teaching YEC alongside evolution (dual model)
