

Threats and Opportunities to Critical Thinking Development Students Encounter in a Christian
College Environment: A Case Study

by

Mark Edward Schwartz

Liberty University

A Dissertation Presented in Partial Fulfillment

Of the Requirements for the Degree

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Abstract

The purpose of this single unit case study was to describe the efforts of Small Christian University (SCU) to develop critical thinking skills and dispositions amongst its students. The theory guiding this study was Fowler's stages of faith theory, which explains the role of experiences and crises in developing faith, a process which parallels closely with the process of developing critical thinking skills. This study examined interviews with students, a focus group with faculty and documents recording assessments of completed student assignments to describe how effective SCU's efforts were in developing students who could think critically and were disposed to do so regularly. Data on these key experiences were then coded to discover common themes that influenced students' critical thinking skills development. The results support the idea that students do learn to think critically at SCU, although three conditions need to be met for this to take place. First, students should persist until graduation so that they go through the development Fowler predicted was needed to strengthen their faith and develop their critical thinking skills. Second, students should choose to engage with others who hold different viewpoints so they can learn from a diversity of different perspectives. Third, students should risk challenging the long-held beliefs they brought with them to SCU.

Keywords: critical thinking, critical thinking disposition, faith development, Christian college, higher ed, higher education

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Dedication

This work is dedicated to my family: my wife Heather, who has supported me throughout this journey, and my sons Emerson and Keaton, who can look at this work as an example of what can be accomplished with hard work and persistence.

Acknowledgments

I would like to acknowledge my committee chair, Dr. Andrea Bruce, and committee member Dr. Rachel Hernandez.

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Table 1

Interview Participants

Student Participant	Major	Gender	Previous connection to denomination?	Obtained license?	Lived on campus?	Standout quote
EVAN	HDP	M	N	Y	Y	“But I think I really had to unlearn some of that stuff from kind of just like, agreeing with what [denomination] taught me”
BECKY	HDP	F	Y	N	Y	“it was a good introduction to . . . start thinking about yourself separately from your parents and your family”
CORY	TM	M	some	N	some	“I got more for myself out of that than trying to serve what a professor is looking for”
JASON	BA	M	Y	N	Y	“I'm being forced to know why I believe what I believe. And there's a gap there of being able to figure out what I believe versus what I think I should be believing”
KATIE	TM	F	Y	Y	Y	“God's like, you're not really getting asked for blind faith, like scripture is a testament to why you should have faith in Jesus”
MOLLY	HDP	F	Y	N	Y	“I believe as Christians that that should, that we should be one of those people who do excel and who do desire to grow and learn. Where a lot of times I feel like it's the opposite with the church and the opposite with sometimes Christian institutions because you just stay in the comfort”
DAVID	COMM	M	Y	N	Y	“after going to [SCU] . . . I've definitely had a higher value on the ability to work on that critical thinking ability and to really know

TINA	TM	F	N	N	Y	“I know too much. To like believe, to like walk away from this. So it's like even I wrestled, but it was my theological backing and my like logical understanding of who God was up until that point that kept me from walking away”
MAY	COMM & BS	F	Y	N	Y	“I am grateful because [SCU] has taught me how to ask questions. It just didn't teach me how to sit in the uncomfortable feelings”
LOUISE	HDP	F	N	N	N	“before I came, most of my friends looked the same and had the same story. And now I don't have a single friend that has the same story as me or looks like me. And so it's challenged how I do life, how I talk to people, the decisions I make, everything”
RACHEL	COMM	F	Y	N	some	“I wanted desperately to engage with the community authentically, but I didn't feel like I could do so”

Abbreviations:

BA = Business Administration

BS = Biblical Studies

COMM = Communications

HDP = Human Development and Psychology

TM = Transformational Ministry

Table 2

Focus Group Participants

Name	Gender	Academic Field	Years at SCU	Holds license with denomination?
DENISE	F	Human Development & Psychology	7	N
KAREN	F	Dean of online instruction	4	N
LAURA	F	Academic Support Center Director	3	N
STAN	M	Chair, Worship Arts & Ministry	5	Y

Table 3

Themes and Sub-Themes Found in the Analysis of Codes

Themes	Description	Sub-themes
1. Academic Life	Influence of curricular activities, courses, and faculty members on Critical Thinking development	Courses & their role in promoting critical thinking
		Faculty & their role in promoting critical thinking
2. Campus Life	Influence of co-curricular activities, events, and social groupings on Critical Thinking development	Spiritual Life
		Community Life Agreement (CLA)
		Diversity
3. Critical Thinking	Evidence of Critical Thinking ability and disposition by graduates	Ability for Critical Thinking
		Disposition for Critical Thinking
4. The Denomination	Influence of the Denomination on Critical Thinking development	Licensing with the Denomination
		Indoctrination

List of Abbreviations

Association for Biblical Higher Education (ABHE)

Bachelor of Arts (B.A.)

Community Life Agreement (CLA)

Small Christian University (SCU)

Values and Knowledge Education (VaKE)

WASC Senior College and University Commission (WSCUC)

Western Association of Schools and Colleges (WASC)

CHAPTER ONE: INTRODUCTION

Overview

College is a time for students to learn new skills, have new experiences and develop their identities. One important skill students should develop during college is their ability to think critically. Studies like those of Sola, et al. (2017) and Huber and Kuncel (2016) have concluded that students improve their ability to think critically during their experiences as a college undergraduate both in and out of the classroom. However, why or how this happens is still largely unexplored and some still question whether these gains are sufficient to prepare students for life after college (Stupple et al., 2017). While some educators strongly believe critical thinking is not innate and must be developed intentionally and systematically (Franco et al., 2018), some question whether these student gains can be further improved through strategic efforts, since they are often the result of a combination of variables including things as disparate as their involvement in the college culture (Gellin, 2003) or where they took their prerequisite courses (Domenech & Watkins, 2015). Several researchers have examined specific instructional approaches to improve critical thinking development during college (Franco et al., 2018; Tiruneh et al., 2018), but a holistic examination of the entire college process beyond just the curriculum, specifically the process at a Christian college, to see what factors influence critical thinking development is relatively unexplored. This current study will focus on discovering what experiences 2021 and 2022 B.A. degree graduates from a Christian college have had, both inside and outside of the classroom, that have either helped or hindered the development of their critical thinking skills during their college experience. Unearthing these experiences provides helpful suggestions for educators to create environments where this development can occur more often and students can be better prepared to navigate their post-college life. The theoretical framework

of this study is Fowler's (1981) stages of faith. The problem statement, purpose statement, and research questions are discussed, as well as the significance of the study.

Background

Critical thinking is an important skill for college students to master. Employers and other stakeholders prize critical thinking and a recent survey found it ranked second among the top six skills certain employers are looking for, trailing only interpersonal skills (Baird & Parayitam, 2019). Despite the agreement that critical thinking is important, students often fail to develop their critical thinking skills while in college, as 90% of surveyed employers found college graduates deficient in critical thinking skills (Casner-Lotto & Barrington, 2006) and critical thinking skill development is often seen as inadequately addressed in most colleges (Arum & Roksa, 2011). The college experience can help develop students' critical thinking skills (Huber & Kuncel, 2016), including the use of specific educational interventions (Abrami et al., 2008). This can include all college experiences, including those outside the classroom (Sola et al., 2017). A better understanding of how students develop their critical thinking skills can help inform more effective educational interventions to improve those skills.

Historical Context

Critical Thinking is often seen as an essential function of education, a view generally believed to have started with Dewey (1910) and his support for inquiry in education—specifically inquiry that took place intentionally: “the aim of education is precisely to develop intelligence of this independent and effective type—a disciplined mind” (p. 63). This inquiry leads to knowledge that can be useful for solving problems, providing students are able to apply that knowledge to the problems. Dewey's views on inquiry led to him developing the reflective thinking process, comprised of one experiencing a felt difficulty, making a comparison to a

previous difficulty to ascertain the nature of the problem, developing several possible solutions to the situation, examining and evaluating the possible solutions and testing the solution out in the real world. This process sowed the seeds for critical thinking to be an essential educational outcome.

Eventually, critical thinking came to be seen as an important goal to be developed in higher education. Florence (2014) traces this development to Graham Sumner's book *Folkways* from 1940. In it, Sumner proposed that critical thinking was an important part of education, since developing critical thinking skills was the only protection students had from blindly accepting ideas handed to them. Only by critically engaging with these ideas, Sumner believed, could students develop into good citizens. Florence (2014) also traced this development through Robert Ennis, and his 1962 article "A Concept of Critical Thinking," which highlighted how overlooked the skills of critical thinking were, including things like "grasping the meaning of a statement, assessing ambiguity in a line of reasoning, identifying contradictory statements, the necessity of a proposed conclusion, evaluating a statement's specificity, judging whether a statement is an accurate application of a particular principle, determining if an observation statement is reliable, determining if an inductive conclusion is necessary, assessing if a problem has been rightly identified, identifying assumptions, judging the adequacy of a definition, and discerning if an assertion made by an alleged authority is acceptable (p. 84). Florence (2014) states this line of support for critical thinking continued with Brookfield's 1987 work *Developing Critical Thinkers*, which "continued to hone the understanding and expand the reach of modern critical thinking skills in education" (p. 356).

Social Context

Beyond educational applications, critical thinking is also important to the development of

the individual, allowing for clarification of one's own personal views and how they are applied in various situations. Fowler (1981), in his stages of faith theory, encourages interacting with people from a variety of viewpoints and spending time reflecting on those interactions as a way of developing one's own personal views. It is through experiences, Fowler believes, that the most important lessons in life are taught, and students' spiritual development is often the result of them facing crises in their lives, and then reflecting on those crises to take important lessons from them. College is a good time to have these kinds of experiences, since many students are in Fowler's third stage of faith development (Synthetic-Conventional Faith) when they attend college and are therefore able to synthesize their experiences and begin to form patterns of thought and behavior. By the time most students graduate from college they have entered, or are close to entering, the fourth stage (Individuative-Reflective Faith), and are equipped to re-shape their own beliefs and identities. According to Fowler, the development of students' faith is often correlated with the development of their ability to think critically.

While critical thinking is important to college students in general, for Christian college students specifically the biblical context of critical thinking within the Christian faith provides opportunities and challenges for developing their critical thinking skills. Christians have a biblical motivation to think critically that should provide some advantages to helping Christians improve their critical thinking skills. Sanders (2018) notes that "the Bible supplies theological principles and guidelines for engaging in the critical thinking process," including advice to apply themselves to study so they can correctly handle the word of truth (II Tim. 2:15), be transformed by the renewing of their minds (Rom. 12:2) and take every thought captive to Christ (II Cor. 10:5). However, this biblical motivation may also become a barrier to critical thinking development, as Christians can also use scripture to support the idea that critical thinking is not

important because faith itself is sufficient to live a Christian life serving God: Proverbs 3:5 states that the just shall live by faith rather than their own understanding, and Hebrews 11:6 states that without faith it is impossible to please God (Perschall, 2019). Some Christians have seen the Bible as discouraging critical thinking in favor of simply obeying those in authority based on passages like Romans 13:2 and Hebrews 13:17 which encourage obedience to authority. Also, some Christians believe that learning how to think critically enables students to criticize the Scriptures and might allow them to question their faith and possibly rebel against the church as a result (Florence, 2014). Following biblical principles is a key discipline in Christian higher education and, depending on which principles are given prominence, can both help and hinder students in their critical thinking skill development.

Another important aspect of critical thinking development for Christian college students is a student's inclination to use critical thinking when it is called for. This inclination, or disposition, is an attitude that critical thinking is a good tool to use and includes a willingness to use it. Facione (2000) defines it as someone's internal motivation to engage in critical thinking processes in deciding what to believe and do. A recent study found that the more time students spent reflecting on their critical thinking processes, the better they got at thinking critically, suggesting that helping students view critical thinking positively can improve their skills (Yildirim & Ozkahraman-Koc, 2018). Additionally, students who view themselves as good critical thinkers often demonstrate better critical thinking skills than those who do not (Roohr & Burkander, 2020).

Overall, students who have better critical thinking skills and have developed a disposition to value and use those skills are better prepared to solve complex problems in the world today. Franco, et al. (2018) argues critical thinking is essential in academic, professional, personal, and

social areas of life. Additionally, Christians who develop good critical thinking skills are better able to defend their faith (I Pet 3:15) and share it with others. In addition to students, educators who understand how students improve their critical thinking skills can benefit, as they can more effectively guide students in developing their critical thinking skills. This study provides insight into how critical thinking skills are improved, and what both students and educators can do to maximize this improvement.

Theoretical Context

The theoretical context for this study is Fowler's (1981) stages of faith theory and Kierkegaard's (1985) concept of Christian existentialism. Fowler (1981) developed his stages of faith theory to explain the development of an individual's faith in stages throughout their lifetime. Fowler (1981) defines faith as those things that help direct our worship and devotion "toward the objects of our ultimate concern" rather than simply a set of beliefs (p. 8). In this sense faith is not limited to just religious belief, but can be anything people set their heart to, including things like political ideas, social movements, or other causes they believe in. Fowler (1981) also believes that unwavering, strong faith allows people to believe and be motivated by values and principles despite their individual current happenings. Fowler's theory does not dictate what people should have faith in, but Fowler believes that faith is action, not just belief, that all people have faith in something that they set their heart to, and that faith in something must precede belief in that thing.

Fowler's (1981) basic theory offers six distinct stages, plus a pre-stage. Fowler's stages are:

0. Undifferentiated Faith (typically displayed in Infancy)
1. Intuitive-Projective Faith (typically displayed in Early Childhood)

2. Mythic-Literal Faith (typically displayed in School Years)
3. Synthetic-Conventional Faith (typically displayed in Adolescence)
4. Individuative-Reflective Faith (typically displayed in Young Adulthood)
5. Conjunctive Faith (typically displayed in Mid-life and Beyond)
6. Universalizing Faith (not displayed in any typical timeframe)

Fowler (1981) sees advancing through the stages of faith as basically the equivalent to developing spiritually. He also believes the traditional undergraduate college years can be an appropriate time to advance from one stage to the other, since “time, experience, challenge, and nurture are required for growth in faith” (p. 114), and these are often a key part of the college experience. The goal of Fowler’s theory is to help recognize where people are in their faith development and help them to move forward in their faith when possible.

Fowler’s theory also applies to the development of the skills needed to think critically, as Fowler (1981) says that students need to be in at least stage three (Synthetic-Conventional Faith) to be able to synthesize their experiences and begin to form patterns. Students without this ability to reflect on the experiences they have had will find it difficult to intentionally improve their critical thinking skills, or even be aware of the need to improve them. Ideally students move into stage four (Individuative-Reflective Faith) during their time in college, and as they re-shape their own identity through this process they develop an internal authority that can guide them in their thinking and actions rather than relying on the external authorities they have been guided by while growing up. Several key principles of critical thinking development—including an ability to evaluate information from a variety of perspectives, recognition of potential biases, and awareness of how experience shapes belief—closely parallel principles of faith development,

making this a helpful theory to use when studying critical thinking development among Christian college students.

Another theory that provides context for this study is the Christian existentialism of Soren Kierkegaard, who is best known for his contributions in theology, philosophy, and education (Smith, 2020). As a prominent Christian theologian and philosopher Kierkegaard provides insight into critical thinking development in the life of a Christian scholar. Kierkegaard felt that individuals needed to accept faith on their own and could not simply inherit it due to where they were born, which was a revolutionary idea in 19th century Denmark, as membership in the state church was compulsory, and all Danes considered themselves Christians as a result (Smith, 2020). Kierkegaard felt this inherited faith created in people a false sense of their own salvation because it absolved them of any personal responsibility for the development of their faith.

Kierkegaard felt that objective knowledge, which came from outside the self, could not provide the certainty most people were looking for, and he instead favored subjective knowledge, which must be experienced rather than simply studied (Smith, 2020). In education, Kierkegaard prioritized the “how” of the material over the “what” and hoped to create an encounter for students that could challenge their perspective (Jaarsma et al., 2016). This encounter serves to disrupt what students already knew, rather than simply adding to it, and helps students to reflectively think about their experiences and choose by themselves what to believe (Jaarsma et al., 2016). Kierkegaard (1985) often referred to this encounter as a disequilibrium where the internal balance that students felt about their beliefs was suddenly shifted out of balance, and students were forced to adjust their beliefs to restore this balance. Kierkegaard advocated for educators to assist students in navigating their disequilibrium, and for educators to

set students up with situations in which to explore their own paths rather than guiding them along a pre-set path (Smith, 2020).

Both Fowler and Kierkegaard maintain that students best develop their faith and reason when they experience something that challenges their existing belief system, reflect on it, and move forward with a new belief system. Both theorists see the role of education as a way to help guide students through these inevitable challenges, and resist providing simplistic answers or premature closure, so students are required to take time to think through the challenges and develop their new belief system. Part of guiding students in their own reflection is recognizing the importance of the state of disequilibrium or crisis, where students' new experiences cannot be placed meaningfully into their existing ways of knowing, and they therefore need to create new ways of organizing this new information and the new experiences through which they encounter it (Kaiser et al., 2012). This disequilibrium is a common result of education, yet students often find it difficult to integrate new knowledge and perspectives into their pre-existing ways of seeing the world (Bowman, 2010). However, students who can learn from their new experiences can formulate psychological resilience, which is an ability to become comfortable with the gains and losses that come with each step in the learning process. Students with resilience can push forward to the next cycle of experiences and the subsequent adjusting of their views, despite knowing full well the psychological toll it might extract (Henning, 2011).

Problem Statement

The problem is that Christian college students are either unwilling or unable to use and develop critical thinking skills optimally during their undergraduate college years, resulting in an under-developed Christian faith and an inability to apply their critical thinking skills effectively without fear of losing their identity within the Christian community (Bar-Tal et al., 2021).

Colleges typically do attempt to help students improve their critical thinking skills during their time as an undergraduate in college (Alkhadher & Scull, 2020), and most college graduates do make gains in their critical thinking abilities while in college (Huber & Kuncel, 2016; Sola, et al., 2017), but in a 2013 survey, 82% of U.S. employers felt that higher education institutions should place more emphasis on critical thinking (Hart Research Associates, 2013). Part of the challenge in improving critical thinking instruction in higher education is that it must include efforts to build students' willingness (or disposition) to think critically rather than just focusing on strengthening their cognitive thinking skills (Facione 2000). This emphasis on students' critical thinking disposition should be a part of any Christian college's institution-wide efforts to improve students' critical thinking skills. In their meta-analysis, Huber and Kuncel (2016) showed that while students are statistically likely to improve their critical thinking while in college, it is unknown exactly what factors contribute to these gains. In fact, Roohr et al. (2019) found only 15% of the differences in critical thinking ability measured among students from 18 different institutions was due to institutional traits, indicating that other factors play key roles in students' critical thinking development. Despite these limitations it is important to examine what an institution can do to help develop critical thinking among its students, in terms of both abilities to think critically and disposition to do so.

Measuring critical thinking skill growth is difficult, as is isolating specific variables in the college experience that might have contributed to that growth. Various strategies have been identified to help promote the development of critical thinking skills and dispositions, including using argument mapping as a technique that can improve students' critical thinking skills (Kaeppel, 2021), having faculty participate in the scoring of a critical thinking assessment (Haynes et al., 2016), using non-textbook readings for classes (Collins-Dogrul & Saldana, 2019),

improving students' creative thinking skills so they are better able to come up with more possible solutions to evaluate when solving problems (Qiang et al., 2020), and having students keep reflective critical thinking course notes during their courses (Yildirim & Ozkahraman-Koc, 2018). Examining the experiences of students that helped them in their critical thinking skill development is a necessary first step to helping higher education institutions develop their students' critical thinking skills and dispositions.

Purpose Statement

The purpose of this single unit case study was to describe the process of developing the skills and dispositions needed to think critically among 2021 and 2022 B.A. degree graduates at Small Christian University (a pseudonym). At this stage in the research critical thinking will be defined as the intellectually disciplined process of actively and skillfully conceptualizing, applying, analyzing, synthesizing, and/or evaluating information gathered from, or generated by, observation, experience, reflection, reasoning, or communication, as a guide to belief and action (Paul & Elder, 2020). Also, critical thinking disposition will be defined as having one's personality oriented toward critical thinking (Chen et al., 2020), the inclination to use the critical thinking skills one possesses (Dowd et al., 2018), or the attitudes and motivation people need to regularly practice critical thinking (Goodsett, 2020).

Christian colleges devise events and activities, both in and out of the classroom, to help their students improve their academic skills and mature spiritually. This study will look at Small Christian University (SCU), a Christian college dedicated to creating good Christian leaders. The focus of this study is to describe how effective SCU's efforts are in developing undergraduate students who can think critically and are disposed to do so regularly.

The theory guiding this study is the stages of faith theory developed by Fowler (1981). This theory explains how an individual's faith in something (not just religious faith) generally develops in stages throughout their lifetime and can be used as a lens to view critical thinking development as well. Additionally, many features of faith development such as reflective thinking, testing ideas against evidence, evaluating authority, and overcoming crises, are prominent features of critical thinking skill development, making this a helpful theory for this study of both critical thinking and Christian faith.

Significance of the Study

This study will illuminate the process students go through during their undergraduate studies in college to improve their critical thinking skills. The study can provide feedback on how well students develop their critical thinking abilities and their disposition to use those abilities during their time in college. This feedback can then inform specific strategies for colleges to implement in helping create the best environment for students to develop their faith, their critical thinking abilities, and their disposition to use those abilities.

Theoretical Significance

This study is significant in identifying some of the experiences students have had, both in and out of the classroom, that led to the development of their critical thinking skills and disposition, and in the linking of Fowler's (1981) stages of faith theory to critical thinking development among Christian college students. This study helps examine what has happened in the lives of these college graduates that assists in their faith and critical thinking development so that helpful processes and activities can be better understood and implemented by college educators. Future studies can further establish the connection between faith development and critical thinking development, with the overall goal of better understanding the relationship

between the two and devising educational experiences both in and out the classroom that can help students as they develop their critical thinking skills and solidify their faith.

One theoretical challenge is that there is some uncertainty among scholars about how much of the faith and critical thinking development process can be directed externally, with some research arguing that the development process should be directed by educators (Franco et al., 2018) who are carefully trained in helping students develop their critical thinking skills, and some arguing that the development process must be driven internally by the individual student. Fowler (1981) encourages interaction with people holding differing viewpoints, and spending time reflecting on those interactions: these reflections could be initiated as classroom exercises externally but are likely be more helpful if initiated by the students themselves. This also connects with Fowler's contention that students need to develop an internal sense of authority rather than follow an external one. In fact, Fowler argues that the entire process of faith itself is only successful when an individual sees for themselves the worth of the object of that faith. Even the most skilled educator cannot impose this value on students—they need to see it for themselves. As a result, this study will attempt to learn from students what worked for them, and the successful processes can be used to replicate the natural conditions under which other students improved their faith and critical thinking skills. Hearing from students on how they developed their own critical thinking skills and faith can help give insight into how much of the process they directed themselves, and how much external resources from the college or other areas helped direct the process. Understanding what worked for students in developing their critical thinking skills is a necessary first step in devising other process that can help other students in their development, and in recognizing the limitations of institutional involvement in the process.

While Fowler (1981) believes the development of faith and critical thinking are a product of natural linear growth that primarily happens internally, he nevertheless believes that there are distinct stages in an individual's life where they are more likely to occur, based on external factors. The time students traditionally spend in college is ideally suited to promote this development based on the separation from external authorities that often occurs at the 18–25-year-old range (Fowler 1981). While the best and longest lasting growth may happen naturally, there is also room for both students and colleges to help this process along (Abrami et al., 2008), and understanding what types of experiences and activities can help do so is important to ensuring students are best equipped to make the process happen.

Empirical Significance

This study can add to studies like that of Pascarella (1989), who showed that undergraduate students attending college improved their critical thinking abilities after even one year at college compared to those who didn't attend college. It can also add to the work of others like Harrell (2011), who identified that using specific pedagogical techniques such as argument diagramming can help improve students' ability to analyze arguments and think critically. This study can provide further exploration of what gains in critical thinking ability development can be achieved, and how best to achieve them.

A synthesis of current literature conducted by Persky et al. (2019) among pharmacy students shows what sort of barriers to critical thinking development they faced. The study found “their own perceptions, poor metacognitive skills, a fixed mindset, a non-automated skillset, heuristics, biases and the fact that thinking is effortful” (p. 161) among the barriers. However, the study also found several ways to help students improve their critical thinking skills, including “a thoughtful learning environment, seeing or hearing what is done to executive cognitive

operations that students can emulate, and guidance and support of their efforts until they can perform on their own” (p. 161). The current study examines these literature-based ideas by examining the lived experiences of actual research subjects to see how much these barriers and opportunities affected students’ actual critical thinking skill development and applies these ideas specifically to the realm of Christian colleges.

Practical Significance

There are several key contributions this study can potentially make to Christian colleges, their students, and the educational process. Critical thinking is part of a Christian college’s mission to develop thoughtful citizens of the world and is important to the professional and personal development of its students. Critical thinking is often a skill that accreditors encourage colleges to help develop among their students, and such is the case with SCU (WASC, 2022). Additionally, as Christian colleges focus on training and preparing students for ministry, the goal of helping students develop, understand and live out their Christian faith is a worthy one. Christian college graduates who are better critical thinkers are better able to bring their skills to complex problems facing the church and the world. For the college itself, being able to train students to think critically strengthens the reputation of the college and helps it attract talented students, staff, and faculty moving forward.

From an educational standpoint, being a better critical thinker allows students to engage with educational content at a deeper level, and to understand the complexities of real-world situations. Also, educators who understand how students learn to think critically can develop better educational processes to help them do so (Franco et al., 2015). Educators armed with this understanding will themselves become better critical thinkers in analyzing their own teaching methods and their approaches to the educational process.

Beyond the institution, students who can think critically are able to develop their Christian faith and continue to advance through the stages of faith outlined by Fowler (1981). Students with a well-developed faith are better equipped to fulfill the biblical mandate to go into all the world and make disciples (Matt 28:19) in whatever ministry context they enter after graduating. Employers want critical thinkers, so students who can think critically are more likely to succeed in the workplace or in whatever environment God calls them to.

Research Questions

A case study design involves asking questions regarding “why” or “how” a social phenomenon works and attempting to answer those questions (Yin, 2017): this current study involves the researcher asking questions of “why” or “how” students developed their Christian faith and critical thinking skills during their time as undergraduates at a Christian college. In a case study, the researcher explores specific examples within a bounded setting, and for this study that bounded setting includes graduating seniors from various majors at a specific Christian college. This design limits the scope of the data to the students’ time in college and their experiences during that time, both in and out of the classroom. For the most part participants are college students graduating in their early to mid-20s, thus generally limiting the breadth of their experiences when compared with those of an older adult.

Central Research Question

How does Small Christian University, a small Christian university, develop critical thinking skills and dispositions amongst its students working toward a Bachelor of Arts degree in the traditional undergraduate program?

Sub-Question One

How are Christian college students at SCU working toward a Bachelor of Arts degree in the traditional undergraduate program progressing from Fowler's stage three to stage four?

Sub-Question 2

How are Christian college students at SCU working toward a Bachelor of Arts degree in the traditional undergraduate program demonstrating critical thinking?

Definitions

1. *Critical thinking* – “the intellectually disciplined process of actively and skillfully conceptualizing, applying, analyzing, synthesizing, and/or evaluating information gathered from, or generated by, observation, experience, reflection, reasoning, or communication, as a guide to belief and action” (Paul & Elder, 2020).
2. *Critical thinking disposition* – a “personality orientation toward critical thinking” (Chen et al., 2020, p. 95) or the inclination to use the critical thinking skills one possesses (Dowd et al., 2018). People who have a disposition toward critical thinking are inclined to use their critical thinking skills and can discern when to do so.
3. *Faith development* – “a highly naturalized concept of revelation that attempts to describe how a person moves through a series of psychospiritual conflicts and challenges needing to be engaged, if not resolved, and sometimes revisited” (Hart, 2014, p. 649). Faith usually develops over time, and the object of faith can be anything people find valuable.
4. *Christian college* – Historically, “A Christian college is one which seeks to make all its life an expression of intelligent loyalty to the historic Christian faith” (Filson, 1945, p. 8). A more modern definition would be “one that educates so students will be equipped to think in a Christian manner and perform skillfully in whatever vocation God has chosen for them” (Study International 2019, para. 3).

5. *Heuristics* – “rules-of-thumb that can be applied to guide decision-making based on a more limited subset of the available information. Because they rely on less information, heuristics are assumed to facilitate faster decision-making than strategies that require more information” (APA 2017, para. 3).

Summary

Critical thinking is an essential skill for all people to develop, and the undergraduate years in college are a fruitful time to develop it (Fowler, 1981). Employers rank critical thinking high on their list of desirable skills for potential employees (Baird & Parayitam, 2019), yet many employers find college graduates lack critical thinking skills (Casner-Lotto & Barrington, 2006). While colleges often focus on helping students improve their critical thinking skills, students also need to develop the disposition to do use those skills (Facione 2000). Many students are either unwilling or unable to use and develop their critical thinking skills optimally during their time in college, leading to challenges when beginning their desired careers. This study describes the processes of this critical thinking skill and disposition development among Christian college students, giving insight into the processes that both students and colleges can undertake to maximize students’ critical thinking development, and exploring potential barriers to this development.

CHAPTER TWO: LITERATURE REVIEW

Overview

Critical thinking is a valuable academic and life skill college graduates are expected to have. Employers want college graduates who can think critically (Goodsett, 2020), yet college graduates earning a B.A. degree often have not developed the critical thinking skills needed for employment during their time in college (Casner-Lotto & Barrington, 2006), and critical thinking skill development is often seen as being inadequately addressed in most colleges (Arum & Roksa, 2011). To develop their critical thinking skills, students need background skills like open-mindedness (Dewey, 1910), an ability to reflect on their experiences (Fowler, 1981), and an ability to generate and evaluate alternative hypotheses when analyzing a situation (Ben Shaul, 2015). While students do often show gains in critical thinking during their time spent in college (Sola et al., 2017), too often these gains are inadequate to prepare them for life and a career after college (Stuppel et al., 2017). The challenges to critical thinking development include confusion over what the precise skills are that make up the ability to think critically (Cooke et al., 2019) and whether these skills are general to all college students or vary by discipline (Thonney & Montgomery, 2019). This confusion also hinders educational efforts to teach critical thinking, both at the classroom and institutional levels (Zapalska et al., 2018). Further, Christian college environments have their own set of challenges in helping students develop their critical thinking skills due to features of the Christian faith that both help and harm efforts toward critical thinking development. The purpose of this single unit case study is to describe a Christian college's efforts to develop critical thinking skills and dispositions amongst its undergraduate students pursuing a Bachelor of Arts degree. Chapter Two presents the theoretical framework for

the study, synthesizes the related Literature, and explains how this study can contribute to the overall body of literature regarding the best ways to teach critical thinking.

Theoretical Framework

A theoretical framework provides a pathway for moving from concrete experiences to abstract description (Anfara & Mertz, 2006). This theory explains and synthesizes the phenomena observed in a particular study. A helpful theory to base a research study on should provide a simple explanation of observed phenomena, be consistent with existing knowledge, provide a tentative explanation for the phenomena and should stimulate further research into the phenomena (Anfara & Mertz, 2006). For the current study, the concrete experiences of undergraduate Christian college students will be supported by Fowler's (1981) stages of faith theory.

Fowler (1981) developed his stages of faith theory to explain the development of people's faith in stages they go through during their lifetime, based on examining the stage development theories of other psychologists and educators, including Piaget, Erickson, and Kohlberg. Fowler found similarities in an individual's development process common to all of them, such as the development of things like basic trust, autonomy, identity, connection to others, and meaningfulness. Fowler developed his theory specifically to examine how these stages coincided with the development of individual faith, and how these natural processes reciprocally interacted with an individual's faith development.

For Fowler (1981), faith is not limited to religious belief but can be anything people set their heart to, including things like environmentalism, political reforms, assisting the disadvantaged, or other causes they believe in. Fowler's theory does not dictate what people should have faith in, but Fowler believes that faith is action rather than just belief, that all people

have faith in something that they set their heart to, and that the faith people have must be something they choose for themselves. Ultimately, Fowler (1981) believes well-developed faith that people choose on their own allows them to be guided by their values and principles rather than their current circumstances—in fact, people at the final and rarely-achieved sixth stage of faith development (Universalizing Faith) generally eschew their self-preservation instincts in favor of full dedication to the values and principles they hold, regardless of the risks doing so may pose. People's development of a strong faith complements their critical thinking skills, which involve viewing situations and making decisions based on evidence and thought rather than on intuition or emotion (Troyka and Hesse, 2017). According to Fowler (1981), people work to develop both their faith and their critical thinking skills so they can make thoughtful decisions based on their values and principles rather than their immediate circumstances.

Fowler's (1981) basic theory offers six distinct stages plus a pre-stage. As individuals go through their lives, they typically move from one stage to another, a process that is basically automatic and typical in the early stages, and increasingly difficult in the later stages. In fact, most people do not develop through all the stages during their lifetimes.

Fowler's stages can be briefly summarized:

0. Undifferentiated Faith (typically displayed in infancy): this is a pre-stage to the development of faith, where things like mutuality and trust are learned, in addition to the possibility of using symbols. For example, a baby crying to have his or her needs met, and learning that those needs will be reliably met, displays this stage.
1. Intuitive-Projective Faith (typically displayed in early childhood): this stage involves children using things like speech and symbolic representation to organize their sensory experiences into units of meaning. At this stage children assume their perspective is the only one

possible. For example, a young child at this stage is self-aware and egocentric, feeling like their experiences are typical of everyone else's.

2. Mythic-Literal Faith (typically displayed in elementary school years): this stage adds an ability to put one's experiences into a narrative that connects experiences and gives them meaning. At this stage, students have no ability to reflect on their life stories or systematize them into abstract thought. For example, a child at this stage can tell stories about what has happened to them, but not to reflect on them or use them to generalize about future experiences they are likely to have.

3. Synthetic-Conventional Faith (typically displayed in adolescence): this stage begins the formal operational thinking process, inviting people to engage in mental processes that aren't limited to things currently being experienced. This stage allows people to form hypothetical images of themselves as others see them, and these views of others begin to become important to people. People at this stage cannot yet examine their own systems of behavior: they know things and behave as if those things are true but cannot tell others *how* they know something. This stage is marked by a lack of self-criticism or looking deeply into why people know what they know. For example, a teen at this stage is influenced by peer pressure and a desire to fit in with others while still attempting to form their own identity. Faith in this stage highlights the individual's hunger for a God who knows and accepts them. Upon finding a religious practice that fulfills that hunger, some people enter this stage and stay in it the rest of their lives. People in this stage typically have trouble separating their religious symbols from the things they stand for (like the cross, for example). Fowler (1981) notes that "in many ways religious institutions 'work best' if they are people with a majority of committed folk best described by stage three" (p. 165) since these people are more likely to accept the word of

authority figures without thinking critically about the ideas they are presented with, thus streamlining decision-making. According to Fowler, these people “constitute a parody of authentic Christianity and an abomination against biblical faith” (p. 165). This is the stage many undergraduate college students are at upon beginning their college experience, and unfortunately many people never develop beyond this stage.

4. Individuative-Reflective Faith (typically displayed in young adulthood): this stage is often triggered by the opportunity to separate from the home life people know, which provides them both the opportunity and burden of re-shaping their identities. This frequently (but not always) happens when students go away to college. Moving to stage four requires that people no longer rely on external sources of authority, but rather begin to form their own internal authority. Fowler notes that this process typically involves distancing oneself from the previous assumptive value system (of a family, church body, etc.), the emergence of an “executive ego” necessary for forming an internal authority, and exposure to people holding a range of different viewpoints. People often move into this stage after significant life events make the previous stage’s faith inadequate for them. This stage is marked by self-directed criticism, with students themselves always in control of the criticism. For example, a young adult in this stage is beginning to form their own identity and worldview.

5. Conjunctive Faith (typically displayed in mid-life and beyond): this stage recognizes the demanding work of reconciling and integrating the conscious with the unconscious and readies people to interact with others from traditions different than their own, seeing other pathways to truth that may complement or strengthen their own faith rather than threatening it. This stage is marked by a self-criticism that can release control of the process and is confident not knowing where things will end up.

6. Universalizing Faith (not displayed in any typical timeframe): this stage allows people to lose their self-preservation instinct, and as a result allows them to fully dedicate all their efforts to the object of their faith without fear of consequences, even unto death. People in this stage show full commitment to their values and principles regardless of whether it benefits or harms them. Fowler states that people in this stage “are often experienced as subversive of the structures (including religious structures) by which we sustain our individual and corporate survival, security and significance” (p. 201). These people are noticed by others because they stick out from the crowd, confidently living according to the principles they hold dear in a way that most people outside this stage would be afraid to do.

Fowler (1981) sees advancing through the stages of faith as basically the equivalent to developing spiritually. People need help from others in this process, but Fowler would say it is not advisable, or even possible, to rush people through these stages, and that this development requires “time, experience, challenge, and nurture” (p. 114). Fowler believes strongly in experience as a teacher and would say that people cannot truly learn to trust God until their faith is tested and rings true in the life they are experiencing: faith must be experienced to truly be developed, echoing the biblical admonition to “taste and see that the Lord is good” (Psalm 34:8).

Related Literature

A literature review is a synthesis of recent literature on a specific topic (Purdue University, n.d.). In reviewing the current literature on critical thinking skill development, several key themes emerge.

Definitions of Critical Thinking

Defining critical thinking is difficult, as there is not universal agreement regarding what it means. Several educators have offered definitions over the last century, including Dewey (1910),

who defined it as “active, persistent, and careful consideration of a belief or supposed form of knowledge in the light of the grounds which support it and the further conclusions to which it tends” (p. 6). Glaser (1941) saw critical thinking as involving three things: “(1) an attitude of being disposed to consider in a thoughtful way the problems and subjects that come within the range of one’s experiences, (2) knowledge of the methods of logical inquiry and reasoning, and (3) some skill in applying those methods” (p. 15), a definition which includes not only the skill itself, but the disposition to use it, which is also echoed in Scriven and Paul’s (1987) definition.

Ennis (1993) referred to critical thinking as “reasonable and reflective thinking that is focused on deciding what to believe or do” (p. 180) and included 10 different activities that critical thinkers need to be able to do:

1. Judge the credibility of sources.
2. Identify conclusions, reasons, and assumptions.
3. Judge the quality of an argument, including the acceptability of its reasons, assumptions, and evidence.
4. Develop and defend a position on an issue.
5. Ask appropriate clarifying questions.
6. Plan experiments and judge experimental designs.
7. Define terms in a way appropriate for the context.
8. Be open-minded.
9. Try to be well informed.
10. Draw conclusions when warranted, but with caution (p. 180).

Similarly, Paul (1993) described it as “the intellectually disciplined process of actively and skillfully conceptualizing, applying, analyzing, synthesizing and/or evaluating information

gathered from, or generated by, observations, experience, reflection, reasoning, or communication, as a guide to belief and action” (p. 1). This process is also sometimes defined as an outcome as well: Troyka and Hesse (2017) view critical thinking as a mental habit of welcoming alternative viewpoints, examining issues from all sides, and only then reaching a conclusion, and Halpern (1998) defines critical thinking as “the deliberate use of skills and strategies that increase the probability for a desirable outcome” (p. 449). Some definitions focus on the process, while others focus on the outcome, but in either case critical thinking is seen as taking time and effort.

Other definitions include that offered by Pithers and Soden (2000), who use the more generic term “good thinking,” which they equate to “being able to identify questions worth pursuing, being able to pursue one’s questions through self-directed search and interrogation of knowledge, a sense that knowledge is contestable and being able to present evidence to support one’s arguments” (p. 238). Additionally, one seminal work in attempting to clarify critical thinking in education was the Delphi Report, generated by the American Philosophical Association in 1990. In a recent update, Facione (2010) explains that the main skills involved in critical thinking, as determined by the panel of experts involved in writing the Delphi Report, include interpretation, analysis, evaluation, inference, explanation, and self-regulation.

Educators disagree about whether critical thinking is the same for all disciplines, or whether it is specific to each discipline, and whether certain fields tend to emphasize different specific skills within the development of critical thinking (Stupple et al., 2017). Thonney and Montgomery (2019) note an ongoing debate between those who think of critical thinking as a general skill, like reading or mathematics, that can be applied across disciplines, and those who think of it as specific sets of skills unique to individual fields. Idrasienne et al. (2019) conducted a

meta-analysis to understand critical thinking in higher education. Examining 161 articles on critical thinking, the researchers concluded that many educational scholars view critical thinking as a domain-specific skill. Willingham (2019) agrees that content knowledge is essential to effective critical thinking, and that while there are some critical thinking principles that apply across domains, those who learn these broadly applicable principles in one situation often fail to apply them to other situations, even though this application can be learned with practice. Students can benefit from learning general critical thinking skills that cross most disciplines, and from specific skills needed for their particular discipline.

Pre-requisites to Critical Thinking

Several different features are required before college students can think critically, including skills, attitudes and knowledge. Dewey (1910) identified open-mindedness as a prerequisite to being able to think critically, defining it as being free from prejudice or other factors that would make someone unwilling to consider new ideas. Similarly, Fowler (1981) believed students need to be able to reflect on their experiences and challenge their existing beliefs to grow in their critical thinking abilities. Ben Shaul (2015) added the concept of “optional thinking” to the list of prerequisites to critical thinking, defining it as the cognitive ability to generate, compare and evaluate alternative hypotheses that offer viable explanations for real or lifelike events. To engage in critical thinking, students need to be open to alternative explanations for the things they have experienced and the views they hold because of those experiences. Those who cannot form alternative ways of seeing certain situations are more likely to prematurely accept an idea without critically evaluating it, thus thwarting the critical thinking process. Fowler (1981) places this openness to alternative explanations as typically coming near

stage three (Synthetic-Conventional Faith), since students are then better able to see things from outside their own experiences.

Another requirement for students to be able to think critically is a disposition to use that skill. This disposition is defined by Facione (2000) as “the consistent internal motivation to use critical thinking skills to decide what to believe and what to do” (p. 22). In their 2018 study of how likely college students were to believe in things like the paranormal, conspiracy theories and other epistemologically unwarranted beliefs, Stahl and van Prooijen found that students needed both analytic skills and a willingness to form their beliefs on rational grounds to demonstrate effective critical thinking in rejecting unsupported beliefs, with the willingness to form beliefs on rational grounds to be the more important of the 2 factors. The study of 343 college students found that those with high cognitive ability did not always think critically because they were often inclined to misinterpret evidence favorably if it was consistent with their previously held beliefs. Vero, et al. (2018) found that students often defaulted to using their personal judgment and experience when making decisions and engaging new ideas rather than looking at facts or reasoned arguments, further reinforcing the need for students to develop not only their critical thinking skills, but their disposition to use them. The cognitive economy gained by using heuristics is appealing to many college students and the temptation to avoid critical thinking is strong, so they must see the benefits offered by critical thinking to engage in it.

Facione (2010) affirms the importance of a disposition to use critical thinking, and lists the following as elements of this disposition: inquisitiveness with regard to a wide range of issues, concern to become and remain well-informed, alertness to opportunities to use critical thinking, trust in the processes of reasoned inquiry, self-confidence in one’s own abilities to reason, open-mindedness regarding divergent world views, flexibility in considering alternatives

and understanding of the opinions of other people, fair-mindedness in appraising reasoning, honesty in facing one's own biases, prejudices, stereotypes, or egocentric tendencies, prudence in suspending, making or altering judgments and willingness to reconsider and revise views where honest reflection suggests that change is warranted. These elements display a willingness to recognize when critical thinking is needed and naturally must be activated before an individual decides to apply critical thinking skills to a specific situation. Facione (2000) sees the development of one's disposition toward critical thinking as building intellectual character and believes it must accompany the development of specific cognitive skills in critical thinking. While many educational endeavors focus on teaching students how to think critically, the development of critical thinking involves both having critical thinking skills available and being willing to use them when needed. Students who have an ability to think critically, but don't see its importance, don't know when to use it, or simply choose not to use it, cannot be said to be critical thinkers in a real-world sense. Simply teaching critical thinking skills is not enough to ensure students will use them properly.

To truly develop critical thinkers, multiple traits are needed. In many cases, studies and educational efforts have focused on the ability to think critically, which would encompass the basic skills of applying critical thinking to a situation. However, students also need the disposition or willingness to use that ability and would also need some relevant background knowledge of the area they are thinking critically about, as well as the criteria upon which to think critically—that is, the parameters of what is to be decided and how a critical decision is to be applied. Franco et al. (2018) state that colleges need to develop in students the ability, disposition, knowledge and criteria for critical thinking. Similarly, Persky et al. (2019) believe critical thinking requires knowledge of critical thinking techniques, knowledge of the field where

critical thinking is being applied and an attitude that aligns with critical thinking. Also, Halpern (1998) suggests that any good model for teaching and learning should include four components: a dispositional component, instruction in the skill of critical thinking, training in the structural aspects of problems and arguments (to promote transfer between disciplines) and a metacognitive component that allows for checking and monitoring of decisions. Among all these lists of traits, common attributes include (1) formal training in the vocabulary and practice of logic and critical thinking, (2) a willingness (disposition) to engage in the critical thinking process, (3) some basic knowledge of the subject field in which critical thinking is taking place and (4) a clear description of the aims of the critical thinking process (i.e. what is the goal of thinking critically about this?). Only when all these traits are present will efforts to teach critical thinking be most effective.

One important idea that can illustrate the need for critical thinking disposition is the dual process theory, which holds that there are two different systems in the brain: system one, which works more quickly to make decisions, and system two, which is more steeped in reflection, engaging in a more methodical process to carefully consider all options (Eigenauer 2017). System one often involves cognitive heuristics, is used for many everyday situations where timely responses are needed and is often automatically employed so it can be used quickly. Conversely, system two is more deliberate and takes time to carefully evaluate the situation before responding (Facione 2010). For most people, using system one to make decisions is a default position, as it does not require much effort—it bases decisions on limited input and uses things like cognitive heuristics and intuition to draw swift conclusions. For many everyday situations, using system one makes sense in that it saves time and preserves mental energy for more weighty decisions. Franco, et al (2018) describes this “cognitive economy” as the path of

least resistance: decisions can be made more quickly and with less effort, but those decisions are more likely to be fraught with biases and fallacies. As Cialdini (2007) notes, these shortcuts in thinking save time and allow humans to quickly make sense of a rapidly changing world. However, they can also keep humans from making thoughtful decisions if they are used inappropriately.

System one thinking is often seen as the first step in assessing a situation and thinking critically about it, while system two is a backup to be used when system one fails to provide an adequate understanding (Monterio et al., 2020). Thinking in system one is generally automatic, while system two requires training and practice to implement. Students need to be able to use this second system when needed, but also need to know when to deploy this process, since it slows down the decision-making process. Developing critical thinking skills helps with the ability to use the second system while developing a critical thinking disposition helps with the ability to discern when to use it.

For some religious people, their resistance to using system two thinking has been found to be related to their faith. In their 2012 study on analytic thinking and religious belief, Gervais and Norenzayan found that promoting system two thinking (by asking questions a certain way or otherwise implying that system two thinking was a good way to make decisions) tended to cause people to report a lower level of religious belief than they would otherwise report. In many cases, participants in the study wanted to communicate that they prized system two thinking and didn't make their decisions based on simplified rules like those stemming from religious beliefs. Studies like this show the possibility of an underlying bias against system one thinking and can cause believers of any religious faith to view critical thinking efforts skeptically, as they may feel their faith is threatened by analytical thinking. For Christians, this natural preference for system

one thinking illuminates the root of the threats and opportunities that stem from the relationship between Christianity and critical thinking: there is a desire to be unwavering in one's faith that must be balanced against a desire to "take captive every thought to make it obedient to Christ" (2 Cor 10:5).

Christianity's Relationship to Critical Thinking

Learning critical thinking skills and developing a disposition to use them are important for everyone, but not everyone faces the same challenges in doing so: Christians have elements of their faith that can both help and hinder their critical thinking development.

Obeying Authority

One element of the Christian faith that can hinder critical thinking development is the perception that it is more important to obey authority than question it (Alkhadher & Scull, 2020). Biblical teachings that encourage obedience abound: Romans 13:2 states, "whoever rebels against the authority is rebelling against what God has instituted," and Hebrews 13:17 encourages its readers to "have confidence in your leaders and submit to their authority." In the minds of many Christians, this call to obedience diminishes the need for critical thinking and actively discourages a careful examination or questioning of authority figures. However, this can be a dangerous precedent that allows those in authority to overstep their bounds. I John 4:13 states that Christians should not believe every idea they encounter, but should "test the spirits to see whether they are from God." Alkhadher & Scull (2020) found that failing to hold authority figures accountable for their ideas can lead people to extremist beliefs, which then often results in Christians being seen as lacking critical thinking skills and being unable to discern when an authority figure is misleading them. Fowler (1981) suggests that people in faith stage four are

able to shift from an external authority to an internal one, and therefore are less likely to be misled by fallible human authority figures.

Fowler (1981) acknowledges this pull toward obeying authority and admits that Christians who haven't reached faith stage four often commit themselves to ideas suggested by authority figures because they have been taught it is the appropriate thing to do, and rely on this external authority instead of an internal one. Faith that lasts, according to Fowler, is based on a commitment to something that has "intrinsic excellence or worth" and people commit to it "because it promises to confer value on us" (p. 18). When someone holds a faith position because they feel they ought to, based on things like external sources of authority, that faith is often short-lived and can waver when people are presented with crises in their lives. Only when people feel an intrinsic worth to their faith will they hold fast to it. Similarly, people who believe other ideas simply because they feel they ought to will often begin to question those ideas when they leave the environment where those ideas were cultivated. In a 2016 survey, Pew Research found that among adults who once were affiliated with a religious tradition but no longer identified with any particular religious group, 36% said they disaffiliated due to being disenchanted with their particular religious tradition or no longer believed the ideas they once held and 7% said their views simply evolved over time to the point they could no longer hold them in good conscience, with one respondent pointedly stating "I'm doing a lot more learning, studying and kind of making decisions myself rather than listening to someone else" (Lipka, 2016, Table 2). The survey indicates that those who hold beliefs based on external pressures to do so typically do not continue holding those beliefs throughout their lifetimes.

Imparting Shared Values

Another element of Christianity that can potentially hinder critical thinking is the desire for unity of thought through the impartation of shared values. Christianity is based on the teachings of the Bible, which is the bedrock unifying all Christians together in their core beliefs. Christianity prizes unity within the body of Christ, and this unity is seen as a positive good the Bible commands Christians to work toward (Psalm 133:1, Eph. 4:3). However, this desire for unity can also lead people to accept the norms of a particular society or group practicing Christianity without thinking critically about why they believe as they do. In many cases, narratives that fit the overall tenets of Christianity (or those of a specific group within Christianity) are reinforced, while those that might challenge these tenets are suppressed (Bar-Tal et al., 2021).

One way this tension is seen is through individual denominations of the Christian faith. There are many different denominations of Christianity, and for students wanting to officially align themselves with a particular denomination, often there is a requirement to adhere to a common set of doctrinal positions held by those in that denomination. These specific positions help unify those within the denomination. However, this unity can also convey pressure to hold to specific biblical positions, can mean that ideas are not discussed and debated, and can mean dissent to the prevailing ideas is discouraged. Ideally, everyone would follow the biblical advice to work out their own salvation with fear and trembling (Phil. 2:12), but when shared values are encouraged, sometimes Christians will affirm those values without examining and questioning them. Among Christian college undergraduate students, for example, those who are pursuing a license to preach from a particular denomination go through a licensing or ordination process, usually requiring them to know and affirm specific points of the denomination's

heritage and theology, often called a statement of faith (Mooney 2018). Overall, the licensing process ensures unity withing the denomination, but can also encourage uniformity of belief rather than encouraging Christians to carefully examine the beliefs they hold.

During the undergraduate college experience, many of the religious beliefs students hold can be learned, debated and wrestled with while students are figuring out their own faith. In fact, critical thinking itself is often seen as a hedge against indoctrination or an unexamined adherence to beliefs (Bar-Tal et al., 2021). Christian colleges often have an opportunity to help students navigate through this challenge, yet the colleges themselves also feel this conflict. As educational institutions, Christian colleges generally encourage robust debate over challenging ideas: as religious institutions, however, they sometimes can prefer unity for the sake of a more harmonious and united college community. Students often have a hard time navigating through this tension, especially when, according to Fowler (1981), students at this age may not have developed their own sense of internal authority but could be influenced by the external authority of the university or its affiliated denomination. Also, students entering college are often in Fowler's third stage (Synthetic-Conventional Faith), meaning their system of behavior is mostly an unexamined one (Fowler 1981), and they may not be fully aware of why they hold the beliefs they hold. Christian colleges must face the issue of balancing the (often closed-minded) process of imparting shared values while encouraging the (often open-minded) process of critical thinking (Bar-Tal et al., 2021).

Valuing Certainty

Another key component of the Christian faith that is sometimes seen as being at odds with critical thinking is the prizing of certainty. Colloquially, hymns like "Blessed Assurance" or slogans like "God said it, I believe it, that settles it" are good illustrations of this idea, as they

reinforce the importance of the certainty that Christians have in their faith. One of the foundational definitions of faith in the Bible is that “Now faith is confidence in what we hope for and assurance about what we do not see” (Heb 11:1). While this certainty is a comfort to many Christians, the challenge is that this certainty can lead people to reject any honest critique of different aspects of their faith. For example, Gerald (2016) believes that a desire for certainty among religious people leads them to eschew critical thinking or any other process that might cause them to waver in their beliefs. This desire for certainty can lead to Christians failing to properly question their beliefs and failing to balance the need for certainty with the need to continually evaluate their ideas and beliefs. Along with certainty comes system one thinking (Monterio et al., 2020): if matters of faith are “settled” there is no need to keep thinking critically about them, and no need to exert cognitive energy wrestling with them. Although this isn’t always the case, the appeal is strong for some Christians to have things “figured out” and then to continue in those beliefs due to the appeal of the cognitive economy they provide. Fowler (1981) would say this mindset hinders the development of one’s faith, however, since it provides the illusion that once things are figured out they don’t need to be examined further. Moreland (2012) also advocates for continually figuring out and re-examining our beliefs, even when the truth we discover by doing so isn’t always what we want to hear, and he encourages Christians to continue developing their critical thinking capacities despite potential opposition.

Also, pairing a desire for certainty and a desire to obey authority has often been a dangerous combination for Christians, as religious officials can provide “easy answers” to key questions and then immediately invoke their position of authority to stifle debate about the ideas behind those answers, discouraging critical thinking in the process. In Moreland’s book *Love Your God with All Your Mind* (2012), he traces the history of Christian anti-intellectualism to the

various attacks on Christianity in the late 1800's, and the response from the church not to respond against these attacks with a reason-based rebuttal, but instead to distrust these more intellectual arguments against Christianity. The resulting withdrawal from intellectual endeavors in favor of fundamentalism that didn't question everything led to much of the church failing to engage their minds and think critically about their beliefs. As a result, many Christians were (and continue to be) stuck in Fowler's (1981) stage three (Synthetic-Conventional Faith), where they have a tacit understanding of their beliefs, but cannot explain why they hold those beliefs.

The Role of Doubt in Faith and Critical Thinking Development

Many Christians see a strained relationship between their unwavering faith in God and the critical thinking process. Christians have sometimes been discouraged from questioning their faith or sharing their doubts under the assumption that doing so might cause their faith to weaken or be lost altogether. Florence (2014) summarizes this resistance to critical thinking as the belief that "if Christians are taught to think in a critical way, they criticize the Scriptures, call their faith into question, and eventually rebel against the church" (p. 359). Many Christians avoid a critical evaluation of their more deeply held beliefs for this reason.

For those outside the faith, Christians' reluctance to question things believed without proof seems strange, and in many minds sets up a conflict between critical thinkers and those who live by faith. Dyer and Hall (2019) studied college students and the frequency of their epistemologically unwarranted beliefs (EUBs), surveying them at the beginning and ending of a semester-long class on critical thinking and concluded that certain types of EUBs were more likely to be reduced through targeted critical thinking instruction, including beliefs in extraordinary life forms like supernatural beings which would be one facet of the Christian faith.

Studies like this are sometimes interpreted by Christians as evidence that studying and developing critical thinking skills during college is a threat to their faith.

Similarly, some within the church believe that developing critical thinking skills opposes biblical teachings regarding faith and that these intellectual efforts can hinder the development of one's faith. Perschall (2019), in her dissertation entitled *Critical Thinking Today: Its Impact on our Culture and Christian Communities and How We Can Become Better Thinkers*, notes that there are some within the church who feel reasoning is not a skill a person can develop, because they view it as synonymous with the biblical gift of wisdom (described in James 1:5), which is freely given by God, but only to those who he decides should have it. One of the key ideas from this stance is that Christians are to live by faith, not by reason. Other verses used to support this include Mark 16:16 ("whoever does not believe will be condemned"), John 1:12 ("Yet to all who did receive him, to those who believed in his name, he gave the right to become children of God"), Habakkuk 2:4 ("the righteous person will live by his faith"), and Ephesians 2:8 ("for it is by grace you have been saved, through faith"). These verses are often thought to imply that salvation comes through faith alone, and that intellectual effort on the part of a Christian is unnecessary or even harmful. Similarly, Proverbs 3:5 states that Christians should not rely on their own understanding, but instead should fully trust in the Lord. These and other verses used to discourage critical thinking can cause some Christians to reject efforts to develop their intellectual abilities, including those required to think critically, and can stifle Christians' dispositions toward using critical thinking when reaching decisions and solving problems.

In contrast to those who see the Bible as antithetical to critical thinking, there are others within the Christian community who see several verses that support critical thinking. Perschall (2019) also highlights several verses that support critical thinking among Christians. James 3:17,

for example, states that wisdom is open to reason, suggesting that we as Christians have a responsibility to discriminate between true and false ideas (Perschall, 2019). Also, Hebrews 11:1 defines faith as “confidence in what we hope for and assurance about what we do not see” (NIV). Perschall (2019) links this faith to critical thinking, describing it not simply as blind faith in an abstract idea, but rather as faith based on reason.

Similarly, Moreland (2012), in his book *Love Your God with All Your Mind*, offers three key scriptures to support the need for Christians to train their minds, a process that often results in an ability to think critically. First, Romans 12:1-2 encourages believers to be transformed by the renewing of their minds. Moreland (2012) asserts that Paul means we as Christians must do the demanding work of understanding what God has said in His Word and must take the time to study it so our minds can be transformed. Second, in Matthew 22:37-39, Jesus echoes the Old Testament scripture in saying that all Christians need to “love the Lord your God with all your mind.” This responsibility includes loving God with all the various human faculties, including one’s intellect. Third, I Peter 3:15 tells all Christians to “be ready to give a defense of your faith,” which Moreland says demonstrates how the Apostle Paul himself did evangelism, persuading people to Christianity by offering rational arguments indicating the truth of the gospel. Additionally, Sanders (2018) states that critical thinking is extremely important for Christians considering Paul’s description in 2 Cor 10:5 of the mind as a battlefield where every thought is to be taken captive to Christ and concludes that the Bible supplies theological principles and guidelines for engaging in critical thinking.

Rather than fearing doubt, Christians should see it as a crucial step in the development of one’s faith and critical thinking. An important step in the process of improving students’ critical thinking skills requires students to be comfortable with holding multiple unresolved, contrasting

ideas together at the same time, which fits in with Kierkegaard's (1985) idea that education should feature a disequilibrium to disrupt what students already know and encourage their growth in attempting to resolve the disequilibrium. This disruption offers a great opportunity for growth and critical thinking development. Fowler (1981) believes that students develop in both faith and critical thinking during their attempts to restore a balance that is lost during a period of disequilibrium, where their past ways of seeing the world prove to be inadequate, and they are forced to form new ways of seeing it. The growth potential of these disruptions depends on how students respond to them: if students reflect on them and learn from them, growth can occur. Gerald (2016) states that people from many different religions often value certainty in their beliefs, which leads to a lack of openness to new ideas that might challenge existing beliefs. This echoes Fowler's statements about stage three where students (and others) are unable to critically reflect on their own systems of thought and behavior. Fowler notes that people who advance to stage four in their faith development usually only do so after large life events (like divorce, death, changing jobs, or moving) make their stage three faith inadequate for them. Similarly, in the case of critical thinking, this growth happens when students' existing beliefs are challenged, and old beliefs will likely be rejected in this process as new beliefs are formed (Francis, 2019). Francis (2019) also echoed Fowler in finding that resilience is a key to forming faith, and how one responds to challenges can lead to a stronger faith development and stronger critical thinking skills. Students who have a "crisis of faith" triggered by loss or trauma often end up questioning many of their closely held beliefs, which can lead to an expanded spiritual perspective and a better ability to handle future crises (Daniel, 2017).

Another key component to the tension of doubt and its resolution is that this is often not a linear process, and there are often recursive episodes where students may regress in their critical

thinking skills before eventually advancing, as Francis (2019) noted. Likewise, Huber & Kuncel (2016), in a meta-analysis of critical thinking research, echoed the idea that critical thinking growth does not normally occur in a linear progression even though most students did see growth in their critical thinking skills during their time as an undergraduate in college. It is best to see critical thinking growth and resolution of the disequilibrium as something that happens over the entirety of the undergraduate college experience, rather than looking at changes in critical thinking skills within a single course or semester. The disruption caused by admitting doubt is often difficult for Christian college students to manage, and for some students this difficulty impedes their ability to grow in their faith and in their critical thinking. Framing this doubt as a naturally occurring result of the human life cycle can help Christian undergraduate college students embrace this process without fear of it ultimately damaging their faith.

Faith Development and Its Relationship to Critical Thinking Development

Despite the challenges to critical thinking development that some believe exist within Christian circles, several key principles of critical thinking development closely parallel principles of faith development and offer promise that rather than having to decide between the two, students can pursue both simultaneously. The idea of evaluating information from a variety of perspectives, for example, is common to both faith development and critical thinking, as reading the Bible accurately requires knowledge of the context of the biblical text, as well as other interpretive techniques that are akin to those used in critical thinking. Facione (2010) notes that a critical thinker, like someone with a well-developed faith, would feature an “open-mindedness regarding divergent world views” and have a “flexibility in considering alternatives and opinions” (p. 11).

Likewise, the role of authority in engaging the world is also similar between faith development and critical thinking development. Fowler's theory encourages college students to develop their faith on their own by relocating their authority from an external source like parents and other figures to an internal source within themselves. Fowler says this relocation of authority is a pre-requisite to advancing to stage four (Individuative-Reflective faith). The doubting that some people see as a threat to faith development Fowler would see as a strength, as it encourages students to personalize their faith and choose it rather than simply trusting in external authority figures. Facione (2010) notes that the term "liberal education" itself indicates a liberation from external authority figures, and the pursuit of critical thinking skills "leads us away from a naïve acceptance of authority" (p. 24). Developing one's faith and critical thinking skills is hard work and often the processes don't come naturally but require effort and thoughtful attention. Despite this, Fowler (1981) would say one's faith is better developed if it has undergone a process of questioning and doubting certain ideas, and if it is anchored in one's own internal authority, not just an external one imposed by others.

Critical Thinking in Education

Critical Thinking is currently seen as an essential function of education. This view is generally believed to have started with Dewey (1910) and his support for inquiry in education—specifically inquiry that took place intentionally: "the aim of education is precisely to develop intelligence of this independent and effective type—a disciplined mind" (p. 63). This inquiry would lead to knowledge that could be useful for solving problems, provided students were able to apply that knowledge to the problems. Dewey's (1910) views on inquiry led to him developing the reflective thinking process, comprised of one experiencing a felt difficulty, making a comparison to a previous difficulty to ascertain the nature of the problem, developing

several viable solutions to the situation, examining and evaluating the viable solutions, and testing the solutions out in the real world. This process sowed the seeds for critical thinking to be an essential educational outcome.

Critical thinking has been seen as an important skill to teach, but how best to do so isn't always clear. There is still debate about whether critical thinking can be explicitly taught, and, if so, how best to do it (Abrami et al., 2008). Ennis (1989) identified four different ways to approach teaching critical thinking. First is the general method, where critical thinking is taught as its own skill independent of specific content. Second is the infusion method, where critical thinking is taught explicitly in specific subject matter. Third is the immersion methods, where critical thinking is taught implicitly within a particular subject. Fourth is the mixed method, where the general approach is combined with either the infusion or immersion methods. Of the four, Abrami et al. (2015), in their meta-analysis of articles examining different methods for teaching critical thinking, found the mixed method to have the most positive impact on learners.

Critical Thinking in Higher Education

While students have the goal of learning to think throughout their educational experience, they more carefully sharpen and develop their critical thinking skills during their time as an undergraduate in college as they prepare to be more independent citizens of society. Critical thinking hasn't always been a goal of higher education, but Florence (2014) traces the development of critical thinking instruction in higher education to Graham Sumner's book *Folkways* from 1940. Sumner proposed that critical thinking was an important part of education, since developing critical thinking skills was the only protection students had from blindly accepting ideas handed to them. Only by critically engaging with these ideas, Sumner believed, could students develop into good citizens. Florence (2014) also traced this development through

Ennis, and his 1962 article “A Concept of Critical Thinking,” which highlighted how overlooked the skills of critical thinking were and advocated for them to be emphasized more in higher education. The specific skills mentioned included things like “grasping the meaning of a statement, assessing ambiguity in a line of reasoning, identifying contradictory statements, the necessity of a proposed conclusion, evaluating a statement’s specificity, judging whether a statement is an accurate application of a particular principle, determining if an observation statement is reliable, determining if an inductive conclusion is necessary, assessing if a problem has been rightly identified, identifying assumptions, judging the adequacy of a definition, and discerning if an assertion made by an alleged authority is acceptable” (p. 84). Ennis felt that educational efforts to help students be able to do these things would help them be better critical thinkers.

Fowler’s (1981) stages of faith theory posits that students are primed for critical thinking growth during the traditional undergraduate college years (18-25), and evidence shows that students from a variety of studies typically experienced a 4-percentile point increase in their critical thinking skills during their first year in college, a 7-percentile point increase after two years and about an 18-percentile increase during their four years as an undergraduate in college (Mayhew, et al., 2016). However, there is still little research to identify specific educational interventions that produce these increases, or whether the group of students who choose to go to college are somehow pre-selected to be able to improve their critical thinking skills—perhaps the kinds of students who go to college are also the kinds of students primed to make gains in their critical thinking abilities. Examining what processes higher education institutions can engage in to support these critical thinking advances is helpful. A key challenge for colleges in this process of promoting critical thinking is that it can be ineffective and perhaps even problematic to expect

students to think critically when they are incapable of stepping outside of their own systems of thought and behavior, regardless of their chronological age. College students without this ability to step outside their own systems cannot analyze and reflect on them.

Some studies have examined specific interventions for teaching critical thinking in higher education as well to see how well they promote critical thinking skill development. For example, building on the four different approaches of Ennis (1989), Pnevmatikos et al. (2019) utilized a values and knowledge education (VaKE) instructional approach in an undergraduate setting. VaKE is described as a “multidisciplinary holistic teaching method that combines values education with knowledge education” (p. 892) and the study found that “students experienced the activation of critical thinking skills and dispositions during the different steps of VaKE” (p. 892). This suggests there are specific teaching interventions in higher education that can be utilized to help promote critical thinking skill development.

Critical Thinking in Christian Universities

Universities aim to help students improve in their critical thinking skills and Christian universities often share a similar aim. Regionally accredited universities typically set goals for themselves to have students demonstrate their critical thinking abilities upon graduation. Specifically, the WASC Senior College and University Commission (WSCUC), one of the accreditors of SCU, requires all colleges under their accreditation to set as goals student achievement of five core competencies, one of which is to “apply critical and creative thinking skills to provide reasoned analysis of competing ideas as well as solutions to difficult problems” (WASC, 2022). SCU specifically, and Christian Universities in general, strive for the development of both faith and intellect among their students.

The development of faith and critical thinking can happen at various times in different people's lives, but the traditional undergraduate college age is an especially fruitful time to engage in such development. Fowler (1981) theorizes that people often enter stage three during adolescence and that the timeframe from ages 18-25 is the optimal time for starting the transition to stage four. A potential catalyst for this transition is the separation that many people engage in when going off to college (mentally and socially, even if not physically) as an essential part of the development of both faith and critical thinking. Specifically, Fowler believes this separation is a necessary step for moving from stage three to stage four, which usually requires college students to stop relying on external authorities and form their own internal authority. People typically move into stage four in young adulthood, after which they are marked by self-directed criticism that results when previous faith beliefs are questioned and found to be inadequate. Developing one's critical thinking skills helps college students adjust to this interruption of reliance on external authority and encourages the development of an internal authority to replace it, as students practice questioning and evaluating ideas that they encounter. Fowler believes this is a complex natural process, and that it cannot be rushed, but also that colleges should offer support and guidance as college students navigate these changes to help solidify both their faith and their critical thinking. Fowler also cautions that many individuals settle in at stage three without ever developing to stage four, and that undergoing this transition during the ages 18-25, with the structures and support a college environment often provides, makes this transition easier and more likely to yield positive results.

Critical Thinking in high-access Christian Universities

Colleges typically use things like high school GPA, SAT/ACT test scores and other measurable criteria in making admissions decisions, and many will restrict access by admitting

only some of those who meet the criteria, usually based on availability and other factors (The College Board 2022). As a result, many prestigious higher education institutions are very selective, with a recent analysis of 18 elite public universities identifying an admission rate of 31% in 2022 (Visé 2022). On the other hand, many Christian universities, as a component of their mission, position themselves as “high access” institutions that exist to reach a broader group of students who might not gain admission to more elite institutions. Christian colleges like Bob Jones University and Whitworth University, for example, have admission rates close to 100% (Niche 2022).

As a Christian college, SCU positions itself a high-access institution, and states on their website that their admissions criteria require potential students to agree to SCU’s statement of faith, have completed high school (or equivalent), and demonstrate proficiency in English. Generally, if students meet these criteria, they are assured admission to the institution. This commitment to availability can sometimes result in admitting students who are underprepared academically. In some cases, students are admitted provisionally, with restrictions on their academic load or other measures to help them transition to college. As a result, some students at high-access institutions like SCU are more likely to have underdeveloped cognitive skills (including critical thinking) or a history of poor prior academic performance when they enroll in college, further complicating the process of critical thinking development.

Summary

Critical thinking and the disposition to engage in critical thinking are important for everyone, and the development of these skills is especially helpful for undergraduate college students, since these skills are prized by future employers (Goodsett, 2020). During the traditional undergraduate college years (18-25 years old), students do typically improve their

ability to think critically (Sola et al., 2017), but these gains aren't always enough to prepare them for life after college (Stupple et al., 2017). Fowler's (1981) stages of faith theory explains some of the reasons why college is typically a time of growth in critical thinking and provides essential steps to help this natural process move forward in the lives of college students. Undergraduate college students at Christian colleges engage in a dual task of learning how to think critically and how to develop their faith in God, and Christian beliefs like obeying authority, being in unity, and having an unwavering faith can inadvertently make this growth more difficult. On the other hand, careful study of the scriptures shows support for Christian college students in the development of their faith and their ability to think critically (Moreland 2012), including a healthy questioning of a faith that continually evolves through the natural stages humans go through during their lives (Fowler 1981).

CHAPTER THREE: METHODS

Overview

The purpose of this single unit case study was to describe the process of developing the skills and dispositions needed to think critically among 2021 or 2022 B.A. degree graduates at Small Christian University. At this stage in the research critical thinking is defined as the intellectually disciplined process of actively and skillfully conceptualizing, applying, analyzing, synthesizing, and/or evaluating information gathered from, or generated by, observation, experience, reflection, reasoning, or communication, as a guide to belief and action (Paul & Elder, 2020). Also, critical thinking disposition is defined as having one's personality oriented toward critical thinking (Chen et al., 2020), the inclination to use the critical thinking skills one possesses (Dowd et al., 2018) or the attitudes and motivation people need to regularly practice critical thinking (Goodsett, 2020). Chapter Three focuses on the design of the study, re-states the research questions, describes the setting where the study will take place, describes the study's participants and procedures, describes the researcher's role in the study, describes the methods used in data collection and analysis, explains the trustworthiness of the data, describes the ethical considerations, and briefly summarizes the study.

Research Design

This was a qualitative research study employing a single unit case study design. The study was qualitative because it was exploratory in nature, trying to discover new features rather than testing out a specific hypothesis (Creswell & Poth, 2018), and, like other case studies, it asked questions regarding "why" or "how" a social phenomenon works and attempted to answer those questions (Yin, 2017). Case studies are also effective choices for a study when research questions require a more in-depth analysis of the phenomenon being studied, and the need for

case studies generally arises from a desire to understand complex social phenomena (Yin, 2017), as was the situation in this study. In single-unit case studies, the researcher explores specific examples within a bounded setting and uses multiple sources of information to form a description of the case, including themes that emerge from it and assertions made about its meaning (Creswell & Poth, 2018).

This study, like other case studies, also addressed rival explanations for the cases studied (Yin, 2017). Rather than simply viewing case data and drawing conclusions about it, an effective case study considers other conclusions that may be drawn from the same data and attempts to explain why the conclusions the study draws are defensible (Yin, 2017). Rival explanations for the factors that lead students to develop their critical thinking and faith included that student development was the product of engagement in the life of the overall college environment rather than any specific aspect of it (Gellin, 2003), that students' previous academic performance influenced their intellectual growth in college (Roohr et al., 2019), that engaging, in-depth conversations with peers helped improve critical thinking (Twale & Sanders, 1999) and that students studied for critical thinking growth were also those who made it to graduation and therefore may have been self-selected for academic and critical thinking growth (Roohr et al., 2019). Each of these rival explanations was considered when analyzing the data.

This specific case study examined the bounded setting of B.A. degree-seeking students at Small Christian University, a Christian university in Southern California, and asked "why" or "how" students developed their Christian faith and critical thinking skills during their time earning a Bachelor of Arts degree in the traditional undergraduate program at SCU. This design limited the scope of the data to the students' time at SCU and their experiences during that time, including both their curricular experiences in the classroom, and their extracurricular experiences

outside of the classroom. Student participants graduated with their Bachelor of Arts degree in either 2021 or 2022, and most are in their early to mid-20s, which generally limited the breadth of their experiences when compared with those of an older adult.

To answer the design question, the study interviewed students who graduated from SCU in 2021 or 2022, conducted a focus group with faculty who taught them while at SCU, and examined previous assessments of student work demonstrating their critical thinking skills. This design helped uncover trends in how SCU students in the traditional undergraduate program learned critical thinking skills, including specific events that were likely to help or hinder their skill development. A single case study design allowed for more in-depth analysis of the participants, including how the factors in people's lives worked together to shape critical thinking skills and values.

Data from student interviews, a faculty focus group, and assessments of student assignments allowed for themes and trends to emerge from the data, which is the purpose of a case study (Creswell & Poth, 2018). This follows Yin's (2017) suggestion that case studies deal with a wide variety of evidence. The basic rationale for the study was that various components of the overall college experience both helped and hindered students in developing their critical thinking skills (Huber & Kuncel, 2016), including features of Christianity itself, and the data illuminated those influences as well. Examining what specific components have helped and hindered students in this study unearthed strategies for emphasizing the features that helped students' critical thinking development, while minimizing those that hindered this development.

Research Questions

According to Creswell & Poth (2018), effective research studies require a clear definition of the problem, a purpose statement that outlines what is to be studied and research questions

that the study will attempt to answer. This study had one overarching research question, and two sub-questions.

Central Research Question

How does Small Christian University (SCU), a small Christian university, develop critical thinking skills and dispositions amongst its students working toward a Bachelor of Arts degree in the traditional undergraduate program?

Sub-Question One

How are Christian college students at SCU working toward a Bachelor of Arts degree in the traditional undergraduate program progressing from Fowler's stage three to stage four?

Sub-Question two

How are Christian college students at SCU working toward a Bachelor of Arts degree in the traditional undergraduate program demonstrating critical thinking?

Setting and Participants

This setting for this study was Small Christian University, a private non-profit Christian university in California. Students participating in the study were alumni who graduated in 2021 or 2022, many of whom spent four or more years at SCU. Faculty participating in the study were full-time faculty members who taught in the traditional undergraduate program, many of whom have had direct input into the curriculum of SCU.

Setting

This study took place at Small Christian University, a private, non-profit, regionally accredited 4-year university in California. SCU was founded almost a century ago as a Christian training center to equip men and women to become evangelists, missionaries, pastors, and teachers. SCU has a strong historical affiliation with a specific Pentecostal Christian

denomination, and most of the faculty hold licenses in this denomination, as well as having many SCU graduates find employment at organizations affiliated with the denomination. Most of SCU's funding comes from student tuition and from donations, including from individuals, the denomination and other churches and organizations affiliated with the denomination. Today, SCU's mission aims for the transformational development of students into leaders prepared to serve God in the Church, the workplace and the world.

SCU has multiple educational programs, offering degrees through both traditional and online formats available through locations in on both the East and West coast. SCU offers A.A., B.A. and M.A. degrees in various fields. SCU had between 200-300 total students in their traditional undergraduate program as of Fall 2022, with about half of all students identifying as being affiliated with the denomination, and also half of all students living on campus. A majority of SCU's students are first-generation college attendees. SCU is governed by a Board of Trustees who oversee the President. The President oversees the Vice President of Student Development, the Vice President of Academic Affairs, the Enrollment Director and the Chief Financial Officer.

At this research site, SCU's 2021 and 2022 B.A. degree graduates participated in the research study virtually through Microsoft Teams without compromising confidentiality or placing an undue burden on participants to travel extensively. Similarly, a Microsoft Teams virtual meeting was used for the faculty focus group. The documents used included previous assessments of student work, which corroborated students' beliefs in the development of their critical thinking skills. These documents contained no personally identifiable information linking them to specific students.

Participants

Participants for this study came from pools of 2021 and 2022 B.A. degree graduates of SCU, and full-time faculty members at SCU. Creswell & Poth (2018) note the challenges associated with sampling from one's own institution, including potential power dynamics that might influence the results. For this study, including students who have already graduated helped ameliorate those concerns since their grades or completion of their degrees wasn't affected by their participation. Also, the faculty were not people who directly report to me and didn't have their job security or compensation affected by their participation.

Students

The primary participants in the research study were 10-15 students who graduated from SCU in 2021 or 2022. According to Yin (2017), in selecting candidates to study, case studies should have a set of criteria used to see if candidates are qualified to participate in the study. Since this study examined how Christian college students developed their critical thinking skills during their time in college, the most relevant criterion was for candidates to have completed their B.A. degree at a SCU. All 2021 and 2022 B.A. degree graduates will by definition have completed their degree, and since all students attending SCU must submit evidence of their personal relationship with Jesus, including an established Christian character and lifestyle, all students must have professed their Christian faith upon enrolling at SCU, even if their dedication to their faith has since altered since enrolling.

The sample size for a single case study is often a challenge to determine. Yin (2017) suggests no more than four or five cases in a single case study. Hennick et al. (2017), in studying a set of 25 different interviews, found that it took nine interviews to reach a saturation point where no new codes emerged, and 16 to 24 interviews to gather all the insights from those codes. Additionally, Marshall et al. (2013) surveyed 83 different qualitative studies in the field of

Information Services, and found that for case studies specifically, most of them contained 15-30 interviews. Conversely, Guest et al (2006) interviewed 60 different participants but found that of the 36 codes that developed, 34 emerged after only six interviews, and 35 emerged after 12 interviews. This suggests that most of the main codes can be found with a relatively smaller sample size. Also, Mason (2010) noted that even a single instance of a code in the interviews could be helpful, as frequencies are rarely important in qualitative research. A sample of 10-15 students fell within the acceptable range suggested by these studies and was sufficient to provide saturation and allowed the key themes and insights to emerge from the interviews. Most graduates earning a B.A. degree from SCU's traditional undergraduate program were in the 18-25-year-old demographic. According to Fowler (1981), students at this stage of their lives typically have a more complex faith than they did upon entering college and have achieved some of the necessary separation (both physical and intellectual) from the situation they were brought up in.

Faculty

The second set of participants in the study was 4-6 SCU faculty members. Yin (2017) describes a focus group as a small group of people where the views of each participant can be drawn out. Krueger and Casey (2000) support using focus groups to gain understanding of a topic, especially when the researcher is looking for a range of ideas, is trying to understand an issue from different perspectives and is attempting "to uncover factors that influence opinions, behavior, or motivation" (p. 24). Faculty represented what Krueger and Casey (2000) described as "information-rich cases" (p. 26) since they taught most of the students who were participating in the study, and therefore had helpful input on how those students developed.

The focus group consisted of 4-6 people, providing coverage of the overall case to

describe the behaviors of SCU students: there are currently over a dozen full-time faculty members at SCU, most of whom have a terminal degree, and each of them play a role in helping to shape its graduates, developing students' faith and academic skills, including critical thinking. When selecting the size of a focus group, Krueger and Casey (2000) suggest a smaller size when "the questions are meant to gain understanding of people's experiences" (p. 74) which is the case in this study. SCU's small size also meant that most of the faculty served on committees that were directly involved in curriculum formation and review, giving them insight into what SCU did to promote students' faith and critical thinking development and how well it worked.

Researcher Positionality

I wanted to examine the process of developing the skill and disposition to think critically because it is an important skill for college students to develop during their time in college. Fowler (1981) theorizes that the timeframe from 18-25 years old is the optimal time for students to develop their critical thinking skills and disposition and for them to move forward in their faith from stage three (Synthetic-Conventional Faith) to stage four (Individuative-Reflective Faith). Many stakeholders in education value critical thinking and have targeted instructional approaches to improve critical thinking during college (Tiruneh et al., 2018) but a more holistic evaluation of the process remains unexplored. While learning in the classroom is an essential part of the college experience, factors outside of the classroom are also effective in helping students develop their critical thinking skills (Gellin, 2003). Looking at the entire process of developing both faith and critical thinking skills, and how the development of the two interact with each other, offered the promise of insights into how best to help college students in developing the skills and faith they need.

This study looked through the constructivist ontological lens, which theorizes that reality

needs to be interpreted (Creswell & Poth, 2018). Each student brought his or her own personal perspective to the development of their faith and their critical thinking skills. Further, the truth about how students learn to think critically required interpretation and could be discovered and understood by examining their situations, their ability to demonstrate critical thinking, and the instructors' views on how students learn best to think critically (Creswell & Poth, 2018). It was further assumed that despite each student having his or her own experiences, similarities between students would emerge from the data, and these discoverable patterns could help establish the truth about how SCU students learn to develop their faith and critical thinking skills.

Interpretive Framework

This study employed a post positivist approach, which was a blend of positivism and interpretivism in the research paradigm (Panhwar, et al., 2017) and was based on the understanding that while it's important to study and understand phenomena, cause and effect is more of a probability rather than a certainty (Creswell & Poth, 2018). As a result, definitive conclusions weren't always taken from data collected. For example, not all students developed their critical thinking skills and disposition at the same rate or to the same degree, so collecting data on student critical thinking skill development was unlikely to be definitive in explaining the phenomena. However, having students reflect on and tell their stories was a useful way to see any themes or patterns in their faith and critical thinking development.

A post-positivist approach admits that things like the bias, values, and assumptions of the researcher sometimes skew the data and conclusions being drawn in a study (Panhwar, et al., 2017). As a result, even when a conclusion seemed apparent, it needed additional research and scrutiny. This study identified themes and drew conclusions, but further study will likely be needed to substantiate those claims.

Philosophical Assumptions

The philosophical assumptions of this study included the constructivist ontological assumption described by Creswell & Poth (2018) that people external to a student can discover and describe how students come to develop their skills as critical thinkers. Also assumed was that a group of similar students (in this case, students who attended SCU and professed the Christian faith) had similarities in how they developed as critical thinkers, and that these similarities were discoverable. Additionally, an axiological assumption of the study was that different students may value critical thinking differently, which likely influenced how much they were willing to share in their interviews. Critical thinking is a skill that requires one to believe in it, as one's disposition to use critical thinking influences how well one does it (Goodsett, 2020). Consequently, the development of both the skills and the disposition to think critically were important to explore.

Ontological Assumption

Ontologically, this study assumed a constructivist viewpoint, meaning people external to a student were able to discover and describe how students came to develop their skills as critical thinkers (Creswell & Poth, 2018). This needed to be described by the students themselves and the insights they can share, and needed to be demonstrated by the things they said and did: this could be how they interact with a professor and other students in the classroom, or how they complete an assignment that demonstrates critical thinking. Also assumed was that a group of similar students (in this case, students who attended SCU and professed the Christian faith) had similarities in how they developed as critical thinkers and that these similarities were discoverable.

As part of the constructivist view, a focus group of full-time SCU faculty were included in the study. This additional external perspective provided insights into both faith and critical thinking development the students may have undergone that they themselves were unaware of. Additionally, reports analyzing student assignments were included. These helped show whether students demonstrated the ability to think critically rather than just believing they were able to do so.

Epistemological Assumption

Epistemologically, it was assumed that the students had insight into their own development, but it was limited, as they may have been so close to their own situation that they couldn't see it objectively. Fowler (1981) noted that students in stage three, Synthetic-Conventional faith (generally displayed in adolescence), are not typically capable of self-criticism and don't have the ability to look deeply into why they know what they know. However, students in stage four, Individuative-Reflective Faith, are capable of self-directed criticism, even though the students themselves still need to oversee the criticism. Not all student participants would have reached stage four when they graduated, and some students were likely scared to share their experiences truthfully when those experiences deviated from what the students believed was expected of a Christian. For example, if they had times where they doubted their faith, some of them may not have shared those experiences because they likely were ashamed of those doubts, viewing them as a lack of faith and fearing retribution from others in the Christian community. As a result, the information shared by the students may have provided an incomplete picture of their critical thinking and faith development during their college experience. Collecting data from not just students but also from a faculty focus group and

student assignments helped to provide a more complete picture of faculty perception of students' faith and critical thinking development.

Axiological Assumption

One axiological assumption of the study was that different students valued critical thinking differently, which influenced how much they were willing to share. Critical thinking is a skill that requires one to believe in it, as one's disposition to use critical thinking influences how well one does it (Goodsett, 2020). Some students may have been good critical thinkers but may have felt their development of their critical thinking skills was a betrayal of their faith and as a result may have downplayed their critical thinking skill development. The value a student places on critical thinking was often shaped by the environment they grew up in, so the interview process included questions about how students viewed critical thinking and their own faith prior to coming to SCU.

Researcher's Role

I taught English and Literature at Small Christian University for 19 years and chaired the General Education committee for 11 years. During that time, critical thinking was a key objective of the overall curriculum and was emphasized throughout the curriculum. I regularly taught the English Composition and Research course, which for most incoming students was their first introduction to the concepts of college-level critical thinking. As a result, I am interested in understanding how students developed their critical thinking skills and discovering ways to improve that process through the curriculum and the overall college experience. Additionally, as the General Education chair, I led the annual assessments of student work to ensure SCU was meeting the stated objective related to critical thinking and saw firsthand how well students were able to demonstrate their critical thinking skills in their assignments. The

assessment process was designed to be a dispassionate and anonymous way to figure out how well students were learning and recommended efforts that could be taken to help them learn more effectively.

I had personally taught some of the students who participated in the study but had no formal authority over them since they had already graduated, and all their courses' grades had been finalized. I have also personally interacted with the faculty members who participated in the focus group but I did not have any authority on hiring or firing any of the full-time faculty members at SCU. Therefore, there was no conflict of interest among either the student or faculty participants in the study.

I was a Christian college student myself as an undergraduate, and I am motivated to make sure students understand critical thinking and develop their skills in it. I am aware of some of the barriers to critical thinking that traditionally accompany the Christian faith, such as the impulse not to question authority figures (Alkhadher & Skull, 2020); the emphasis on unity and shared values at the exclusion of critically evaluating ideas (Bar-Tal et al., 2021); the emphasis on certainty to the exclusion of the possibility to doubt or question certain beliefs (Florence, 2014); and the belief that critical thinking somehow undermines faith (Perschall, 2019). I know how I have personally worked to try to overcome these barriers, and how my unique upbringing contributed to my abilities and attitudes towards critical thinking.

Procedures

The procedures for this research study included collecting data by interviewing SCU students who graduated in either 2021 and 2022 with a Bachelor of Arts degree, conducting a focus group with full-time faculty members, and reviewing samples of completed assessments of student assignments. These different data types allowed the study to uncover a multi-faceted

perspective on students' critical thinking abilities and their faith development. Initially, I secured Institutional Review Board approval prior to collecting research.

For the student participants I got a list of students fitting the criteria of having graduated with a B.A. degree in either 2021 or 2022 from the SCU Registrar and e-mailed possible student research participants and invited them to participate. Studying Christian college B.A. degree graduates allowed this case study to explore the advantages and disadvantages those students' Christian faith brought to their critical thinking skill development, including the value placed on obeying those in authority (Alkhadher & Scull, 2020), the desire to impart shared values among the community of other Christians (Bar-Tel et al., 2021), and the resistance to allowing or acknowledging doubts in one's faith (Florence, 2014). It is these specific features of the Christian faith and how they affect critical thinking development that this study was designed to engage with, and all students in the candidate pool were able to reflect on their critical thinking development considering their Christian faith. After student participants volunteered to participate, I contacted them to schedule and conduct interviews. After all interviews were completed, member checks allowed participants to review the transcripts to ensure they accurately reflected the thoughts of the interviewed research subjects.

For the faculty participants I invited all full-time faculty members at SCU to join a Microsoft Teams meeting to discuss the current procedures to help students develop their critical thinking skills during their time at SCU, and their views on the results of those procedures. Conducting a focus group that includes full-time faculty members allowed this case study to include information about SCU students' critical thinking skills development from a more objective perspective: students' insights into their own critical thinking skill development were important, but to get a fuller picture of how their skills develop, having insight into their

demonstration of these skills in the classroom and on assignments was also important. All full-time faculty had taught SCU graduating seniors and offered insight on the development of SCU B.A. degree graduates' critical thinking skills.

For the completed student assignments, I reviewed the assessment reports that featured selected student work on the Senior Capstone assignment, which was designed to demonstrate the learning that students had undergone during their time at SCU. The reports included insights from the faculty members who assessed the student work and revealed trends in student critical thinking development and how it was being assessed. Having information from three different reports 13 years apart helped to gauge the effectiveness of SCU's efforts to improve student critical thinking skills over time.

Permissions

This study required permission from the IRB at Liberty University, SCU students being interviewed, and the SCU faculty participating in the focus group. Permission from SCU to conduct the study was obtained as well and the SCU permission letter is in Appendix M. Since research participants were all over 18 years old, permission was obtained through having participants sign the applicable Consent Form (see Appendix A for students and Appendix B for faculty). No one involved in the study was a member of a protected class such as a minor under 18 years of age, or a prisoner, and therefore didn't need additional permissions for them to participate.

Recruitment Plan

There were two participant pools in this single-unit case study: students and faculty.

Student Interview Pool

The first participant pool for the student interviews was criteria sampled, with the criteria

being that participants are 2021 or 2022 B.A. graduates in the traditional undergraduate program at SCU. Several students in this pool had been students in one of my classes during their time at SCU. Interviewing students who meet this sampling criteria was helpful in pinpointing the features of their experiences and how those features shaped their faith and critical thinking development. Interviewing participants is one of the most common data collection methods used in qualitative research, with the one-on-one interview being the most common form (Crouch & McKenzie 2006). These interviews aren't necessarily seeking objective data, but rather insight into the participants' experiences, and to this end having a small number of interviewees is reasonable and likely beneficial (Crouch & McKenzie 2006).

The recruitment for the student interviews started with an initial recruitment e-mail to all SCU students graduating with a B.A. in either 2021 or 2022 (see Appendix C). This e-mail included the purpose of the study, criteria for participation, risks involved, confidentiality and a link to the informed consent and instructions on how to fill out and submit the informed consent. Orphan (2018) recommends making sure to convey the importance of the research when asking for participants, as people are more likely to participate when they see the purpose in doing so. Students were asked to respond to the e-mail to indicate their willingness to participate. After seven days, for students who had not responded, a follow up e-mail request was sent out reminding them of the opportunity to participate and the risks and purpose of the study (see Appendix D). Orphan (2018) also recommends keeping track of who has been contacted and when they were contacted, which helps the researcher be more precise in following up. After another seven days, since there weren't 10-15 participants, snowball sampling, which involves initial respondents identifying others who would be good candidates (Patton 2015), was used so those who signed up to participate in the study could contact others who might not yet have

responded to the initial e-mail.

The criterion sampling was used based on the criteria of student participants being a 2021 or 2022 B.A. degree graduate of SCU. Having participants be graduates of SCU gave a good representation of experiences among students who had earned their degrees at SCU, although not all graduates had necessarily spent all their college years at SCU. To participate in this study, participants need to sign the informed consent.

Faculty Focus Group Pool

The second participant pool for the focus group was criteria sampled, with the criteria being that participants be full-time faculty members at SCU. I have worked alongside most of the full-time faculty members at SCU and have seen their desire to help students grow in their faith and critical thinking skills. Their insight was helpful in exploring how well students were doing in these areas.

The recruitment for the faculty focus group started with an initial e-mail to all SCU full-time faculty (see Appendix E). This e-mail included the purpose of the study, criteria for participation, risks involved, confidentiality, a link to the informed consent and instructions on how to fill out and submit the informed consent. To participate in this study, participants needed to sign the informed consent. Since there were only 12 full time faculty at SCU this pool was a convenience sample of 4-6 professors willing to participate. This number represents almost half of the full-time faculty members and ensured overlap between the pool of students participating in the interviews and the pool of students whose experiences inform the faculty reflections on students' critical thinking development. After seven days, a follow up e-mail request was sent out reminding them of the opportunity to participate and the risks and purpose of the study (see Appendix F). After another seven days, I asked certain faculty directly if they would participate,

as I have relationships with most of them.

Data Collection Plan

Qualitative research studies generally gather multiple forms of data (Creswell & Poth, 2018), which work together to help explain complex phenomenon. One of the strengths of a case study design is that it can engage with multiple forms of evidence, including things like documents, interviews, and direct observations (Yin, 2017). This study used several different forms of evidence, including interviews with 2021 and 2022 B.A. degree graduates of SCU, a focus group of full-time faculty members and documents of annual assessments of specific assignments SCU students have completed that demonstrate their critical thinking abilities.

Individual Interviews Data Collection Approach

Interviews are a standard element of most qualitative research studies (Creswell & Poth, 2018) and allow for in-depth interaction between researchers and study participants. This study used interviews to gain insight into what students had experienced and what they now believed related to the development of their faith and their critical thinking skills and dispositions. In an interview, the participants were asked questions, given time to formulate an answer and given time to answer the questions.

In this study, graduating seniors selected for the study had individual 30-45-minute semi-structured interviews where they answered questions regarding their thoughts on their critical thinking development while in college. This timeframe gave sufficient space for the participants to share the information they felt was relevant even if it wasn't specifically addressed in the interview questions. Yin (2017) notes that unlike laboratory tests, interviews are often subject to interviewees taking their answers in different directions than the interviewer had in mind. Having sufficient time to allow for this motivated the students to share their thoughts and still be able to

answer many of the planned interview questions. These interviews were video and audio recorded and then transcribed, then the transcripts were presented to the participants to review to make sure they accurately reflected participants' thoughts and experiences. The interviews were conducted by the researcher and took place virtually through Microsoft Teams where students weren't interrupted and could maintain confidentiality. Using Teams fulfilled Yin's (2017) recommendation of having sufficient resources to capture interviews, as it recorded audio and video, and provided transcription help during data analysis.

Semi-structured Individual Interview Questions (see Appendix H)

1. Please introduce yourself to me, as if we just met one another.
2. Would you describe yourself as growing up in a "Christian home?" Why or why not?

SRQ1

3. Before attending SCU, what was your connection (if any) to the college? CRQ
4. Before attending SCU, what was your connection (if any) to the denomination? CRQ
5. How would you define "critical thinking"? SRQ2
6. What specific experiences did you have in your college courses that helped develop your critical thinking skills? CRQ, SRQ2
7. What specific experiences did you have outside of your courses that helped develop your critical thinking skills? CRQ, SRQ2
8. What messages did you receive during your time in college about critical thinking and its role in the life of a Christian? CRQ, SRQ1, SRQ2
9. What experiences did you have with other people who were either encouraging or discouraging you to develop as a critical thinker? CRQ, SRQ2

10. Describe a time when you struggled or pushed back on a key belief you held prior to attending SCU: what happened during that process? CRQ, SRQ1, SRQ2
11. How well do you feel you are prepared to live out your Christian faith because of your college experience? Why? SRQ1
12. How would you assess your critical thinking skills currently? How would you rate your critical thinking ability? SRQ2
13. In your experience, how have your critical thinking skills improved during your time at SCU? CRQ, SRQ2
14. In your experience, how important do you feel critical thinking is to a Christian? CRQ, SRQ1, SRQ2
15. In your experience, how important do you feel critical thinking is to the larger church? CRQ, SRQ1, SQ2
16. We've covered a lot of ground in our conversation, and I so appreciate the time you've given to this. One final question... What else do you think would be important for me to know about your critical thinking development during your college experience? CRQ, SRQ1, SRQ2

Questions 1-5 were knowledge questions (Patton 2015), asking about specific events in the participants' past and asking them to define critical thinking, which helped to make sure their answers were relevant to the topic being studied. Cooke et al (2019) noted that graduates often didn't have the critical thinking skills that employers were looking for when hired, often because of confusion over what the precise skills were that make up the ability to think critically. Asking students to define critical thinking helped to clarify this definition and avoid some of the confusion. Having participants relate their background helps serve as a lens through which to

discuss answers to other questions. Students who grew up in what they consider a Christian home may have more experience and insight into the larger question of how critical thinking interacts with Christianity. Similarly, students with a stronger connection to the college may have more insight into how critical thinking is valued and practiced at SCU. However, students with less background attachment to Christianity or the denomination can provide more honest feedback since they have an outside perspective on things and didn't arrive at college with as many preconceived notions. The very separation from home life that the college experience offers to most students (Fowler, 1981) can lead them to re-evaluate their lives.

Questions 6-9 ask about specific experiences the participants had while at SCU that were relevant to their critical thinking development. Fowler (1981) notes that students often progress in their faith development through crises in their lives and the way they respond to them, so asking about specific experiences helped unearth events that led directly to their faith development. While students sometimes needed additional time to think through their experiences, the initial reflection caused by asking these questions offered good insight into what they experienced and how it affected them.

Question 10 asked about a time when students may have doubted or questioned a belief they held prior to attending SCU. This provided a chance to track the development of their internal authority, which Fowler (1981) identifies as a marker indicating the transition from stage three to stage four in the development of one's faith.

Questions 11-13 asked for personal reflections on how their time in college has prepared them for life after college. These questions were designed to highlight the usefulness of the students' time in college and their critical thinking skills specifically. They were also designed to see what steps the college specifically (and Christianity more generally) have taken to either

assist or hinder participants' critical thinking skill development. Fowler's theory assumes that people have an opportunity to strengthen their faith when they hit a roadblock and these questions asked students to consider the ways their faith and critical thinking skills have been strengthened because of their college experiences.

Questions 14-15 asked for broader reflection on critical thinking and its relationship to the larger church. This is a more hypothetical, theoretical question that asked participants to speculate on the importance of critical thinking and reflect on their views about it. Dowd, et al. (2018) asserts that both the cognitive skills and dispositional components of critical thinking have been recognized as important in education, and that some students are ready to deploy critical thinking skills when needed, while for other students, the idea of questioning the things they already know seems daunting and scary. These broader reflection questions helped clarify students' views on the importance of critical thinking and their willingness to use it.

Question 16 is a one-shot question (Patton 2015), designed to give the participant one further opportunity to offer valuable insight. This one-shot question also served as the closing question (Patton 2015), giving participants freedom to add to what had already been said, keeping them in the role of expert on their own experiences in college.

Individual Interview Data Analysis Plan

The interviews from this study were transcribed using an "intelligent verbatim" transcription (Fagan, 2022). This type of transcription removes incidental language and other filler words that do not alter the meaning of what was said, allowing for a good mix of accuracy and clarity. The transcriptions were then subject to member checks, where the research participants were given the opportunity to go over the transcriptions to make sure they correctly represent the ideas of the participants (Creswell & Poth, 2018). Member checks are typically

used to reduce the possibility of researcher bias (Birt et al., 2016). Transcriptions were adjusted based on feedback from participants to make sure they were accurately capturing the thoughts of the interview subjects (Yin, 2017). Next the transcriptions were inductively open coded, where the codes were established by systematically reading through the responses to establish the key relevant categories (Hanington & Martin, 2019). A list of relevant codes was then created as a way of helping to organize the material into potential themes. Part of the coding would include memoing, a process that can be used as a guide for classifying ideas into groups and beginning to synthesize the information (Creswell & Poth, 2018). Examples of key phrases and ideas included “critical thinking”, “reflective thinking”, or “disposition.” The researcher assembled a list in NVivo of different codes and sub-codes, and which interviews or observations they appeared in, to help track their frequency as part of a larger case study database (Yin, 2017).

Once the coding was complete, key themes, ideas and phrases were laid out to describe the mental processes and feelings participants had regarding their critical thinking skill development. These processes went in chronological order from before students came to the college, during their time in college, and as they are ready to leave the college. NVivo, a software program specifically designed to manage qualitative data, was used to help with the data organization. However, as with all data analysis software, the software’s outputs were simply a tool to gain insights into the patterns that emerged, rather than conclusions themselves (Yin, 2017). In this study, NVivo was used to record codes inductively identified from all the transcribed data and was used to help with analyzing those codes to discover themes present in the transcribed interviews.

Focus Group Data Collection Approach

A focus group of 4-6 SCU full-time faculty was conducted by the researcher to hear

about faculty experiences regarding how well students at SCU have developed their critical thinking skills, and what specific techniques faculty members have seen work well to develop critical thinking skills among students. The data collected in the focus group offered an alternative view to how well students felt they were developing their critical thinking skills. Krueger and Casey (2000) suggest the purpose of a focus group is to “promote self-disclosure among the participants” (p. 7) and that rather than reaching conclusions, the focus group’s purpose is to collect data. Once faculty participants were secured for the study, a Microsoft Teams meeting was scheduled where everyone could participate virtually and the meeting could be recorded. During this scheduled 45–60-minute semi-structured group discussion, faculty members gave their input on how well they felt 2021 and 2022 SCU B.A. degree graduates were able to think critically, what parts of the process were helping them think critically, and what else might be done to help students in their critical thinking skill development.

Semi-structured Focus Group Questions (see Appendix I)

1. In your experience, how well do you think SCU B.A. degree graduates are able to think critically? CRQ, SRQ2
2. In your experience, can you share examples where a student has clearly demonstrated their ability to think critically? CRQ, SRQ2
3. In your experience, can you share examples where a student has clearly demonstrated their inability to think critically? CRQ, SRQ2
4. In your experience, how well do students connect critical thinking to faith development? CRQ, SRQ1
5. In your experience, what part of a student’s SCU B.A. degree experience do you feel best helps students develop their critical thinking skills? CRQ, SRQ2

6. What other strategies would you recommend SCU employ to help students develop their critical thinking abilities? CRQ, SRQ2

Focus Group Data Analysis Plan

Generally, focus group research is used to “gain understanding about a topic so decision makers can make more informed choices” (Krueger & Casey 2000, p. 7). In this case, the insights from the experiences of faculty members provided a different side of the development process to compare to the lived experiences of the students described in their interviews. Students may have felt, for example, that certain experiences helped them develop their critical thinking skills, and professors provided evidence that this proposed development happened during students’ coursework at SCU. Further, combining student and faculty insight was helpful in devising strategies for more effectively structuring the Christian college experience to promote the development of students’ faith and critical thinking skills.

The data from the focus group was analyzed following the same methods as the interviews, including having the discussions transcribed, and then providing member checks so participants could review the transcripts to make sure they accurately reflect participants’ thoughts and experiences. The transcriptions were analyzed through a “Critical Incident” framework, as described by Krueger & Casey (2015). This framework is used to “discover important and critical events that have shaped later decisions” like students developing their critical thinking skills, and the key task involved was to “identify events, actions, or situations that were influential to individuals, organizations, or society” (p. 157). In the case of the focus group, these events were described by the faculty members through their experiences teaching and interacting with the students participating in the interviews. As these critical events were identified they were coded and patterns regarding how often they are mentioned helped show

which themes were likely to be most important. I used NVivo to help look for patterns in the transcribed data, as recommended by Krueger & Casey (2015).

Document Data Collection Approach

Documents used for this study included several General Education department assessment reports of specific assignments SCU students had completed that demonstrated their critical thinking abilities. These represent what Yin (2017) describes as document evidence, since they recorded activities that happened in meetings and constituted “formal studies or evaluations” related to the case being studied (p. 115). These documents supported the Central Research Question and Sub-Question two, and provided a broader perspective on SCU students in general, as they were collected from among all SCU students graduating with their B.A. degree during the years of the reports, not just the students who participated in the interviews.

All A.A. and B.A. degree graduates of SCU have submitted assignments during their final semester at SCU that are assessed annually on a variety of academic skills through their senior capstone project, with each of five core student learning outcomes assessed over a 5-year timeframe. Each year, student work is assessed against that year’s student learning outcome, and an assessment report is generated that identifies how well students have met the goal, as well as providing observations and suggestions for improving instruction based on the results. Each academic major, plus the General Education department, completes an assessment each year; specific academic majors collect work from students in their majors, while the General Education department collects work from students in all majors. These reports are submitted to the Academic Planning and Curriculum Review committee (APCR), who reviews and approves them. The approved General Education assessments from 2009 (which include 11 student papers), 2017 (which include 20 student papers), and 2022 (which include 20 student papers)

were used to provide insight into the development of critical thinking instruction at SCU (see Appendices I, J, & K). These reports were then typically used for assessments of SCU's overall academic processes, as evidence of continuous evaluation of academic processes (WASC 2022).

Document Analysis Data Analysis Plan

Analysis of physical documents requires that “data be examined and interpreted in order to elicit meaning, gain understanding, and develop empirical knowledge” (Bowen 2009, p. 2). The assessment reports provided evidence of students’ demonstration of their critical thinking skills, and gave insights from the committee into what this evidence means and how it highlights areas of strength and weakness in students’ critical thinking development process. Mills et al. (2006) identifies literature such as reports and other internal correspondence to be a good source of potential data for case studies, as they reveal data regarding the context of the cases being examined. While both content and thematic analysis are acceptable processes for analyzing documents (Bowen 2009), the assessment reports are already organized around the theme of quantifying how well SCU B.A. degree students demonstrate their critical thinking abilities, so the documents in this study were analyzed for content, as a way of “organizing information into categories related to the central questions of the research” (Bowen 2009, p. 6).

To do the analysis, the first part was to look at the assessment reports from 2009, 2017 and 2022 to see what percentage of SCU B.A. graduates met the stated goal for the objective. This provided information on how well SCU students historically have done in meeting the critical thinking objective, and whether SCU's students’ critical thinking ability has generally improved over the time elapsed between the different assessments, indicating how well SCU has supported students’ critical thinking skill development. Also, the text of the report provided information about the assessment process itself, like the suitability of the rubric and the

instructions of the assignment used for the assessment, which provided insight into how well SCU measured students' critical thinking skill development. Additionally, the report from 2022 contained demographic data about the students that showed which types of students were improving the most in their critical thinking.

Data Synthesis

Triangulation is an important step in the analysis of data from multiple sources that helps to increase the credibility and quality of the data (Patton 2015). There are many forms of triangulation, including multiple data collection methods, multiple sources of data, or having multiple investigators (Merriam & Tisdell 2016). For this study, the data were triangulated by examining three different sources of data from three different data collection methods: what students say in their interviews, what professors say in their focus group, and what document data says about students' demonstration of their critical thinking skills. Looking at all three forms helped to create a "confluence of evidence that breeds credibility" (Eisner 1991, p. 110), and increased the internal validity of the research (Merriam & Tisdell 2016).

Examining multiple data collection methods, often referred to as methodological triangulation, assists the researcher in considering multiple perspectives, thus mitigating the potential bias from looking at a single data source (Fusch et al., 2018). Researchers using qualitative data frequently have a potential bias due to their personal experiences, values, and perspectives (Jackson 1990), and triangulating findings from multiple data sources helped mitigate that bias.

In qualitative studies, participants often have their own potential bias as well, and the students and faculty participating in this study are no exception. Students may be biased in their recollection of their critical thinking and faith development during an interview, for example, so

their demonstration of their stated skills in the documents being examined helped more objectively confirm or disconfirm their claims. Also, while faculty members might remember students as demonstrating good critical thinking skills, the students' failure to demonstrate those skills in their academic work could be insightful into challenges in the process of developing their critical thinking skills while earning their B.A. degree at SCU. Likewise, documents explaining students' demonstration of their critical thinking skills helped reveal general trends and themes among students at SCU that may not come out through talking to individual people and can provide support for the claims made in the interviews and focus group discussion.

To triangulate the data, I used three techniques recommended by Fusch et al. (2018). First, an interview protocol (see Appendix H), which helped mitigate interviewer bias. Second, member checks, where interview and focus group participants reviewed the transcripts before the data was analyzed (Birt et al., 2016), which also helped mitigate interviewer bias in drawing conclusions from transcriptions. Third, data saturation, where sufficient interview participants were recruited to have key themes emerge from the analyzed data.

This process of triangulation was important to allow for themes to emerge from multiple sources, and the choice of data source aligned with the specific data being collected. Since students can only directly experience their own development during their undergraduate college experience—a process that only happens once—interviews were a good choice, as they allowed for more reflection and a longer-term view. Conversely, faculty have indirectly experienced the development of many students over the years, and different faculty have seen different features of this development in the same student, so a focus group where multiple faculty members shared their perspectives and even interacted with each other was helpful. Additionally, documents provided data about how student critical thinking abilities were at certain points in

time when the assessments were conducted. These documents also included data on students and faculty who aren't part of the interviews and focus group of the current study, and therefore hedged the data against recency bias or emotional connections students and faculty may have had with each other which could skew the data. Using these three types of data provided a balance between breadth and depth (Carter et al., 2014).

In triangulating the data, information found in the documents was used to establish how well students are generally able to think critically upon graduating with their B.A. degree from SCU, whether the abilities of SCU students have improved over time, and the steps SCU has taken over the years to help promote critical thinking development among its students. Next, the interviews with students were used to highlight specific experiences students had during their time at SCU that they felt helped them develop their critical thinking skills, and what experiences they felt haven't helped them develop their critical thinking skills. Finally, the faculty focus group provided additional insight into how well faculty felt SCU students thought critically, including how faculty felt students' abilities improved over time. When these three different data sources were studied alongside each other, they provided a more robust picture of the overall situation regarding how SCU students learn to think critically, and as a result gave readers more confidence that the findings were valid and reliable (Merriam & Tisdell 2016).

Trustworthiness

Trustworthiness is important in any research study and is generally defined in quantitative research as the combination of credibility, transferability, confirmability, and dependability (Moran, 2021, June 23). This study displayed trustworthiness through triangulation of multiple forms of data collected to ensure there was sufficient data to corroborate findings, including member checks, where collected data from interviews and a focus group was returned

to those subjects so they could review the data to make sure it accurately captured the ideas they expressed in the interview or focus group (Birt et al., 2016). While the transferability of the results might have been limited since students were all graduating from the same institution, each participant had their own unique background and history that the study will explore.

Credibility

Credibility involves how well the findings describe the reality of the situation and can be established through methods like prolonged engagement in the field and triangulation of data sources (Lincoln & Guba, 2006). This study improved credibility through member checks, which allowed participants to review the transcript of their interview to ensure it accurately reflected their thoughts and feelings in response to interview questions (Creswell & Poth, 2018), and also through triangulation: asking students about their skills, but also comparing their views with more objective data showing how well they demonstrated those skills.

Transferability

Transferability is “the degree to which the results of qualitative research can be transferred to other contexts or settings with other respondents” (Korstjens & Moser, 2018) and was ensured through selecting students with a variety of diverse backgrounds, especially including both those students raised in a “Christian home” and those who were not. While there were limits to transferability based on the participants all graduating from the same institution and participants choosing voluntarily to participate in the study, the variety of majors and backgrounds likely to be represented helped broaden the application of the findings, as did the thickness of the descriptions the study collected.

Dependability

Dependability is the stability of findings over time (Korstjens & Moser, 2018) and was provided for the study by having the procedures be repeatable with other Christian colleges of similar size. While not all other Christian colleges have the same Senior Capstone assignment, they have some demonstration of student achievement of the goal of critical thinking and also have both graduating seniors and faculty who have taught them.

Confirmability

Confirmability is defined as “the degree to which the findings of the research study could be confirmed by other researchers” (Korstjens & Moser, 2018). For this study, confirmability was provided through member checks for both students participating in the interviews and faculty participating in the focus group. This provided respondent validation to the results. Also, all document data was confidential so evaluating student work was free of bias toward or against individual students. There was also a list of codes used in the appendix to help confirm how the data was coded and the rationale for grouping the codes into specific themes. Additionally, alternative explanations for the conclusions made from the data were also considered, as is typically done in a case study (Yin, 2017).

Ethical Considerations

Ethical considerations for this study included the personal nature of the material shared and the confidentiality of participants. Students were sharing personal information about their background before college, their experiences in college and their family and other relationships. In some cases, these personal reflections included other professors or students on campus, or even the researcher himself. For that reason, their information was kept confidential, and pseudonyms were used in reporting the data. All data was kept in electronic password-protected

storage and identifying data was kept in a separate spreadsheet stored in a different password-protected facility away from the SCU campus.

It is possible some of the participants had a difficult time expressing their views on faith to an SCU faculty member, as those views may differ from the views officially expressed by SCU or its affiliated denomination. As a best practice, I made sure to take their views “as valid in the context and meaning of their own experiences and relationships” (Alderson 2011, p. 57) and focused on gathering information rather than attempting to refute or change the students’ views on their religious or cognitive development. Similarly, some students may have felt uncomfortable when relaying experiences they had when they were in one of my classes. I explained up front to all participants that they would be able to omit sharing any experiences that might potentially make them uncomfortable. Clark (2011) identifies qualitative research as ideally “a more flexible path of investigation” (p 70) where participants can direct the line of inquiry, and I was flexible in doing so while paying attention to the personal concerns of the participants. Additionally, having the questions ask about the entirety of the participants’ college experience also helped with this, as participants had a wide range of experiences to draw on, and were able to tell their story without needing to recount experiences they found uncomfortable.

One of the challenges students faced was that participants recounting certain experiences may re-experience them and have strong emotions about them. In some cases, participants said disparaging things about SCU or people affiliated with it, and in many cases, although the interviews were conducted with participants individually, the participants likely knew each other and some of the stories that came up during interviews might include other research participants, and they might have had different accounts of the same story. Consequently, it was important to

clearly communicate to students that their responses did not identify them when data was reported.

Summary

The purpose of this single unit case study was to describe the process of developing the skills and dispositions needed to think critically among 2021 and 2022 B.A. degree graduates at Small Christian University. The study utilized interviews with approximately 10-15 students, a focus group interview with approximately 4-6 full-time faculty members, and 3 pieces of document data (reports of assessments of student work) describing assessed student performance at critical thinking tasks in an academic setting, all in an attempt to identify some of the factors that have helped or hindered Christian college students in their critical thinking and faith development during their time in college. The development of faith, as outlined through Fowler's (1981) stages of faith theory, closely mirrors the development of critical thinking skills: both processes involve acknowledging and accepting unresolved conflicts without automatically resorting to cognitive heuristics or other learned and inherited patterns of thought and behavior, and both processes involve the development of an internal sense of authority that can evaluate claims made by external authorities (Florence 2014). This internal authority generally develops as individuals reach stage four (Individuative-Reflective Faith) in Fowler's stages of faith theory. The interaction between faith development and critical thinking development was explored in this study, and the factors mentioned during interviews were noted when transcribing the interviews so that themes could emerge during data analysis. This case study identified themes that inductively emerged in multiple students' stories, identifying traits of common experiences that many students would have gone through as they earned a B.A. degree from a Christian university. Additionally, these themes were expanded upon by information emerging from

discussions with faculty members who had taught these students, including descriptions from the faculty side of this development students underwent during their time in college. Finally, these themes were triangulated (Eisner 1991) with data showing how well students have demonstrated their critical thinking skills through assignments they have completed on their way to graduation.

CHAPTER FOUR: FINDINGS

Overview

The purpose of this single unit case study was to describe the process of developing the skills and dispositions needed to think critically among 2021 and 2022 B.A. degree graduates at Small Christian University. Chapter Four provides a comprehensive explanation of the results of this study, beginning with an explanation of the different data sources: the two participant groups in the study (including 2021 and 2022 B.A. degree graduates of SCU who were interviewed, and full-time faculty members who were part of a focus group) as well as documents reporting the results of annual assessments of critical thinking skills at SCU conducted by the General Education committee. Next, a description of the different themes and sub-themes that emerged from the data is presented, as well as the outlier data and findings. Finally, the research questions are examined considering the data collected, followed by a summary.

Participants

There were three forms of data used in this study: artifact documents, interview participants, and focus group participants. The interview participants included 11 former students from among recent alumni from SCU who graduated in 2021 or 2022 with a B.A. degree from the traditional undergraduate program, and the focus group participants included four full-time faculty members at SCU. The members of both participant groups agreed to participate anonymously, so they are described in this study with pseudonyms used (see Tables 1 and 2 below).

Artifacts

Artifact data from the General Education Committee's annual assessments of Critical Thinking from the last three cycles (2009, 2017, and 2022) was used (see Appendices I, J, and

K). These artifacts were among the documents related to assessment that are available to SCU faculty and staff on a shared network of files and are used as part of the program review for the General Education program.

Interview Participants

Recruiting interview participants began with a list of all 99 students who graduated from SCU with a B.A. in 2021 or 2022. These participants were each contacted by e-mail to invite them to participate in the study. Initially, four students volunteered to participate. After a week passed, a follow-up e-mail was sent to all the students who hadn't responded to see they were willing to participate, and five additional students agreed to participate. After another week had passed, snowball sampling was used, as the nine students who agreed to participate were asked to ask their friends who were also in the pool if they would participate in the study, and as a result the final two students signed up, resulting in 11 interview participants (see Table 1).

As seen in the table below, the students who volunteered featured a variety of characteristics in terms of their major of study, gender, previous connection to the denomination of the college, whether they obtained a license to preach in that denomination upon graduating, and whether they lived on campus. Also included in the table is a quote from the participant that stood out regarding their critical thinking development while at SCU.

Table 1

Interview Participants

Student Participant	Major	Gender	Previous connection to denomination?	Obtained license?	Lived on campus?	Standout quote
EVAN	HDP	M	N	Y	Y	“But I think I really had to unlearn some of that stuff from kind of just like, agreeing with what [denomination] taught me”
BECKY	HDP	F	Y	N	Y	“it was a good introduction to . . . start thinking about yourself separately from your parents and your family”
CORY	TM	M	some	N	some	“I got more for myself out of that than trying to serve what a professor is looking for”
JASON	BA	M	Y	N	Y	“I’m being forced to know why I believe what I believe. And there’s a gap there of being able to figure out what I believe versus what I think I should be believing”
KATIE	TM	F	Y	Y	Y	“God’s like, you’re not really getting asked for blind faith, like scripture is a testament to why you should have faith in Jesus”
MOLLY	HDP	F	Y	N	Y	“I believe as Christians that that should, that we should be one of those people who do excel and who do desire to grow and learn. Where a lot of times I feel like it’s the opposite with the church and the opposite with sometimes Christian institutions because you just stay in the comfort”
DAVID	COMM	M	Y	N	Y	“after going to [SCU] . . . I’ve definitely had a higher value on the ability to work on that critical thinking ability and to really know
TINA	TM	F	N	N	Y	“I know too much. To like believe, to like walk away from this. So it’s like even I wrestled, but it was my theological backing and my like logical understanding of who God was up until that point that kept me from walking away”

MAY	COMM & BS	F	Y	N	Y	“I am grateful because [SCU] has taught me how to ask questions. It just didn't teach me how to sit in the uncomfortable feelings”
LOUISE	HDP	F	N	N	N	“before I came, most of my friends looked the same and had the same story. And now I don't have a single friend that has the same story as me or looks like me. And so it's challenged how I do life, how I talk to people, the decisions I make, everything”
RACHEL	COMM	F	Y	N	some	“I wanted desperately to engage with the community authentically, but I didn't feel like I could do so”

Abbreviations:

BA = Business Administration

BS = Biblical Studies

COMM = Communications

HDP = Human Development and Psychology

TM = Transformational Ministry

Focus Group Participants

Recruiting focus group participants began with a list of all 12 full-time SCU faculty members. These participants were each contacted by e-mail to invite them to participate in the study. Initially, two faculty agreed to participate. After a week passed, a follow-up e-mail was sent to all the faculty who hadn't responded to see if they were willing to participate, and two additional faculty signed up. Since multiple people needed to meet simultaneously for the focus group to take place, the focus group meeting was scheduled while recruiting additional faculty through direct individual contact from the researcher. However, no additional faculty agreed to participate before the scheduled day and time, so the focus group took place with four participants (see Table 2).

As seen in the table below, the four focus group participants featured a variety of characteristics in terms of their gender, academic field, length of time at SCU, and whether they held a license with the denomination.

Table 2

Focus Group Participants

Name	Gender	Academic Field	Years at SCU	Holds license with denomination?
DENISE	F	Human Development & Psychology	7	N
KAREN	F	Dean of online instruction	4	N
LAURA	F	Academic Support Center Director	3	N
STAN	M	Chair, Worship Arts & Ministry	5	Y

Results

This research study was conducted by analyzing the text of the interview transcripts and focus group transcripts, as well as the text of the three assessment reports. When interviews and the focus group were transcribed, they were sent back to all participants for member checking. After member checking, a few typos and misspelled words were corrected, and proper names mentioned were replaced with pseudonyms. Since the assessment reports had already been approved and submitted to SCU's accreditation dashboard, there was no need for member checks of the artifact data. After all the necessary data was member checked for errors, each of the three forms were open coded using NVivo, and 47 codes and sub-codes emerged from the data (see Appendix N). Once the coding was completed, the data then coalesced into four themes and nine sub-themes, each of which is described in Table 3 below.

Table 3

Themes and Sub-Themes Found in the Analysis of Codes

Themes	Description	Sub-themes
1. Academic Life		Courses & their role in promoting critical thinking

	Influence of curricular activities, courses, and faculty members on Critical Thinking development	Faculty & their role in promoting critical thinking
2. Campus Life	Influence of co-curricular activities, events, and social groupings on Critical Thinking development	Spiritual Life
		Community Life Agreement (CLA)
		Diversity
3. Critical Thinking	Evidence of Critical Thinking ability and disposition by graduates	Ability for Critical Thinking
		Disposition for Critical Thinking
4. The Denomination	Influence of the Denomination on Critical Thinking development	Licensing with the Denomination
		Indoctrination

Academic Life

The first theme identified in the data is academic life, which is defined by the researcher as the courses students take at SCU, and the faculty who teach them. This theme was mentioned by students in interviews and faculty in focus groups, with an emphasis on the importance of the sequencing of courses from lower division, which have a greater focus on content delivery, to upper division, which have a greater focus on analyzing and applying ideas in real-life situations. Both the nature of the courses and the way the faculty taught them had effects on how well students and faculty felt critical thinking skill development was supported through the academic life at SCU.

Courses

Courses are defined by the researcher as the specific classes students take during their SCU experience. Specific courses were mentioned by name during participant reflections on their critical thinking development in the interview and focus group.

In student interviews, Bible and theology courses came up as good examples of where critical thinking was taught well. Becky said “I probably say I grew the most in my critical thinking skills in all of my Bible classes just because you're forced to look at, like, for me, the

text that I had read every single day of my life and like heard stories about like, grew up like immersed in the Bible. And then here I am at Bible school and all these Bible professors are now telling me to like, almost dumb it down through observations and then approach it in a completely different way and like look at the text in a completely different way than I was used to.” Katie liked that the major paper for Biblical Exegesis Practicum didn’t require a specific position, and she stated the professor said: “you don’t have to write that you believe in it” but that “you could take any position as long as you defended it well.” Rachel said of Biblical Languages and Exegesis that “this course really set me up to think critically about the Bible and stake out my own positions on things” and went as far as to say that “generally the consistent lesson in the Bible classes I took was the greater application of theology and critical thinking.”

Another course where critical thinking was taught well was Christian Worldview (formerly named Roots of Modern Thought), which was mentioned three times as the course which offered students a glimpse into the worldviews of people outside of the Christian faith and required comparisons between different ways of viewing the world to clarify and defend specific claims from different viewpoints. Katie recalled a specific instance in class where the professor said “God’s like, you’re not really getting asked for blind faith, like scripture is a testament to why you should have faith in Jesus, like where it’s like you see it like it’s not like, this speaks for itself,” and that really stuck with her. David specifically noted this class as “one that I felt helped me with critical thinking,” and Molly noted that the class was “where you really learn about different, different things you’re opening yourself” up to, including different ways of looking at the world.

Several other courses students mentioned also encouraged critical thinking. Human Sexuality, for example, was described by Becky as a course that “allowed students to engage

with debates regarding LGBTQ+ issues,” and Louise mentioned how she “was actually nervous to start that class because I’ve heard all these conversations that come from the class.” She also noted that the course eventually encouraged her to look deeper into LGBTQ+ issues from a biblical perspective as a result. Louise mentioned that her Community Development course was one that “provided lots of case studies that were really complicated situations that required a lot of critical thinking.” Becky also mentioned that the Research Methods course required critical thinking, since it was “forcing us to actually have projects and ideas of our own and then go like, research those ideas and like, figure out what we thought about them.”

Some courses were mentioned specifically for their lack of critical thinking development. Tina mentioned that in Theology II, the “instructor and I didn’t agree on theology, and I was pressured to change my views, so I just wrote what the instructor wanted to hear and did well in the class.” Jason also mentioned that many of his business courses “mostly provided content rather than teaching critical thinking.”

While assessing courses wasn’t a part of the GE assessment process specifically, the 2009 GE annual assessment artifact data did specifically mention in the reflections section how well an assignment in the Ethics course was designed to promote critical thinking development.

Faculty

Many students also mentioned the role of faculty members when reflecting on their SCU experience. Students like Becky stated she “Felt the freedom to question my faith and then to question my faith with professors around me to speak into that” but also recognized that her role at a Teaching Assistant may have helped her feel more comfortable in doing so. Katie was impressed that most faculty were lifelong learners who were humble about how much they had yet to learn:

I feel like every professor, no matter how many you know, doctorates or masters or educational experience they have there, there's a humility in a sense of like, but we're all still learning like it's never done. The process is never over.

She felt this example taught her to approach her own learning with humility.

Another key claim regarding faculty is that while they would often push students to question their own beliefs in an uncomfortable process, they were also very supportive throughout the process, creating an environment where questioning pre-existing ideas was less scary and therefore cultivating an environment conducive to critical thinking; Rachel stated that the faculty prioritized critical thinking, by offering students lots of support, and that “I think [critical thinking] was greatly encouraged within the classroom.”

Although critical thinking was generally encouraged, some students did find that faculty members were defending the views of the denomination at times, often to the detriment of critical thinking. Cory stated that

I think one of the things that hindered [critical thinking] is sometimes I feel like I mean the professors are teaching it. They were under one denomination. They have their curriculum. They know what they're trying to teach. So sometimes it was this hard approach of like do I, like, what's the answer they're looking for?

Similarly, Tina felt that professors sometimes “really tried to push me to change and to become [denomination] and to push me to get my [denomination] license.”

The faculty members in the focus group generally felt they were encouraging critical thinking, although they were aware of barriers to critical thinking some students faced. In discussing students, Karen noted that “some of them probably grew up in like a family with closed minded you know like set opinions” and Laura stated that sometimes students were

reluctant to discuss “ways of thinking about the Bible that they think are somehow dangerous.” Denise also encouraged other professors to reinforce critical thinking throughout the curriculum for students to improve: “it needs to probably come from the professors on a repetitive basis of saying look at it this way, maybe it's different from the way you look at it.” aware of the challenges. Similarly, there were pedagogical techniques that worked well. Denise noted that in the way she teaches her classes, “the critical thinking is about open-ended questions. You know, let's kind of ask the question, let's see what kind of comes up. And there's no right or wrong answer so to speak, and just kind of work through that.” Stan also mentioned the importance of different strategies for teaching critical thinking at different grade levels: “lower division [is] the more, kind of objective based, you know, multiple choice type questions we use and as you move [to] upper division, the less you do that and the more essay-based questions you choose.”

Campus Life

The second theme identified is campus life, which is defined by the researcher as the activities and interactions students engage with as part of the community life on the SCU campus. Students living on campus are generally more involved in the community than those who live off campus, but all students interact with other students in and out of the classroom, attend chapel services, and participate in campus events and other activities that influence their learning and development while attending college. These community interactions have an influence on how well students can improve their critical thinking skills.

Spiritual Life

Spiritual life is defined by the researcher as the development of a student's faith during their time at SCU. Several activities are part of the spiritual life of students, including church attendance and involvement, community outreach, and chapel services.

Two students interviewed mentioned that chapel services and how they were conducted had a significant impact on their spiritual life development. Evan came from a tradition within the denomination and worked as a Resident Assistant during his time at SCU, providing him a unique perspective on the spiritual life of students. He noted that chapel was heavily influenced by the denomination, since “our Chapel speakers, I would say like probably 80 to 90% of them were [denomination]” and as a result the denomination’s beliefs were promoted during chapel. He also felt his spiritual development suffered because of not getting a broader perspective: “I do think there can be like ramifications, like later on, theologically down the road if you're not super like versed in other perspectives.” One key denominational belief involves divine healing, and Evan recalls many instances where students “were actually on medication” and “so many times they would leave a chapel, you know, because the guy was like, ‘you’re healed’ right?” and then they would stop taking their medication. Despite these experiences, Evan said chapel was “fundamental to my spiritual development.” As another example, Louise, who came from outside of the denomination, felt chapel was very different from what she grew up with, noting “the whole flow” was not what she was used to, and she said she started “reading anything I could about [denomination]” to help her understand and embrace these differences.

Beyond chapel services, missions trips to Haiti and Malaysia were also noted as helpful to spiritual development. Rachel noted that her trips “gave me a bit of practice in the middle of the study, too, for application. To kind of test out the skills that I learned.” It helped make the theoretical ideas she was learning more practical.

Outside of organized spiritual development activities, some students developed spiritually through relationships with faculty outside of the classroom. Becky stated that

I connected with my professors really well outside of class as well. So that in that sense spiritual formation. Like, really developed the way I thought about the world and how I was making decisions and stuff like that. Our actual, like, ministry department, like spiritual information probably did like the least amount for me.

For some students, their SCU spiritual experience challenged and clarified their spiritual beliefs. Rachel, for example, grew up in the denomination, but stated she “went to Life Pacific to get rid of preconceived notions.” She said she was

both just distrustful of the Christian community and looking for evidence of good Christian community. And so I was both felt I was right and at the same time pretty confident I was wrong and was looking for evidence. So I gave it time and I eventually did find kind of what I could be at peace with within the Christian community.

She intentionally challenged her beliefs because she “was at odds with everyone around me. But I was also pretty sure that I was wrong and I just needed to wait it out.” Her engagement with different ideas and beliefs during her time at SCU helped her clarify the things she truly believed.

From the faculty perspective, some faculty in the focus group felt that the activities offered to SCU students to help form a community often collided with their academic work. Karen noted that “the on campus students, they're busy with stuff. You know, stuff going around on campus. So I have to compete with that. As far as getting their attention or whatever's going on, on campus.” Denise agreed, noting that in her experience “I think it's external kind of stimuli, external stressors that then translates into their internal inability to kind of critical think or kind of work through that because of everything else going on.” The fundamental challenge from the

faculty side seems to be that students want to fit in to the social framework of the college, and sometimes sacrifice time and effort toward their academic responsibilities to do so.

The Community Life Agreement

Upon enrolling, all SCU students must agree to a set of conduct guidelines known as the Community Life Agreement, generally referred to as the CLA. This agreement sets clear expectations for how students are to conduct themselves while attending SCU, and how infractions of this agreement will be handled. Many students like Molly found the CLA unnecessary, as they were Christians upon arriving at the college, and wouldn't have done anything outside of its guidelines anyway: "So it was more of like, I don't even need to read this because I'm not gonna do anything on there." Later on, however, Molly said "But I think as the years progressed I started to think of like, oh wait, why is this wrong?" and began to actually engage critically with the idea of having restrictions on student behaviors. Others noted that the CLA was inconsistently enforced, with preferential treatment given to those closely connected to the college or the denomination, or even to athletes on campus. Becky stated that this inconsistency was sometimes harmful: "the execution of the CLA isn't made public or it's made like it's all just some vague, scary thing." This inconsistency in applying the CLA also supported the idea that students more closely aligned with the denomination were given favored status on campus:

I think SCU often falls into this bubble unintentionally of like perfect Christian, like white middle class people. And if you don't fit that, then you need to try to fit that. Or else you're going to look weird or like stand out or not be, not necessarily not be accepted, but you just won't look like you're accepted.

Evan felt the CLA inhibited students from learning to make their own choices in certain areas. He recalls several friends a little older than he was at SCU, and they

followed the CLA to like the tee, like never had drank as students at SCU or like didn't drink in high school, very Christian like. Like infiltrated. And when they had graduated, both of like two of my super close friends kind of like went off the deep end a little bit with alcohol and it was because LPU didn't prepare them for how to drink responsibly. And how to drink responsibly as a minister and as a pastor. And so they ended up having to have resources outside of their scope of LPU with like, their hiring supervisors and like, their senior pastors of like, I don't have an alcohol problem. I just never was taught how to drink responsibly And like, what is OK? What's not OK?

For Evan, this lack of thinking through the consequences of certain actions is a consequence of having a CLA. Tina agreed, saying she “thought it took away people's ability to make the right choice to think about the consequences of their actions.” Generally, students felt like the CLA was either unnecessary or unhelpful in governing student behavior and inhibited their process of developing their own internal authority to govern their actions.

Diversity

Several students expressed that their value for diversity improved during their time at SCU, as they were interacting with students from a variety of different backgrounds, and therefore were able to hear different ideas they hadn't previously engaged with. Tina, for example, had a unique experience since she came from a background outside the denomination. She recalls that

there were some teachers that like, like, there's a couple teachers that like really, like supported that I was a different denomination and really, like thrived off of that. And we

had great conversations. But then there are some teachers that like really questioned and really tried to push me to change and to become [denomination] and to push me to get my, to go get my [denomination] license. And then there were like a lot of students who like had great conversations with me and they were like, oh, that's so cool like that you're a different denomination.

Her interactions with people from within the denominational tradition spanned a range from acceptance to subtle hostility, and her identity as a “denominational minority” seemed to shape a lot of her experience at SCU.

At the same time, David found interacting with a diverse group of students from outside the denomination also helped:

talking to the other people at the school that may have not come from [denomination] and just seeing their different viewpoints. Really caused me to kind of look at their complaints and reevaluate . . . how [denomination] traditionally practices things.

David also mentioned that ethnic diversity at SCU was helpful to him as well. Since he came from a predominantly white area of the country, “having professors that weren't white was new, like, and it was, it was such a good thing like, yeah, it was good for me to see things from completely opposite perspectives than what I have originally walked in with.”

Jason also had some insights into the diverse student body at SCU:

Like everybody came from different backgrounds and even racially like I came from a biracial household, like my dad is black and my mom is white and that was very rare for where I went to school at and even the church, I knew nothing. And culturally, like seeing other people that aren't white going to school with you, like those things are, were very different. It was very, it was, it was fairly eye opening because there were so many

different people from so many different parts of the world. I never had a teacher that wasn't white growing up. And so having professors that weren't white was new, like, and it was such, it was such a good thing like, yeah, it was good for me to see things from completely opposite perspectives than what I have originally walked in with.

Jason was grateful for the diversity at SCU, and how it challenged him to explain and support his own ideas, stating that “I think there's a healthy, when I was on campus, there was a healthy culture of well figure out why you believe that.”

From the faculty focus group, there was some discussion of the diversity among students of different denominational traditions. Karen discussed a student who felt safe with her professors, but “she didn’t feel safe with the students” largely because “some of the students are so strong with their faith that they really just drive the other students saying, you know, you're wrong, you're, you know, you came from that, you're wrong, this is the way.” Laura mentioned that there are “actually a pretty high percentage of Catholic students” and she was surprised by “the amount of just really anti-Catholic things that have come out of many people's mouths that I've heard not just other students but a lot of other students.”

In addition to interview and focus group responses, the 2022 annual assessment showed that certain types of students generally scored higher than others: those who were male, Hispanic, affiliated with the denomination, non-1st generation, and non-Pell status. These traits generally represent advantaged (as opposed to disadvantaged) groups within the overall SCU population, except for Hispanic students. This could indicate a lack of equality in how students at SCU are treated. This artifact, however, represents a sample of only 20 students, and the demographic traits of specific students were not known by the reviewers during review.

Critical Thinking

The third theme identified was critical thinking, which is defined by the researcher as a graduate's ability to think critically, and the disposition to do so. In their interviews, students were asked for their definitions of critical thinking. Jason identified it as "the ability to think beyond the surface level"; David said it was "the ability to take a subject and think about it in . . . both sides of the matter"; Louise said it "usually requires digging deeper"; and Rachel said it was "the synthesis and application of information," emphasizing the application as a logical result of good critical thinking. These definitions given by students are mostly consistent with the established academic definitions, including that of Ennis (1993), who saw it as "reasonable and reflective thinking that is focused on deciding what to believe or do." Overall, students in the interviews generally displayed a good ability to clearly define critical thinking.

Ability to Think Critically

The ability to think critically was defined by the researcher as the ability to demonstrate critical thinking in everyday settings, and in assignments completed while at SCU. The ability to demonstrate critical thinking in assignments was the focus of the artifacts used in the study, which showed that students generally met the goals established for critical thinking, but often not until the upper division levels. The 2009 assessment looked at student work at the sophomore and junior course levels and assessed it against a rubric for how well the student demonstrated critical thinking. The results indicated that 25% of sophomores and 56% of juniors met the criteria established for demonstrating critical thinking. For the following assessment in 2017, only capstone work (work completed in a student's final semester) was used. For students pursuing an A.A. degree, their capstone work represented the sophomore level, and 10% of students met the criteria. For students pursuing a B.A. degree, their capstone work represented the senior level, and 40% of students met the criteria. The 2022 assessment looked exclusively at

senior level work, and 55% of students met the criteria. The established goal was that 75% of students would meet the criteria, so there is still room for improvement in enhancing critical thinking development at SCU, but the numbers overall show improvement from the lower division levels to the upper division levels and show most students meeting the objective by the time they are close to graduating with a B.A. degree.

Additionally, students provided descriptions in their interviews of their experiences demonstrating critical thinking. Evan, who received his denominational license upon graduating, felt that while SCU prepared him to think critically, he primarily developed his critical thinking skills after graduating, when he had to “unlearn some of that stuff from kind of just like, agreeing with what [denomination] taught me.” He did describe himself as “kind of more of, like an individualized thinker” who was “very open to hearing perspectives of like people’s life experiences.” Since graduating, he has been exposed to more different kinds of people in his role as a therapist:

I think as a therapist, I've definitely learned to kind of have that cognitive dissonance of like, this may not be what I believe, but I'm really curious to know like how you landed there. And I don't think SCU really prepared me for that.

Becky felt that her coursework wasn't too difficult, but that it did require a good deal of critical thinking, which she felt was a good thing. She recalls that

in my coursework, I would say that I like, it took my critical thinking skills I already had and like refined them in a way that like now I can apply it to getting a good grade or applying it to like specific directed, pointed questions that they're asking.

Cory felt his SCU experience “challenged me to think a little bit more and take the data that they were sharing. And apply it to my own experiences and be like there's some truth there.” He said

he got more out of seeking truth himself, rather than “trying to serve what a professor was looking for.” Jason noted that

the way I was raised in the culture I grew up in was very different than the culture that LPU was set in. And so for me, figuring out what I learned is cultural versus what's biblical truth, you know, but there was always room for that discourse.

Katie felt that the challenge given to students is to question many of the ideas they held when entering SCU, and the result was either to do the hard work of developing their own stances on things, or “freak out” in despair after finding that many of the things they thought were true simply weren't. She describes the process as forcing her

to really kind of reckon with what you don't know and either step into it and learn it and you know, create and articulate where you stand and you're and what you believe and all these things or you just like freak out and nothing is the way that you think that it is and you cry and you don't believe in anything anymore because it wasn't how you were taught. And so I think that for me at least my response was to go in the I wanna study. I wanna learn.

In addition to artifacts and student interview responses, faculty in the focus group often mentioned their experiences with students developing their critical thinking skills. Denise noted that many times students in lower division classes were not yet ready to think critically: “initially all of the students that I, the students, the questions that I get is what do you want me to say? What do you want me to ask? They want me to tell them what to write.” Stan noted that students don't always think critically, but sometimes this is the result of low faculty expectations: “I don't even think it's a matter of their critical thinking that's the problem. They're giving poor work because the teacher isn't holding them to high standards.”

Generally, faculty felt students did develop their critical thinking skills during their time at SCU. Stan stated that

I think they are. I don't think we graduate students that are really bad at critical thinking. I think we have a ton of bad students that are bad at critical thinking, but they don't usually make it all the way to graduation. So if when we're talking about graduates, I think for the most part, yes, they're good at critically thinking.

This comment points out how students who persist in graduation generally end up developing their critical thinking skills. Laura also felt students were thinking critically, especially during class discussions: “examples that I most often see students critically think is actually during class discussions, by the questions that they ask and by kind of their answers when they're kind of processing information and talking about them, I see them making connections to things that they haven't been kind of handed.” This process of questioning students in the classroom allows them to wrestle with the ideas they hold and requires them to defend those ideas, an outcome that requires critical thinking.

The faculty focus group also shared thoughts on what faculty need to do to help students in their critical thinking development. Denise said

But I think as professors in higher Ed, particularly Christian education, we need to be able to challenge them, to think on their own. We need to be able to challenge them, as you were saying earlier, kind of the alternative way of thoughts. Not that we're going to convince them to that, but to think that there are other people that think differently than we do and that doesn't mean we have to change our thoughts, but to understand. And I think to understand that there are different trains of thoughts. And sometimes I think we

don't, maybe we're not doing that enough if our students are not able to see other points of view.

Disposition for Critical Thinking

Students and faculty both provided descriptions of their experiences where students were willing (or unwilling) to use their critical thinking abilities in specific situations. For students, some assignments were geared toward requiring critical thinking, while others weren't. Most students seemed to see the trend happening as they got further into their education: lower division courses featured assignments asking for summary or demonstrating basic knowledge, while upper division courses featured more high-level engagement at the analysis level. David noted that

after going to SCU and after like all these different life changes and coming through the other side, I've definitely had a higher value on the ability to work on that critical thinking ability and to really know how to use it in the best way.

May noted that since graduating and moving across the country, she values critical thinking because she needs to "know her stuff" before interacting with others. Louise also notes that not all the Christians she grew up around value critical thinking: "I have conversations with older family who have read the Bible many times but still haven't considered different ways of approaching it, so we diverge in our views on things even though we both believe our views are biblical."

In the focus group, faculty noted that a lack of critical thinking disposition often went along with a discomfort in challenging existing beliefs students had before coming to SCU. Laura said that encouraging students to challenge their beliefs "makes people uncomfortable which I kind of love because I think that's what we're asked to do in a lot of ways." This

discomfort students feel may keep them from engaging in critical thinking, but Laura also felt it was important to explore this discomfort with students, asking them “what are your assumptions about this thing? What's at stake for you? What's important for you in this discussion about creation, for instance? What have you heard before?” Asking these types of questions can help students understand and overcome their own reluctance to think critically.

The Denomination

The final theme identified is the denomination, which is defined by the researcher as the Christian denomination that was founded along with SCU's founding, and whose values and heritage are closely aligned with the values and heritage of SCU. The denomination influences many activities at SCU, either overtly or covertly, including students' critical thinking development. There are significant spiritual, social, and financial ties between the college and the denomination, making for a potentially mutually beneficial relationship, but also one with many different stakeholders holding many different priorities regarding the operations of the college. Because of SCU's strong affiliation with the denomination, there is a strong incentive to promote the ideas of that denomination, including through establishing partnerships with churches and other denominational organizations, recruiting students from places with a strong denominational presence, and hiring staff and faculty who agree with the basic faith tenets of the denomination. All of this can create a system where the values of the denomination are presented as good and correct, while the values from outside that system are to be seen skeptically.

There was data from all three sources that could indicate that students and ideas more closely aligned with the denomination were given prominence in the college's operations. Many faculty and student responses addressed the licensing process and the potential for indoctrination of students into the denomination's beliefs. Although the artifact data didn't directly address the

denomination's influence, the 2022 annual assessment report noted that denominational affiliation was one of the demographic markers of students who generally did better on the assessment. While this is admittedly a small sample size of 20 students from which to draw larger conclusions, the fact that students affiliated with the denomination scored better could indicate that students more closely affiliated with the denomination are favored in student grading. Even though this assessment was anonymous, so there was no way to track which assignment came from a denominationally affiliated student, having students writing from viewpoints more consistent with the denomination's may have caused faculty to assess their papers more favorably.

Licensing with the Denomination

Licensing is defined by the researcher as the process of obtaining a license to preach under the denomination SCU aligns with. Many students attend SCU with the intention of getting a license from the denomination, a process that involves taking an academic course called Polity and sitting for a licensing interview with members of both SCU and the denomination. In the licensing interview, candidates are asked questions about their theological beliefs, and licenses are generally granted to those whose views line up with those of the denomination. This process helps ensure people who are preaching under the oversight of the denomination are likely to have views consistent with the rest of the denomination, but it can also inhibit critical thinking since it incentivizes individuals to affirm certain views, whether they hold those views or not.

Several students shared their thoughts on the licensing process in their interviews. Evan noted that during the process "you will not be a licensed [denomination] pastor if you deviate from, you know, the polity handbook of where you need to land as a minister." He went on to

explain that since graduating and working as a therapist, he often works with members of the LGBTQ+ community and felt like he had to “unlearn some of that stuff from kind of just like, agreeing with what [denomination] taught me.” Tina, who came from outside the denomination, said in her interview that “there are some teachers that like really questioned and really tried to push me to change and to become [denomination] and to push me to get my, to go get my [denomination] license.” Katie, who came from a background within the denomination, stated “there are people who will like take the [licensing] class and then not sit for the interview because they are like I don't actually believe that, or I don't actually align with that at all.” She said that while some might feel there are favored answers in the interviews, her experience was that “when you're prepping for your interview, you have to have scriptural backing for all of the things that you say that you believe” and in her opinion “it's not just like, here's what [denomination] believes and you better believe and get on board.” These different views of the licensing process show a range of different student experiences.

Indoctrination

Indoctrination is defined by the researcher as the intentional reinforcement of specific viewpoints SCU would like students to hold due to those views being consistent with the views of the denomination. From the perspective of someone outside of the Christian faith, attending a college that reinforces the specific beliefs of a particular denomination may seem like a process of indoctrination into what to think rather than being taught how to think. This balance between communicating shared values and helping students develop the skills to clarify their own values is often difficult. Students generally didn't seem to feel the college indoctrinated them to hold the views of the denomination, but there wasn't clear agreement on this: students from outside the denomination were more likely than those from inside it to feel their views needed to change to

align with the denomination and were more likely to view this required alignment as indoctrination.

Among interview respondents, several students felt the college did indoctrinate students. Evan, when asked if there was a curricular push toward reinforcing the denomination's beliefs, answered "absolutely," and added "I think it was definitely pushed and I don't think it's necessarily a bad thing." He recalled that as part of the Polity course, he was assigned coaches to help, and he "had some pretty high up people [in the denomination] as my coaches." Similarly, Molly stated that she was hurt from "the indoctrination and the spirituality and a lot of times nepotism" that she experienced at SCU. She was also hurt by the lack of time taken to stop and examine or critique certain beliefs:

not like oh wait. Why are we doing this? OK, I'm in. Let's keep going. Let's keep going. Let's we're like wait, can I even challenge this? Can I have a slightly different you know, so it definitely just has felt in a weird way like, huh, there is a diminished critical thinking if it's just Bible verses and sometimes taking [things] out of context but we should learn that, and say hey, this is out of context.

However, she points out that seeing this lack of critical thinking inspired her to put more effort into developing her own abilities and got to "a point of critical thinking, of being able to be like, huh, how can I learn more?" Tina, who came from a Lutheran tradition, felt there were both good and bad examples of SCU's connection to the denomination:

there were some teachers that like, like, there's a couple teachers that like really, like supported that I was a different denomination and really, like thrived off of that. And we had great conversations. But then there are some teachers that like really questioned and

really tried to push me to change and to become [denomination] and to push me to get my, to go get my [denomination] license.

As a result, she sometimes completed assignments by providing denominationally approved answers:

I found out that sometimes if I, like, wrote that I don't necessarily agree or if I, like, disagreed with something or something like. [the professors] didn't necessarily like that. And so my grade like was kind of would fluctuate because of it. And so I just started to give the teachers what they wanted to hear instead of what I wanted to answer.

Conversely, faculty generally felt they weren't indoctrinating students. Denise felt like "as professors in higher Ed, particularly Christian education, we need to be able to challenge them, to think on their own" instead of telling them what to think. While the faculty feel they aren't indoctrinating students, they recognize that sometimes other students are. Karen offered her experience speaking with a non-Pentecostal student:

what I heard from this student is that she did not feel safe. Because a lot of the [denomination] Pentecostals are constantly just putting down their beliefs as Pentecostals to someone who's not a Pentecostal. So she didn't really feel safe. She felt that. And it's not the professor she felt that some students are, they're just like, you know, there's this group of students and this group of students, the Pentecostal students are very strong in making people feel that that's the only way, that's the only, you know, way to be a Christian. And so it was, it surprised me that she said she felt kind of not safe. She even said she felt bullied by some of the [denomination] students.

Laura also noted that Catholic students in particular were often intimidated by other students, and that "I do feel sometimes it is pushed from the kind of top down institution some of

those things that I wish were more roundedly handled as an educational facility and not just a church denomination.” These stories highlight how even if the faculty and staff aren’t indoctrinating students, other students might be indoctrinating them through intimidation.

Among students, Becky, who came from within the denomination, felt that the beliefs of the denomination were mentioned but not reinforced as being correct, and that students had the responsibility to work out for themselves why and how to hold certain beliefs. She said “I allowed myself to question what I needed to question and to go to my professors.” At the same time, she acknowledged that not every student felt that way:

But I'm kind of in the unique situation where like I grew super close to my professors and I was a [Teaching Assistant] and I worked at the school. So it's like it's more of a peer-to-peer kind of relationship I have with them instead of like they're this all knowing professor who just gives me my grades.

Cory didn’t feel he was being indoctrinated: “I didn't see areas, yeah, where I've felt like I was being indoctrinated and to my knowledge I didn't feel that way.” He admitted he held beliefs consistent with the denomination, but never felt pressured to do so. Jason stated “I think there was a lot of room for free thinking, and I think there is a lot of space for free thinking and conversation around particular theologies,” making a clear distinction between theology and doctrine. Similarly, Louise stated “no one pushed any doctrine on me and I was allowed to think and come with questions because I had a lot of them.” Katie felt like she wasn’t being indoctrinated: “But I think that something that [denomination] does pretty well actually is not, is steering away from indoctrination.”

Outlier Data and Findings

In qualitative research, an outlier is seen as an “exception to the majority” (Phoenix and Orr, 2017). The researcher identified two outliers from the student respondents, in that they represent the experiences of an atypical student.

Tina

Tina is an outlier in that she is from outside not just the denomination, but the Pentecostal tradition entirely. She came to SCU from a Lutheran tradition, absent any Pentecostal background or experience. On its latest enrollment report, SCU breaks down data on its undergraduate population, and generally about half of the students at any given time claim to come from the denomination. Others come from other Pentecostal-affiliated denominations. SCU’s enrollment reports don’t even have a box to track “Lutheran” as a response for students to identify their denomination. Even using the “other” designation, less than 10% of students typically come from this group.

During her SCU experience, Tina said she wasn’t part of the denomination, but “for the most part did align with what the views of the [denomination] were. There are some things that I didn’t necessarily like agree with but those weren’t like big game changer priorities of mine.” Despite her outsider status, Tina nevertheless held to her Lutheran values and tradition, despite the challenges it presented to do so. She noted that socially “all my friends at SCU were [denomination] and so me having a different opinion on what’s a, like higher up on the list than they do, it kind of makes relationships sometimes hard.” She recalls how her status as a Lutheran received mixed responses. In some cases “I was told that I was wrong a lot at SCU” and in other cases fellow students said “that’s so cool like that you’re a different denomination.” Tina’s outlier status led her to conclude that diversity in theological views can be a good thing:

I think having different types of people who do different things and feel different ways still gets the message that Jesus saves and Jesus loves us and so and I think that should be a priority which it isn't always a priority.

Evan

Evan is an outlier in that he was approved for licensing while also admitting to same-sex attraction, which is officially not part of the denomination's accepted policies. Evan said that during my specific interview, I did disclose, like I didn't necessarily lie because at that time in my theology I was like not practicing dating or wasn't like practicing that lifestyle. And so I disclosed I was like, yeah, like I do have like same sex attraction, like I'm bisexual, but I'm not like living in that type of environment or the 'lifestyle choice' that they, I think that was their word. So I didn't necessarily lie, but I did feel like I was like terrified to even say that because like you that, like, it is lower on the list if you're not in that lifestyle, like if you're not practicing that lifestyle, but if you are, that's like your license will be revoked. And that was made very clear.

In all of SCU's statements referring to diversity, diversity of sexuality and gender identity are absent, as neither of those values are consistent with the denomination's official positions.

However, according to Evan there are specific faculty members, leaders, and pastors within the denomination who hold affirming views on such issues, yet at this time these people would be in the minority since those views aren't officially part of the denomination's stance.

Research Question Responses

This study featured a central research question and two sub-questions, and the data from all three sources in the study supplied insights that helped answer each of these questions.

Annual assessment reports showed that students are generally demonstrating critical thinking in

their assignments, students described their process of developing critical thinking skills in their interview responses, and faculty described how students were coached and encouraged in this process of critical thinking development.

Central Research Question

How does Small Christian University (SCU), a small Christian university, develop critical thinking skills and dispositions amongst its students working toward a Bachelor of Arts degree in the traditional undergraduate program? SCU helps students develop their critical thinking skills and dispositions throughout the entire 4-year arc of a student's time at SCU, including through the courses they take and the community they engage in to form social and spiritual connections with others.

During the first two years, students generally acclimate to the overall campus culture, make friends, and interact with others who are different from them. All 11 interview participants in the study described this process happening for them. Admittedly, the interview participants were those who succeeded in this process, and there were likely students who didn't successfully navigate the process and didn't end up graduating from SCU, and therefore weren't part of the study. Lower division courses primarily, as Laura noted in the focus group, give students "just basic comprehension of specific things," and introduce the ideas of critical thinking and engagement in asking questions about students' assumptions, beliefs, and values. The process of critical thinking development in the lower division is more faculty-led, as Cory, in his student interview, stated: "I would say definitely in the lower-level classes, critical thinking is more guided and assisted than in your upper-level courses."

During the final two years of study, students have the knowledge base to begin more complex interactions with the material. Becky, in her student interview, stated "once you get to

the upperclassmen levels, like, people definitely engage with [critical thinking] more.” Stan, in the faculty focus group, agreed: “I don't think the students have a problem thinking critically once they get to the senior level.”

Sub-Question One

How are Christian college students at SCU working toward a Bachelor of Arts degree in the traditional undergraduate program progressing from Fowler's stage three to stage four? While most students haven't encountered the terminology of Fowler's (1981) stages of faith theory, they are living it out upon graduating from SCU. For many students, the time after graduation provided them with a chance to separate from the home life they grew up in, allowing them to re-shape their identities and take ownership of the beliefs they held. Becky described her time at SCU as “how to like start thinking about yourself separately from your parents and your family.” This development into stage four demonstrated Fowler's predicted shift from reliance on external authorities to a reliance on their own internal authority. Louise noted that after graduating, she would “have conversations with older family who have read the Bible many times but still haven't considered different ways of approaching it, so we diverge in our views on things even though we both believe our views are biblical.” Katie shared how her experience at SCU made her engage with complicated ideas and ask different questions: “But it in a really good way, I think, forces you to really kind of reckon with what you don't know and either step into it and learn it and you know, create and articulate where you stand.” The responses, she felt, were either to dedicate themselves to finding the truth, or to despair because “nothing is the way that you think it is and you cry and you don't believe in anything anymore because it wasn't how you were taught.”

Students in the interviews also showed self-directed criticism, which is another marker of Fowler's stage four. Students openly shared about their faith development during their time at SCU, including periods of doubt. Molly noted that this wasn't an easy process, and being at a Christian college may have made it more difficult:

To evaluate the situation as it is and to work from there rather than already having that oh this is the right answer so then I'm gonna find things that support it and where I feel like at certain levels if maybe we weren't at a Christian, if I wasn't at a Christian institution, it might have helped me do more critical thinking skills because it wouldn't be like oh this or even my positions, especially faith-based positions. Those would be even more so challenged. And so that would result in me wanting and desiring to not just find the answer for myself, but to critically assess, evaluate and explain and communicate it in a way that clearly and concisely shared my point of view without having to be like I'm the right one but for understanding.

Being able to critique and evaluate one's own views shows progression into Fowler's stage four.

Sub-Question Two

How are Christian college students at SCU working toward a Bachelor of Arts degree in the traditional undergraduate program demonstrating critical thinking? The artifact data from the most recent 2022 annual assessment of the Critical Thinking objective indicated that students' average score (2.99) was right around the benchmark the institution set (3.00), although the percent of students who met the goal (55%) was lower than the benchmark (75%). This indicates that students are generally able to think critically, although not as many as the institution had targeted. As mentioned in the assessment report, this type of measurement is subject to high

variations in the types of assignments students are required to complete, with some not requiring as much critical thinking demonstration as others.

The faculty focus group indicated that faculty felt students were generally able to think critically by the time they graduated. Stan said, “I think for the most part, yes, they're good at critically thinking.” He noted that by the time students get to be seniors, they are engaging in essay-based assignments, and in those “you can clearly see how they're critically thinking through subjects and topics in in that scenario.” Laura noted that class participation is frequently where she sees students demonstrate their critical thinking:

by the questions that they ask and by kind of their answers when they're kind of processing information and talking about them, I see them making connections to things that they haven't been kind of handed. If that makes sense. I see them analyzing the situation that they hadn't thought to analyze before. So I see that most often in class discussions and then demonstrated in their coursework. But usually I can tell from how students participate in class that they can do that.

Not everyone in the focus group taught seniors on a regular basis, so there were some faculty responses highlighting how lower divisions students often didn't have their critical thinking skills fully developed at the time that particular faculty member interacted with them.

Denise noted that

in preparation for those upper division written assignments, it seems to me that there's a lack of critical thinking because initially all of the students that I, the students, the questions that I get is what do you want me to say? What do you want me to ask? They want me to tell them what to write.

Several faculty members also expressed how students' development is enhanced when assignments and faculty members require students to meet high standards of critical thinking. Stan said "the teachers that do hold them to high standards, they typically get good work." Additionally, faculty felt it was helpful to anticipate the discomfort students were likely to feel when challenging long-held beliefs, and to encourage and support them during this process. Laura suggested helping them be "able to put themselves into another person's shoes."

Summary

Chapter Four shared the results of this study, including the themes that emerged from the data. Data used for this study included artifacts recording recent annual assessments of student critical thinking skills, a focus group of full-time faculty, and interviews with students who recently graduated from SCU with B.A. degrees. All participants were recruited by e-mail, and both the focus group and interviews were conducted virtually via Microsoft Teams.

Four main themes emerged from the results. The theme of Academic Life consisted of the curricular experience students had at SCU and included subthemes describing both courses and faculty. The theme of Campus Life consisted of the social and spiritual interactions students had on campus, and included subthemes of spiritual life, the community life agreement, and diversity. The theme of Critical Thinking consisted of students' critical thinking skills and included subthemes on students' ability and disposition to think critically. The theme of The Denomination included the overall influence of the denomination on SCU and its students, and included subthemes on licensing within the denomination and indoctrination. The themes provided insight into what factors made critical thinking more or less likely to happen in the experiences of students and faculty at SCU. Finally, the main research question and two sub-

questions were reviewed, with insights into the process of critical thinking development among SCU students.

CHAPTER FIVE: CONCLUSION

Overview

The purpose of this single unit case study is to describe the process of developing the skills and dispositions needed to think critically among 2021 and 2022 B.A. degree graduates at Small Christian University. The results of this study can help inform decisions and strategies for improving critical thinking education at SCU specifically and potentially in Christian colleges more generally. Chapter Five provides the interpretations that come from the findings of the study, the implications for both policy and practice as a result of the study, the theoretical and methodological implications of the study, the limitations and delimitations of the study, and recommendations for future research.

Discussion

Students who graduate from college generally improve their critical thinking skills during their time in college (Mayhew, et al., 2016; Sola et al., 2017), but the factors involved in making this happen are not well understood. The current literature examines different methods for teaching critical thinking. Ennis (1989), for example, looked at four different ways to teach critical thinking, and Pnevmatikos et al. (2019) utilized a values and knowledge education (VaKE) instructional approach. While these and other studies unearthed the potential to help improve critical thinking, they focused on specific curricular interventions. However, co-curricular factors have not been studied extensively. This study is a step toward filling that gap by exploring the overall process of critical thinking development across students' entire undergraduate experience, both in and out of the classroom. This study used data collected from student interviews, a faculty focus group, and artifacts, demonstrating that students and faculty generally felt students' critical thinking skills and dispositions developed significantly during

their SCU experience. This data showed four themes highlighting important factors that helped college students develop their critical thinking. Fowler's (1981) stages of faith theory postulated development in students' faith and critical thinking during their college experience when certain conditions were met, and the data from the study generally supported what Fowler theorized about this development. This section will include an interpretation of the thematic findings, implications for policy and practice, theoretical and empirical implications, limitations and delimitations, and recommendations for future research.

Interpretation of Findings

The interpretation of findings includes a summary of the reasoning behind the themes and subthemes identified in Chapter Four. The four themes and six sub-themes identified were (1) the Academic Life of SCU, including the courses students took and the faculty who taught them; (2) the Campus Life of SCU, including the spiritual life on campus, the community life agreement, and the diversity seen on campus; (3) Critical Thinking, including the students' overall ability and disposition to think critically; and (4) the Denomination the college is affiliated with, including the process of licensing students within the denomination and to what extent students were being indoctrinated into the views of the denomination. These themes inform answers to the research questions. The findings of the study identify factors that have helped or hindered SCU students in their critical thinking development, leading to interpretations that can inform future research and practice.

Summary of Thematic Findings

In this study, the students interviewed shared their lived experiences in their own critical thinking and faith development, the faculty in the focus group shared their experiences watching students undergo this development, and artifact data provided more objective measures of how

well students were learning to think critically during their SCU experience. These three sources allowed for triangulation of the data, and helped illuminate four specific themes that show an influence (either positive, negative, or both) on critical thinking coming from (1) the Academic Life of SCU, including the courses students took and the faculty who taught them; (2) the Campus Life of SCU, including the spiritual life on campus, the community life agreement influencing student behaviors, and the diversity seen on campus; (3) Critical Thinking, including the students' overall ability and disposition to think critically, and (4) the Denomination the college is affiliated with, including the process of licensing students within the denomination and to what extent students were being indoctrinated into the views of the denomination. To give meaning and coherence to these findings, four interpretations are presented.

Students generally improve their critical thinking during college. Some students in this study admitted that their critical thinking skills weren't too developed when they first came to SCU, and their first task was to see the value of critical thinking. Becky recalls how her lower division Bible courses actually had professors who coached her when studying the Bible to "almost dumb it down through observations and then approach it in a completely different way and like look at the text in a completely different way than I was used to." She also noted that this spread to other experiences as she continued in college: "So like that ability and that skill that we developed in the Bible class has kind of bled out into the rest of my life." This process helped her get rid of the preconceptions she brought to SCU about the Bible, showed her how critical thinking could help her understand the Bible, and in turn showed how much critical thinking could help her in many other areas as well. As students advanced to upper division coursework, many highlighted how critical thinking was required more in their assignments, yet stated it also seemed to come easier, as they had been developing it during the first two years of

college. Jason said “I would say definitely in the lower-level classes, critical thinking is more guided and assisted than in your upper-level courses.” By the time he got to upper division courses, Jason said “the responsibility is then on me to internally do the work of aligning my life to that or aligning my goals” with the task being “to figure out what I believe versus what I think I should be believing.” Faculty also noted that their expectations for lower division students were different from those of upper division students, with upper division students being expected to engage with topics and concepts at a deeper level. Denise summarized the process of coaching students as they entered upper division coursework: “what we need to do on a continuous basis from lower division to upper division is having them connect. Yeah, look at, you know, examples of real life situations. And now how do you apply this?”

In curriculum planning, this development curve is taken into account. The curricular map (see Appendix O) used at SCU indicates how each course fits into achieving specific Student Learning Outcomes, with freshman and sophomore courses typically labeled with an “I” for introducing a concept, junior level courses labeled with a “P” for practicing a concept, and senior level courses labeled with a “C” for competency in a concept. In the development of critical thinking, the freshman-level English writing course typically introduces concepts related to critical thinking, the sophomore-level Christian Worldview course typically practices these concepts, and the senior-level Senior Seminar course expects students to demonstrate those concepts in their assignments. Based on the results from student interviews and the faculty focus group, this tiered system has helped guide students through the process of developing their own critical thinking skills as they progress through their studies. Additionally, artifact data shows that students earning an A.A. degree typically do not demonstrate the same advanced

understanding of critical thinking as B.A. degree students do, suggesting those additional two years of study are important to students' critical thinking development.

SCU's denominational connection influences students' critical thinking

development. The influence of SCU's connection to a specific denomination was felt by students and faculty throughout their SCU experience. Students who enroll at SCU and faculty who teach there must declare their adherence to the basic tenets of faith held by the denomination, although students mentioned in interviews that they didn't feel all SCU students made a serious commitment to those ideas. Students coming to SCU who have been steeped in the values and beliefs of the denomination often feel those beliefs are axiomatically true, and often haven't questioned or challenged those beliefs--perhaps not even feeling it's appropriate to do so. In this sense, the connection to the denomination and the pressure to hold certain views (or even just profess to hold them) can hinder students' critical thinking development. The challenge for an institution like SCU is to be able to reinforce its heritage and values without explicitly telling students what to think. Ideally, SCU should encourage in students a disposition to use their critical thinking skills to both form and challenge their beliefs, whether those beliefs agree with the denomination's or not.

The licensing process can also exacerbate the influence of the denomination, since students wishing to get licensed in the denomination will need to take the Polity course and go through a licensing interview in front of a panel of individuals connected to the denomination. Students took different views on how to prepare for and pass the interview. For example, Tina felt some faculty members "really questioned and really tried to push me to change and to become [denomination] and to push me to get my, to go get my [denomination] license" while Evan felt the need to affirm the denomination's position on LGBTQ+ issues to pass his

interview. Katie, on the other hand, felt the most important aspect of the interview was “to have scriptural backing for all of the things that you say that you believe” even if they didn’t line up with the denominational views. On balance, student experiences showed the process of interviewing for a license could either be seen as a helpful motivation for students to understand and support their views, or as a requirement to line up with the denomination’s views. The result is that the licensing process has the potential to help or hinder students’ critical thinking development depending on how the student approaches the process.

Faculty’s role in student’s critical thinking development. Faculty members who were unafraid to ask difficult questions of their students, and worked to cultivate a classroom environment where thoughtful discussions about challenging topics could take place, felt those practices helped nurture students’ critical thinking. Laura, in the faculty focus group, said that she saw students thinking critically during class discussions, and saw them “making connections to things that they haven’t been kind of handed.” While this process is different in lower versus upper division courses, the process of having students formulate and defend their views aligns with critical thinking. Telling students what to believe is less effective in cultivating critical thinking, and the process of critical thinking is seen by most faculty as more important than whether students hold denominationally aligned views. Denise mentioned that her classes place an emphasis on helping students understand that different people have different views, and that it’s possible, and even desirable, to understand those views even if we don’t adopt them.

Another important part of the role of faculty is to have them not just challenge students to ask questions, but to encourage and support students when they do. Louise specifically mentioned feeling “scared to ask” difficult questions when she first arrived at SCU, but became more comfortable asking questions over time as she saw professors accept and discuss different

viewpoints. When faculty are not reactive while discussing emotionally charged topics, and do not automatically reject ideas not aligned with the denomination, they generally help students feel safe in thoughtfully questioning their beliefs, thus encouraging the critical thinking process.

Students enhance their critical thinking through diversity. Students mentioned how they learned a lot by interacting with people different from them. This aligns with Fowler's (1981) thoughts on the value of diversity, and his belief that interacting with people from a variety of viewpoints and spending time reflecting on those interactions is a helpful way of developing one's own personal views. The challenge is that any school the size of SCU, and one so traditionally aligned with a denomination, will not typically have as diverse a mix of people as larger schools or those less tied to a specific denomination. SCU, like other schools its size, has limited resources for many activities. Recruiting new students, for example, is often economically most feasible through strategies like publicizing the school at events and places where there's already a strong influence from the denomination, or building on existing relationships potential students have with their pastors, friends, or family members. Generally, it is less cost-effective to recruit students with no connection to the denomination. The same is true for recruiting staff and faculty, who are also often encouraged to apply via word of mouth or other existing relationships. While these processes can provide SCU with students, staff, and faculty who are aligned with SCU's mission and are more likely to remain at the college longer, they aren't optimized to get a diverse population on the campus.

Having a diverse campus with students holding differing viewpoints is ultimately good for critical thinking development. However, many students felt there was an "ideal" type of student who was recruited and supported more than others, which made it hard to foster diversity. Students from outside the Pentecostal framework, like Tina, didn't feel like they were

allowed to interact with those holding more denomination-approved viewpoints without their own positions being denigrated. It's a fine line SCU needs to walk between supporting and celebrating their denominational heritage and encouraging students to learn from people outside that heritage.

Another challenge to producing a diversity-filled campus was the behavioral restrictions put on students through the Community Life Agreement. Students were not allowed to express same-sex attraction openly, for example. As a result, students had limited opportunity to hear and learn from the lived experiences of other LGBTQ+ Christians, and a heteronormative reading of the Bible was tacitly encouraged. Other examples of a lack of diverse perspectives would include students getting little input from people espousing religious traditions outside of Christianity. Students from non-Christian traditions weren't recruited or enrolled at SCU, and SCU wouldn't hire any faculty or staff who weren't Christians. In this way, students also had limited opportunity to hear and learn from the lived experiences of non-Christians. The Christian Worldview class was mentioned by several students as being helpful, as it examined the views held by people from other traditions and compared them to Christian views. However, this course cannot fully substitute for the insights gained by having firsthand interactions with people holding non-Christian views. While no college experience can guarantee students will engage with every different type of individual, there are specific limits on the types of individuals students are likely to engage with at SCU, and after graduating, students were generally more aware of these limits to their experience in terms of not being given a chance to interact with a fully diverse group of other students.

Implications for Policy and Practice

This study provides data that gives insight into how to improve critical thinking instruction at SCU. Based on the data, several suggestions that may also be useful in other Christian college contexts are provided. While there are few absolutes since different students will have different experiences, some commonalities exist that can be utilized to improve students' critical thinking skills and dispositions. Several specific implications, at both the policy and practice levels, are recommended.

Implications for Policy

There are two specific implications for policy from this study. First, SCU should work to create a culture where students are free to question their beliefs and the beliefs of the denomination. Whenever possible, curriculum should be written in such a way that it doesn't pre-suppose specific answers to difficult questions or specific readings of the Bible, but rather provides tools for students to engage in difficult questions and interpret the Bible on their own. The class that lays out the denomination's theological positions would be an exception to this, but it should be clear to all stakeholders that this is an exception rather than a rule. Students are looking for answers, especially in the lower-division phase of their studies yet giving them the tools to find their own answers is likely the best way to improve their critical thinking and their overall education. While not being given specific answers or biblical interpretations may be uncomfortable for some students, especially at the lower division level, this discomfort has the potential to motivate them to look for answers and work toward a better understanding of why they believe as they do, as it did for some of the interview respondents. Certainly, it is also possible that this discomfort will incite them to leave the institution rather than improve their critical thinking. Pedagogically, entertaining hypotheticals can be a helpful tool in this process, as students can be asked to engage with an idea without maintaining their own connection to the

idea. Persky et al. (2019) studied barriers to critical thinking development and recommended “guidance and support” (p. 161) for students in developing their critical thinking ability, suggesting faculty can play a key role in this development.

The second implication for policy is that SCU can encourage critical thinking in its students by providing a more diverse student body and faculty. Fowler (1981) notes that in the development from stage three to stage four, students must distance themselves from their previous assumptive value systems, like their family or their church, and that being exposed to people who hold a range of different viewpoints is helpful toward this end. Conversely, Roohr et al. (2019) found only 15% of the differences in critical thinking ability measured among students from 18 different institutions was due to institutional traits, indicating that adjustments like added diversity at the institutional level may not play a key role in students’ critical thinking development. The students in the current study did feel that diversity was helpful, however. Many students mentioned how much they learned from hearing about the lived experiences of other students and faculty members who came to SCU from a variety of situations. Diversity of viewpoints is often thought of in terms of race, and SCU has a generally diverse student body racially, but diversity can also take the form of religious diversity, at least in terms of different denominations or branches of Christianity. It is likely not advisable to intentionally admit non-Christian students, although based on student interview responses, some SCU students aren’t Christians. However, students from different Christian traditions can share a wider perspective on how Christians in general see and engage with various ideas. As Tina put it, all denominations are trying to get to the same place with their faith, but they each feel they have the best way to get there. Having students from different denominations can help show how all Christians can work together to promote the gospel message, even if there are small differences in how they go

about it. Diversity can also look like students from sexual minority groups: homosexuals, bisexuals, etc. The challenge is that some forms of diversity (i.e. racial) are feasible to recruit, while others (i.e. sexual) are usually not feasible due to them conflicting with the basic beliefs of the denomination. However, if a Lutheran student can attend SCU and not only keep her beliefs intact but strengthen them in the face of challenges from others, it is possible that students from other minority groups could do the same. Overall, many kinds of diversity can be helpful in encouraging critical thinking, but each Christian college must decide which types of diversity are helpful versus which go against their core beliefs.

Implications for Practice

On the practice side, one implication for SCU, and perhaps other denominationally affiliated institutions, is that they should intentionally recruit and admit more students and faculty who are not from the institution's main denomination. Additionally, some campus activities like chapel, outreach events, and partnerships can more often include influences from outside the denomination. These steps provide a diverse set of viewpoints that all students can learn from and are unlikely to move the entire campus culture away from the traditions of the denomination, especially when the outside influences are still within the larger Pentecostal Christian framework. Some SCU faculty, for example, were recruited from a different denomination, but were able in good conscience to sign the statement of faith and agree with the positions held by the denomination. Some faculty from other denominations even went on to get licensed with SCU's denomination. Students reported that learning from faculty having slightly different perspectives enhanced their critical thinking development.

The challenge with recruiting outside the denomination is that this might feel to some external stakeholders like mission drift, and these stakeholders may likely oppose such a move if

they feel it dilutes or disparages the history and traditions of the denomination and its connection to SCU. From a critical thinking standpoint, the students at a denominationally affiliated institution are likely to learn critical thinking more effectively when they have a diverse set of individuals to learn from, as that provides a wider range of experiences to draw from. However, the needs of all the various stakeholders must be weighed together, and the importance of critical thinking as an educational objective relative to other institutional objectives must be considered.

Another implication would be that SCU's Community Life Agreement (CLA) currently discourages rather than encourages an open dialogue about different behaviors that may harm the community. Fowler (1981) would describe the CLA as an external source of authority, and while having a conduct code like the CLA may be useful for students in their first couple of years of college, it becomes less useful as students move into faith stage four and begin establishing their own internal source of authority. As currently designed, the CLA leaves little room for students to discern why certain behaviors may or may not be prohibited, and in some ways circumvents the natural process of figuring out what is good and bad behavior, and subsequently adjusting one's behavior based on previous results. This natural process could encourage critical thinking, as students are gathering and evaluating data while making their own behavioral choices. The current process tells students what SCU has already decided that they should do or not do (and often provides SCU's scriptural support for each decision), which removes students' needs to examine why something would be good or bad to do. The CLA was undoubtedly crafted with the desire to protect students and provide a safe environment, yet the consequence of taking away these decisions is that students no longer must wrestle with behavioral related questions, taking away an opportunity to develop their critical thinking. Students in interviews mentioned how they felt the CLA hindered critical thinking development, including keeping students from

wrestling with responsibility for their actions, leaving them unprepared to handle the freedom they had once they left the SCU environment.

Overall, it would be good to have a more open dialogue about the CLA, including its purpose in discouraging certain behaviors, so students understand the thinking behind the rules. Admittedly, some behaviors have dire consequences that should be avoided regardless of differing opinions: students should not be permitted to engage in illegal behaviors, for example. Ideally, students would even have a say in formulating the CLA, providing suggestions on what should and shouldn't be included. This is logistically difficult, since the CLA must be in place from the beginning of a semester, but revisions for subsequent semesters can be negotiated, and even if no specific rules are changed, students might be more likely to be engaged in the process, and better understand the critical thinking that went into the CLA.

Theoretical and Empirical Implications

This study supports the idea that students can learn to think critically at SCU, although the data suggests there are certain conditions that should be met for this to take place. First, students should persist until graduation so that they go through the development Fowler predicted was needed to strengthen their faith and develop their critical thinking skills. Second, students should choose to engage with others who hold different viewpoints so they can learn from a diversity of different perspectives. Third, students should risk challenging the long-held beliefs they brought with them to SCU. According to student interviews, this was sometimes accomplished by either being so deeply entrenched in the denomination that students felt safe to question their beliefs without risking their friendships or a future career within the denomination, or being so much of an outsider to the denomination that they didn't have friendships or a future career within the denomination to risk in the first place. Students in either extreme felt more

comfortable questioning things and taking chances wrestling with difficult questions, and as a result were able to improve their critical thinking while at SCU.

The results of this study are in line with Fowler's theory that the transition from the third to fourth stages of faith usually takes place during the undergraduate college experience. The processes involved in this transition, especially the process of re-evaluating the values established in the pre-college environment, were described by several students, none of whom had encountered Fowler's theory before. Students who had spent an additional year since graduating had an even deeper perspective when they reflected on their SCU experience, implying that their development continued after graduating.

This study also corroborates earlier studies like one from Stahl and van Prooijen (2018) regarding college students holding epistemologically unwarranted beliefs. This study attempted to explain why students held beliefs in things like paranormal activity, conspiracy theories, and supernatural events that didn't have any evidence to support them. They found that three potential motivating factors for students holding these beliefs were uncertainty, a need for control, or an illusory pattern perception. Their results indicated that a major difference between those individuals who strongly valued epistemic rationality and those who didn't was how they responded to epistemic uncertainty. Those who valued epistemic rationality pressed forward to search for truth when facing uncertainty, while those who didn't value it either cognitively disengaged from it or used it as fuel to search for a validation of their existing beliefs. Several students mentioned in their interviews that they were uncomfortable when their beliefs were challenged, but also said that being challenged motivated them to research and support their beliefs. The students in this study generally fell into the first category described by Stahl and van

Prooijen (2018), pressed forward in their critical thinking development, and indicated their critical thinking skills really benefitted from doing so.

This study also suggests that a previously studied curricular change holds promise for improving students' critical thinking skills. A study by Dyer and Hall (2019) examined why college students held unwarranted beliefs in what they called pseudoscience, which they defined as “epistemologically unwarranted beliefs” or beliefs “not founded on reliable reasoning or credible data” (p. 293) and implemented an intervention for some of the students in the form of a course specifically focused on developing critical thinking skills. The study found that students' beliefs in claims with no evidence were greatly reduced after taking a class focused on developing critical thinking skills. In student interviews, many SCU students mentioned the course Christian Worldview in reflecting on their critical thinking development, noting how it exposed them to different viewpoints and required them to contemplate how their own worldview had been shaped. Further study could test the efficacy of this course in a controlled setting to see how much it helps students' critical thinking development, including identifying which aspects of a course focused on critical thinking are most helpful.

Limitations and Delimitations

The usefulness of any study is improved by acknowledging its limitations, which are identified as weaknesses in a study that could influence its outcomes and conclusions (Ross & Bibler 2019). Similarly, every study also has delimitations, which are what a particular researcher either includes or excludes in a particular study (Coker 2022). This study has several notable limitations and delimitations.

Limitations

There are several limitations to this study, most of which have to do with the type of institution SCU is. First, this study examined students from not only a Christian college, but a high-access Christian college that routinely accepts students based on potential rather than on demonstrated ability. Other Christian colleges with different admissions policies may have different results.

Second, SCU has both curricular and co-curricular requirements for graduation, including coursework, practical ministry experience, church involvement, attendance at chapel and other gatherings, and adherence to a community covenant or behavioral agreement. Other Christian colleges may not have these structures in place, and as a result may have different results.

Third, the curricular structure of SCU requires all students to have at least 30 units of Bible/Theology courses regardless of major. Many students mentioned how much the Bible/Theology courses helped their critical thinking development, and students at other colleges without this requirement may have different results. Also, SCU is limited to a handful of majors, and almost all those majors are represented by students in the interview sample. Replicating this study at other institutions with more majors may need larger samples to represent students for all their majors.

Fourth, the diversity of SCU is likely different than that of other Christian colleges. The area of southern California where SCU is located is an ethnically diverse area, and even if the student population of SCU isn't as ethnically diverse as the population of the surrounding area, students involved in local churches and outreach activities will likely interact with a diverse group of people in the surrounding community. On the other hand, SCU isn't very large, so

statistically there will be people groups not represented among its population, thus limiting the potential to learn from a mix of people with different experiences.

Finally, the close relationship between SCU and its denomination presents a symbiotic relationship, but also one that might have competing visions of what the institution should be like. For example, recruiting within the denomination may be practically feasible, but also may not be the best practice for cultivating critical thinking. Also, the presence of a polity class could communicate to students and external stakeholders how important it is that students align with denominational views and help support the denomination. Other Christian colleges who aren't as closely linked with their denomination could have different results in a similar study.

Delimitations

There are several delimitations to this study based on the research design. First, the study recruited only students who graduated and who volunteered for the study. In this sense, the sample of students was skewed toward those who successfully accomplished their goal of graduation, and in several cases the students interviewed had gone on to enroll in graduate school, or at least planned to do so. However, inducing students to participate would have led to a conflict of interest, and recruiting students who hadn't graduated yet might have resulted in students who didn't experience the full process of development theorized by Fowler.

Second, the study asked questions of students after they had already graduated. In many cases, the uncertainty that sometimes accompanies the development of critical thinking skills was resolved by the time they participated in the interviews. Their reflections came from a place of success at accomplishing their academic goals, which may have influenced how they talked about their journeys.

Third, the artifacts used in this study were meant to measure students' critical thinking in a written assignment, which may or may not reflect their actual critical thinking process. They were included to try to get an objective measure of critical thinking skill development but didn't provide insight into the process of how those skills were developed.

Fourth, the sample size was relatively small. It cannot be stated with certainty that the students who participated in the study truthfully represent the SCU student body at large. This size sample was chosen based on the resources available, and the number of students who were willing to participate.

Recommendations for Future Research

For future research, additional insights could be gained by doing similar studies that target a specific population from within the larger SCU population. For example, people either connected with the denomination or people unconnected with it, or students from a specific major, or students from another specific grouping, like athletes or first-generation college attendees.

Another suggestion would be to do a more in-depth single case study of an individual student to see how their views developed during their four years of college. This study could be done over time, and get the student's insights upon entering college, during lower division coursework, upper division coursework, and on to graduation. This can help identify the events, courses, and other experiences that were most or least helpful in that student's critical thinking skill development.

It would also likely be helpful to study students who attended SCU but didn't graduate, and explore what factors led to them not graduating. In some cases, students don't graduate due to circumstances outside of their control, like financial or family difficulties. In other cases,

students re-evaluate their choice of college after a year or two and transfer to another institution. It would be good to explore whether there is a relationship between their critical thinking development and their desire to persist at SCU. It could be that students could learn things about themselves that makes them re-evaluate their college choice, or that students could struggle with the discomfort of re-evaluating their values and re-casting their identity, and then decide it's too painful to stay in college. It could also be the case that some students weren't mature or ready to discuss these kinds of ideas and decided to take time off before returning to college.

Another study that could provide additional insight would be one that builds on the work of Dyer and Hall (2019) in introducing an intervention of some sort to students to test how well it helps their critical thinking development. In Dyer and Hall's study, a specific course was introduced, and students' critical thinking ability was measured before and after the course was taken to see how well it developed. This was compared to a control group that had a different intervention course that wasn't focused as much on critical thinking development. Other types of interventions could be considered as well, with analysis of how well they helped improve students' critical thinking skill development.

Conclusion

The purpose of this single unit case study was to describe the process of developing the skills and dispositions needed to think critically among 2021 and 2022 B.A. degree graduates at Small Christian University (a pseudonym). SCU graduates were interviewed, SCU faculty participated in a focus group, and artifact documents showing how well students demonstrated critical thinking in their assignments were all used. Unearthing the students' experiences provided helpful suggestions for educators to create environments where this development can occur more often, and students can be better prepared to navigate their post-college life. The

theoretical framework of this study was Fowler's (1981) stages of faith theory. This study found that participants were both willing and able to use their critical thinking skills but required certain conditions to do so. Students generally followed a development curve where their lower division coursework didn't always require a lot of critical thinking, while their upper division coursework did. Students were also better able to improve their critical thinking skills when they interacted with other types of students with different views than they held. Students also noted that their critical thinking improved when faculty members asked difficult questions in class and supported students as they wrestled with these difficult questions. The study also found the relationship between the college and the denomination it was affiliated with affected how well students thought critically, with some aspects of the denomination encouraging uniformity rather than critical thinking. Overall, students in the study did improve their critical thinking and the study provided insights into why and how this improvement occurred.

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Appendix A - Consent Form (Students)

Title of the Project: Threats and Opportunities to Critical Thinking Development Students Encounter in a Christian College Environment: A Case Study.

Principal Investigator: Mark Schwartz, Associate Professor, Life Pacific University, Doctoral Candidate, School of Education, Liberty University

Invitation to be Part of a Research Study

You are invited to participate in a research study. In order to participate, you must have graduated from Life Pacific University with a B.A. in 2021 or 2022. Taking part in this research project is voluntary.

Please take time to read this entire form and ask questions before deciding whether to take part in this research project.

What is the study about and why is it being done?

The purpose of this single unit case study is to describe the process of developing the skills and dispositions needed to think critically among 2021 and 2022 B.A. degree graduates at Life Pacific University.

What will happen if you take part in this study?

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

1. Participate in an individual interview with me. These interviews will take place through Microsoft Teams, will be audio and video recorded, and should take between 30-45 minutes.
2. Review the transcript of the interview to make sure it accurately represents your thoughts and ideas. This should take about 20-30 minutes, and can be done by e-mail.

How could you or others benefit from this study?

Participants should not expect to receive a direct benefit from taking part in this study. However, benefits to society include a greater understanding of how Christian college students develop their critical thinking skills, and development of more effective instructional models and methods to teach critical thinking to Christian college students.

What risks might you experience from being in this study?

The risks involved in this study are minimal, which means they are equal to the risks you would encounter in everyday life.

How will personal information be protected?

The records of this study will be kept confidential. Published reports 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.

- Participant responses to interview questions will be kept confidential through the use of pseudonyms, and interviews will be conducted through Microsoft Teams.

- Data will be stored on a password-locked computer. After three years, all electronic records will be deleted.
- Recordings will be saved under pseudonyms and stored on a password locked computer for three years and then erased. Only the researcher will have access to these recordings.
- Interviews will also be transcribed and saved with pseudonyms.

How will you be compensated for being part of the study?

Participants will not be compensated for participating in this study.

Does the researcher have any conflicts of interest?

The researcher does not have any conflicts of interest.

Is study participation voluntary?

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

What should you do if you decide to withdraw from the study?

If you choose to withdraw from the study, please contact the researcher at the e-mail 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.

Whom do you contact if you have questions or concerns about the study?

The researcher conducting this study is Mark Schwartz. 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 sponsor, Dr. Andrea Bruce, at [REDACTED].

Whom do you contact if you have questions about your rights as a research participant?

If you have any questions or concerns regarding this study and would like to talk to someone other than the researcher[s], **you are encouraged** to contact the IRB. Our physical address is Institutional Review Board, 1971 University Blvd., Green Hall Ste. 2845, Lynchburg, VA, 24515; our phone number is 434-592-5530, and our email address is irb@liberty.edu.

Disclaimer: The Institutional Review Board (IRB) is tasked with ensuring that human subjects research will be conducted in an ethical manner as defined and required by federal regulations. The topics covered and viewpoints expressed or alluded to by student and faculty researchers are those of the researchers and do not necessarily reflect the official policies or positions of Liberty University.

Your Consent

By signing this document, you are agreeing to be in this study. Make sure you understand what the study is about before you sign. You will be given a copy of this document for your records. The researcher will keep a copy of this document with the study records. If you have any

questions about the study after you sign this document, you can contact the study team using the information provided above.

I have read and understood the above information. I consent to participate in the study.

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

Printed Subject Name

Signature & Date

Appendix B – Consent Form (Faculty)

Title of the Project: Threats and opportunities to critical thinking development students encounter in a Christian college environment: a case study

Principal Investigator: Mark Schwartz, Associate Professor, Small Christian University (a pseudonym)

Invitation to be Part of a Research Study

You are invited to participate in a research study. In order to participate, you must be a full-time faculty member at SCU. Taking part in this research project is voluntary.

Please take time to read this entire form and ask questions before deciding whether to take part in this research project.

What is the study about and why is it being done?

The purpose of the study is to explore aspects of getting a Christian college education that enhance or inhibit the development of students' critical thinking skills.

What will happen if you take part in this study?

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

1. Participate in a focus group. This will take place through Microsoft Teams, will be audio and video recorded, and should take between 45-60 minutes.
2. Review the transcript of the focus group session to make sure it accurately represents your thoughts and ideas. This should take about 20-30 minutes, and can be done by e-mail.

How could you or others benefit from this study?

Participants should not expect to receive a direct benefit from taking part in this study. However, benefits to society include a greater understanding of how Christian college students develop their critical thinking skills, and development of more effective instructional models and methods to teach critical thinking to Christian college students.

What risks might you experience from being in this study?

The risks involved in this study are minimal, which means they are equal to the risks you would encounter in everyday life.

How will personal information be protected?

The records of this study will be kept private. Research records will be stored securely, and only the researcher will have access to the records.

- Participant responses to focus group questions will be kept confidential through the use of pseudonyms, and the focus group will be conducted through Microsoft Teams. Recordings of the focus group will be saved under pseudonyms and stored on a password locked computer for three years and then erased. Only the researcher will have access to these recordings.

- The focus group will also be transcribed and saved with pseudonyms.

How will you be compensated for being part of the study?

Participants will not be compensated for participating in this study.

Does the researcher have any conflicts of interest?

Professional/Employment Authority: no faculty will be included in the study on whom the researcher has input in hiring/firing or other employment status so as to avoid any potential conflict of interest.

Is study participation voluntary?

Participation in this study is voluntary. Your decision whether to participate will not affect your current or future relations with Small Christian University.

What should you do if you decide to withdraw from the study?

If you choose to withdraw from the study, please contact the researcher at the e-mail address/phone number included in the next paragraph. Should you choose to withdraw, data collected from you will not be included in this study.

Whom do you contact if you have questions or concerns about the study?

The researcher conducting this study is Mark Schwartz. You may ask any questions you have now. If you have questions later, you are encouraged to contact him at [REDACTED]

Whom do you contact if you have questions about your rights as a research participant?

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 Dr. Andrea Bruce by e-mail at [REDACTED]

Your Consent

Before agreeing to be part of the research, please be sure that you understand what the study is about. You will be given a copy of this document for your records/you can print a copy of the document for your records. If you have any questions about the study later, you can contact the researcher/study team using the information provided above.

By signing this document, you are agreeing to be in this study. Make sure you understand what the study is about before you sign. You will be given a copy of this document for your records. The researcher will keep a copy with the study records. If you have any questions about the study after you sign this document, you can contact the study team using the information provided above.

I have read and understood the above information. I consent to participate in the study.

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

Printed Subject Name

Signature & Date

Appendix C – Recruitment e-mail (Students)

Dear SCU graduate,

Congratulations on graduating from Small Christian University (a pseudonym to be used for the study)! Your hard work and determination have paid off, and it's exciting to see what God has in store for you in your next chapter.

My name is Professor Mark Schwartz, and you may have had me as a professor for English Comp & Research or Great Books. In addition to working at SCU, I am currently a graduate student at Liberty University, and I am conducting research for my dissertation, entitled "Threats and Opportunities to Critical Thinking Development Students Encounter in a Christian College Environment." In the project, I hope to unearth some of the factors that have led students to develop their critical thinking skills during their time at SCU, both in and out of the classroom.

I am looking for volunteers willing to be interviewed as part of my research project. The only criteria required are that you are a recent SCU graduate--and if you are receiving this e-mail, I believe that to be true about you. In the interview, I would talk with you about the environment you were in prior to coming to SCU, about your time at SCU, and about the specific experiences you had that you felt help develop your critical thinking skills. If you are willing to participate, I would meet with you virtually through Microsoft Teams to conduct the interview, which should last about 30-45 minutes. After the interview, I will transcribe our interaction, and send the transcript back to you to make sure it represents your thoughts and reflections. All information will be kept confidential as it is collected and analyzed. Overall, the process should take anywhere from 60-90 minutes, including filling out the consent form, doing the interview, and reviewing the transcript for errors or omissions.

Your insights into your SCU experience and how it shaped your critical thinking development will be very valuable not only to my own research, but to future generations of students—both at SCU and other Christian colleges—in helping them as they develop their critical thinking skills. If you are willing to be a part of this study, please respond to this e-mail, and I will contact you about setting up the specific day and time that works for us to meet.

Thanks in advance for your willingness to participate! I look forward to hearing from you.

Professor Schwartz

Appendix D – Follow-up e-mail (Student)

Dear SCU graduate,

This e-mail is to remind you of the opportunity to participate in my research study for my dissertation. I am conducting interviews with recent graduates about their process of learning to think critically while at SCU. The initial e-mail with all the details was sent on 4/6/23. In the project, I hope to unearth some of the factors that have led students to develop their critical thinking skills during their time at SCU, both in and out of the classroom, and your insights are very valuable in doing so. Overall, the process should take anywhere from 60-90 minutes, including filling out the consent form, participating in the interview, and reviewing the transcript for errors or omissions.

If you are willing to be a part of this study, please respond to this e-mail, and I will contact you about setting up the specific day and time that works for us to meet. Thanks in advance for your willingness to participate! I look forward to hearing from you.

Professor Schwartz

Appendix E – Recruitment e-mail (Faculty)

Hello fellow faculty members!

All of us who work at Small Christian University (a pseudonym to be used for the study) share a vision for supporting and training our students to be the best they can be, whether that is inside or outside of the classroom. As you may know, I am currently a graduate student at Liberty University, and I am conducting research for my dissertation, entitled “Threats and Opportunities to Critical Thinking Development Students Encounter in a Christian College Environment.” In the project, I hope to unearth some of the factors that have led students to develop their critical thinking skills during their time at SCU, both in and out of the classroom.

Toward this end, I am interviewing students and looking at other data sources, but I am also looking for volunteers willing to be part of a faculty focus group as part of my research project. The only criteria required are that you are a full-time SCU faculty member--and if you are receiving this e-mail, I believe that to be true about you. In the focus group, I would talk with you about the environment we have at SCU that promotes the development of critical thinking, and about the specific experiences you have had that show how our students are developing their critical thinking skills, including both the successes and challenges in that endeavor. If you are willing to participate, I would meet with all participants virtually through Microsoft Teams to conduct the focus group, which should last about 45-60 minutes. After the discussion, I will transcribe our interaction, and send it back to you to make sure it represents your thoughts and reflections. All information will be kept confidential as it is collected and analyzed. Overall, the process should take anywhere from 70-100 minutes, including filling out the consent form, participating in the focus group, and reviewing the transcript for errors or omissions.

Your insights into your SCU experiences and your insights into how SCU helps students develop their critical thinking skills will be very valuable not only to my own research, but to future generations of students—both at SCU and other Christian colleges—in helping them as they develop their critical thinking skills. If you are willing to be a part of this study, please respond to this e-mail, and I will contact you about setting up the specific day and time that works for us to meet.

Thanks in advance for your willingness to participate! I look forward to hearing from you.

Professor Schwartz

Appendix F – Follow-up e-mail (Faculty)

Hello fellow faculty members!

This e-mail is to remind you of the opportunity to participate in my research study for my dissertation. It is a focus group discussing observations of how SCU students learn to think critically. The initial e-mail with all the details was sent on 4/6/23. In the project, I hope to unearth some of the factors that have led students to develop their critical thinking skills during their time at SCU, both in and out of the classroom, and as faculty members, your insights are very valuable in doing so. Overall, the process should take anywhere from 70-100 minutes, including filling out the consent form, participating in the focus group, and reviewing the transcript for errors or omissions.

If you are willing to be a part of this study, please respond to this e-mail, and I will contact you about setting up the specific day and time that works for us to meet. Thanks in advance for your willingness to participate! I look forward to hearing from you.

Professor Schwartz

Appendix G – Interview Questions (Student)

Individual Interview Questions

1. Please introduce yourself to me, as if we just met one another.
2. Would you describe yourself as growing up in a “Christian home?” Why or why not?
3. Before attending LPU, what was your connection (if any) to the college?
4. Before attending LPU, what was your connection (if any) to the denomination?
5. How would you define “critical thinking”?
6. What specific experiences did you have in your college courses that helped develop your critical thinking skills?
7. What specific experiences did you have outside of your courses that helped develop your critical thinking skills?
8. What messages did you receive during your time in college about critical thinking and its role in the life of a Christian?
9. What experiences did you have with other people who were either encouraging or discouraging you to develop as a critical thinker?
10. Describe a time when you struggled or pushed back on a key belief you held prior to attending LPU? If so, what happened during that process?
11. How well do you feel you are prepared to live out your Christian faith as a result of your college experience? Why?
12. How would you assess your critical thinking skills currently? How would you rate your critical thinking ability?
13. In your experience, how have your CT skills improved during your time at LPU?
14. In your experience, how important do you feel critical thinking is to a Christian?
15. In your experience, how important is critical thinking to the larger church?
16. We’ve covered a lot of ground in our conversation, and I so appreciate the time you’ve given to this. One final question... What else do you think would be important for me to know about your critical thinking development during your college experience?

Appendix H – Focus Group questions (Faculty)

Focus Group Questions

1. In your experience, how well do you think SCU graduates are able to think critically?
2. In your experience, can you share examples where a student has clearly demonstrated their ability to think critically?
3. In your experience, can you share examples where a student has clearly demonstrated their inability to think critically?
4. In your experience, how well do students connect critical thinking to faith development?
5. In your experience, what part of a student's SCU experience do you feel best helps students develop their critical thinking skills?
6. What other strategies would you recommend SCU employ to help students develop their critical thinking abilities?

Appendix I – SCU 2009 critical thinking assessment

2009 GE Program Objective Assessment:

Critical Thinking

Assessment Day—May 12th, 2009

Assessment of the following GE Program Objective:

Critically evaluate diverse problems that exist in various fields of study

Committee members:

Mark Schwartz

Ruth Hetzendorfer

Brian Tomhave

Michael Salmeier

Dave Winfrey

Larry Powers

Procedures:

To complete this assessment, we randomly selected 7 papers from Ethics Fall 2008 (Samples), and 4 papers from Roots of Modern Thought Fall 2009 (Winfrey). We also looked at the recent Faculty and Student surveys conducted by the GE committee, and the Alumni survey.

All the papers were assessed against a 4-point rubric (see attached), and a score of 3 or 4 would mean the student is proficient in this skill. We targeted 70% of students to be proficient at the Sophomore level (Roots), and 80% of students to be proficient at the Junior level (Ethics).

Assessment of the following GE Program Objective:

Ethics results:

	Score 1	Score 2	Score 3	
1	3.5	2.5		3.0
2	3.5	3.5	3.5	3.5
3	2.5	2.5		2.5
4	2.75	3.0		2.87
5	2.0	2.0		2.0
6	3.0	3.0		3.0
7	4.0	3.75		3.87

Of the 7 papers assessed, 4 (56%) were at a 3.0 or above.

Ethics notes:

- Rubric draws too fine of a line between 3 and 2—some qualified language and flexibility would help (i.e. “does this most of the time” or “does this rarely”) so that student work doesn’t have to be separated so sharply.

- The assignment required lots of critical thinking, and was assessed based on students' success with that skill.
- As a junior-level course, and despite a Writing Center visit, some of the papers featured poor writing and lots of errors. We need to brainstorm on closing the loopholes in the Writing Center process, including students bringing incomplete papers to the Writing Center and/or not making all the recommended changes.
- Critical thinking seems to be a more universal skill, and this rubric is most likely to fit for a variety of assignments (as opposed to the research rubric).

Recommendations:

- Brainstorm different techniques for improving Writing Center efficiency in student papers—students should turn in completed papers only, students should be required to make the Writing Center's recommended changes.
- Professors should re-evaluate the percentage of the grade on a written paper that is derived from MUGS on student work (especially upper-division).
- Explore the idea of a double penalty for MUGS mistakes for papers that have already gone to the Writing Center.
- Should the Writing Center refuse to accept incomplete papers? Or note/assign a penalty? Make sure there is a notation on the feedback sheet if a paper is incomplete.

Roots of Modern Thought results:

	Score 1	Score 2	Score 3	Score 4	
1	2.5	2.75	3.0		2.75
2	3.0	2.75	2.5		2.75
3	2.5	3.5	3.5	3.0	3.0
4	2.0	1.5	2.0		1.67

Of the 4 papers assessed, only 1 (25%) was at a 3.0 or above.

Roots of Modern Thought notes:

- This is a sophomore-level class, but a lot of freshmen were taking it.
- Dave talked about having a forced timeline added to the course to help students plan out their arguments.
- The paper is 60% of this assignment's grade, with the presentation and the peer evaluation the rest of it.
- How much of a students' work is the result of knowledge of philosophical terms/names (i.e. the result of reading or listening comprehension), and how much is the result of critical thinking abilities to use that info to draw conclusions, etc.?

Recommendations:

- Dave is re-designing the course (implementing Fall 2009):
 - New textbook
 - Staged/sequenced deadlines for final paper (including early outline of the argument and working bibliography)
 - Specifying sources that students are required to use (i.e. both pro/con viewpoints)
- Talk to Registrar/APCR about why so many freshmen are in sophomore classes
- Revisit this course & student work in Spring 2010.
- GE committee should re-visit the idea of standardizing the vocabulary (including logical fallacies, etc.) of critical thinking skills among all the courses designed to reinforce them.

Overall, the students did not meet either goal. Perhaps the goal is not realistic, or more specifically the research rubric is not directly relevant to the assignments it is evaluating. Also, the sample size may not be sufficient and/or properly selected. The General Education committee should develop a clear rubric and use it to assess this objective repeatedly.

Appendix J – SCU 2017 information literacy and critical thinking assessment

2017 GE Program Objective assessment:

Information Literacy & Critical Thinking

Procedures:

On August 29, 2017, the GE committee met to discuss the assessment of student work. The results of the assessment are detailed on Aqua.

Results:

The GE committee used the standard assessment benchmarks as goals for this assessment.

The first goal was that 75% of students would score at 3.0 or higher.

- In the assessment of Information Literacy, 1 of 10 Ignite students (10%) scored 3.0 or higher, and 7 of 20 LPC students (35%) scored 3.0 or higher. This goal was not met.
- In the assessment of Critical Thinking, 1 of 10 Ignite students (10%) scored 3.0 or higher, and 8 of 20 LPC students (40%) scored 3.0 or higher. This goal was not met.

The second goal was that the average of all scores would be 3.0 or higher.

- In the assessment of Information Literacy, Ignite students averaged 1.97, while LPC students averaged 2.97. While the results for LPC students were very close, the goal was not met.
- In the assessment of Critical Thinking, Ignite students averaged 2.22, while LPC students averaged 2.90. While the results for LPC students were very close, the goal was not met.

Observations:

- Goal not met; new rubric might be too stringent?
- Assignment doesn't require the level of CT or IL that the rubric requires
- Instructions for assignment didn't require CT & IL to this level—maybe make sure the assignment matches the core competencies we are looking for
- This seems like lower division level work instead of capstone
- Students' writing ability was sketchy at times
- Assignment asks for critical reflection, not necessarily critical thinking—assignment should require more CT & IL (possibly Lit review section of the paper)
- No competing ideas going on in most papers
- Lots of personal narration & input on background rather than explanation of the application of those ideas
- Students generally seem able to describe/explain issues, but when it comes to using evidence and engaging with sources to draw interpretive conclusions, they are much less developed
- Students have a hard time differentiating between fact and opinion, or evaluating different ideas
- Younger students (i.e. 19-21 years old) might have a harder time differentiating based on their developmental level

- How much should students be allowed to use poor sources and learn experientially that they are not quality and therefore shouldn't be used? (the grade itself can't be the only thing that shows them poor sources aren't a good idea); in CT they lose arguments with others outside of class, and that helps show them that good logic and clear thinking are helpful for their own sake, but I'm not sure that works for IL.
- The IL Value Rubric doesn't seem to ask questions about primary vs secondary sources, which seems to be an important component. Students are often citing sources where they get the info, not necessarily where it originated from.
- The CC's themselves don't mention dialog/discourse—they mention making and understanding an argument, but not necessarily the back and forth that these rubrics seem to be asking for. We may want to add to the CC's in making our own PO's?
- Aqua system doesn't separate out the 2 scores
- Understanding the reports generated by Aqua seems to be a barrier to understanding the results.

Reflections:

1. The Aqua system was easy to use for the most part. However, the reports of the results were a little hard to read and understand. Also, no separate scores for each of the 2 assessors were provided.
2. Students overall in CT aren't accomplishing the goal, which could be because the assignment doesn't require the same level of CT as the rubric. We need to examine the assignment and make sure the CT required for the assignment will meet these requirements for assessment (or change the requirements of the rubric). The committee felt that changing the assignment was preferable to "watering down" the rubric, although some exceptions for Ignite students should be made since they are pursuing an A.A. degree rather than a B.A. If this is capstone level work, the committee felt this is the level of both CT & IL we should expect students to demonstrate.
3. The gap in scores between Ignite and LPC seems reasonable for the developmental levels of students, and Ignite probably should have had a lower goal going into the assessment.
4. Students seem able to describe/explain issues, but when it comes to using evidence and engaging with sources to draw interpretive conclusions, they are much less developed.
5. IL citations were generally good. Students were able to locate and accurately present information from sources. However, the sources all come from the students' viewpoint in most cases, and little evaluation is taking place. Students are accepting their sources at face value rather than questioning them.
6. Some uses of sources seemed irrelevant to the points being made, and it felt like students were throwing sources in simply because they were required, rather than because it helped their argument. Some sources were used because they were quality, but not necessarily because they were the best, most relevant source for that particular point or idea.
7. All graders would have liked the option to give half points.
8. At some level, the two objectives of CT and IL are at odds with one another: if CT is the focus of the course, then more attention should be given to wrestling with key ideas; if IL is the focus of the course, then more attention should be given to evaluating the sources used. These are related, but not necessarily the same skill. In some cases, instructors supply quality sources to students, which might help them focus more on wrestling with the content of the course.

9. The library has key tools that help students locate and evaluate their sources, and those would be good to incorporate into classes that require CT & IL.
10. Students seem to be better at accurately citing their sources than finding and evaluating reliable sources. Are we OK with this? Do we have to choose between these 2 features? For example, students in English Comp & Research sometimes fail the class if they fail to cite properly, but failing because of unreliable sources almost never happens.

Recommendations:

1. Review the assignment requirements for all capstone projects, evaluate whether they are appropriately rigorous for CT & IL, and revise as necessary.
2. Provide a lower goal for A.A. degree capstone work than for B.A. capstone work in the next assessment.
3. Have a faculty discussion on whether students should be able to choose (and therefore develop skills in evaluating) sources, or whether instructors should require certain types of sources.
4. Have a faculty discussion on whether citing sources properly is more important than using quality sources, and perhaps revise course materials and assignments appropriately.
5. Inform the faculty (at a workshop or faculty meeting) of the resources provided by the library in helping students locate and evaluate sources, and suggest their implementation where appropriate.

Appendix K – SCU 2022 critical thinking assessment

General Studies Learning Outcome Annual Assessment

Date: 9/19/22

PLO Assessed: Apply critical and creative thinking skills to provide reasoned analysis of competing ideas as well as solutions to difficult problems

Signature Assignment and other Assessment Data used:

Sr. Seminar capstone project

CCTST scores for incoming and graduating students (2017-2022)

Each piece of student work was rated by two evaluators using this rubric:

Criteria	4 Highly Developed	3 Developed	2 Emerging	1 Initial
Explanation of issue	Issue/problem to be considered critically is stated clearly and described comprehensively, delivering all relevant information necessary for full understanding.	Issue/problem to be considered critically is stated, described, and clarified so that understanding is not seriously impeded by omissions.	Issue/problem to be considered critically is stated but description leaves some terms undefined, ambiguities unexplored, boundaries undetermined, and/or backgrounds unknown.	Issue/problem to be considered critically is stated without clarification or description.
Selecting and using evidence	Information is taken from source(s) with enough interpretation/evaluation to develop a comprehensive analysis or synthesis. Viewpoints of experts are questioned thoroughly.	Information is taken from source(s) with enough interpretation/evaluation to develop a coherent analysis or synthesis. Viewpoints of experts are subject to questioning.	Information is taken from source(s) with some interpretation/evaluation, but not enough to develop a coherent analysis or synthesis. Viewpoints of experts are taken as mostly fact, with little questioning.	Information is taken from source(s) without any interpretation/evaluation. Viewpoints of experts are taken as fact, without question.

Influence of context and assumptions	Thoroughly (systematically and methodically) analyzes own and others' assumptions and carefully evaluates the relevance of contexts when presenting a position.	Identifies own and others' assumptions and several relevant contexts when presenting a position.	Questions some assumptions. Identifies several relevant contexts when presenting a position. May be more aware of others' assumptions than one's own (or vice versa).	Shows an emerging awareness of present assumptions (sometimes labels assertions as assumptions). Begins to identify some contexts when presenting a position.
Student's position	Specific position (perspective, thesis/hypothesis) is imaginative, taking into account the complexities of an issue. Limits of position (perspective, thesis/hypothesis) are acknowledged. Others' points of view are synthesized within position (perspective, thesis/hypothesis).	Specific position (perspective, thesis/hypothesis) takes into account the complexities of an issue. Others' points of view are acknowledged within position (perspective, thesis/hypothesis).	Specific position (perspective, thesis/hypothesis) acknowledges different sides of an issue.	Specific position (perspective, thesis/hypothesis) is stated, but is simplistic and obvious.
Conclusions and related outcomes	Conclusions and related outcomes (consequences and implications) are logical and reflect student's informed evaluation and ability to place evidence and perspectives discussed in priority order.	Conclusion is logically tied to a range of information, including opposing viewpoints; related outcomes (consequences and implications) are identified clearly.	Conclusion is logically tied to information (because information is chosen to fit the desired conclusion); some related outcomes (consequences and implications) are identified clearly.	Conclusion is inconsistently tied to some of the information discussed; related outcomes (consequences and implications) are oversimplified.
Evaluation potential	Evaluation of conclusions is deep and elegant (for example, contains thorough and	Evaluation of conclusions is adequate (for example, contains thorough	Evaluation of conclusions is brief (for example, explanation lacks depth) and	Evaluation of conclusions is superficial (for example, contains cursory, surface

conclusions	insightful explanation) and includes, deeply and thoroughly, all of the following: considers history of problem, reviews logic/reasoning, examines feasibility of solution, and weighs impacts of solution.	explanation) and includes the following: considers history of problem, reviews logic/reasoning, examines feasibility of solution, and weighs impacts of solution.	includes the following: considers history of problem, reviews logic/reasoning, examines feasibility of solution, and weighs impacts of solution.	level explanation) and includes the following: considers history of problem, reviews logic/reasoning, examines feasibility of solution, and weighs impacts of solution.
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Summary of Level of Student Achievement:

The committee established a benchmark of 3.0 for satisfactory achievement of each criterion and 75% of students attaining a 3.0 or higher.

The average total score for the student work reviewed was 2.99

The percentage of students who met the benchmark of 3.0 was 55%

Scores By Criteria	Average	% Benchmark
Explanation of issues	3.0	70%
Selecting and using evidence	2.99	65%
Influence of context and assumptions	2.98	55%
Student's position	3.05	65%
Conclusions and related outcomes	3.06	60%
Evaluate potential conclusions	2.86	60%
Total Score	2.99	55%

The following pages provide detail on the evaluators' scores and comparisons by various demographics.

Analysis & Reflection:

- There were big differences in scores between papers from various majors. This was likely due to different instructions for the capstone assignment for different majors. Some assignments were asking students to use multiple outside sources, while others only required the source provided as part of the class.
- There was a clear distinction between students who were looking at sources and then making a decision as opposed to those who made a decision and then found sources to support their decision.
- Different scorers on the committee were familiar with different capstone assignments to various degrees, and in some cases the scorers may have "filled in the gaps" by including what students said in other parts of the assignment that weren't included in the assessment.

- There were differing views among scorers as to how effective experience can be as a piece of evidence—many parts of an assignment where students were asked to reflect didn't require much evidence beyond their own experiences, for example, and some scorers felt these types of reflections didn't use evidence since there weren't outside sources used.
- Some papers had vastly different scores between scorers, and upon reflection, some of those were changed to bring the different scores closer together as a more communal consensus on the criteria were reached.
- Conclusion seemed to be the most contentious criterion from the rubric
- Identity factors like gender, ethnicity, and denominational affiliation didn't seem to affect the overall scores much, but students who scored better on average were male, Hispanic, and affiliated with [denomination]
- Socioeconomic factors seemed to play a larger role in indicating student success: 1st generation students scored significantly lower than non-1st generation students, and students receiving Pell grants scored lower than non-Pell grant students.
- High School GPA was actually negatively correlated to student scores, as those with less than a 3.0 scored higher than those with above a 3.5. This was puzzling, and could indicate that students who come to LPU with higher high school GPA's aren't being challenged to keep improving. Recently LPU's strategies involve more resources to help struggling students (including 1st generation college attenders) keep from failing their courses, and it could be that other students feel the classes are moving too slowly as a result. It could also be that higher GPA student have less room to grow academically. This could use further study.
- There was not a noticeable difference in scores between students of different majors.
- Upon reflecting on the CCTST scores:
 - It's clear that numeracy was the weakest of the various critical thinking subskills
 - There is some improvement for many students during their time at LPU, although the test has only been administered long enough for 1 cohort to have undergone the entire pre- and post-test process
 - The gap in critical thinking abilities for students of various majors seems to shrink during their time at LPU, including the gap in students who have chosen a major and those undeclared when entering
 - Current literature indicates that students typically make gains in critical thinking during college, and the CCTST scores generally mirror those trends

Recommendations:

- All parts of the capstone project should be collected (including all written and oral parts of the presentation) so a better assessment can be made of student skills. The overall project should show how well students demonstrate all the core competencies so they can be more accurately used to assess student academic skills.
- Scorers should meet with other faculty members to discuss the rubric criteria so there is more universal agreement on what each point of the rubric means and how it is demonstrated in student work. For example, whether students using their experiences should count as evidence, and whether assigned texts should count as information literacy (since the student didn't locate them or assess whether to use them or not)

- All capstone projects should require demonstration of all 5 of the core competencies. This has been happening as the Senior Seminar course has been re-designed for Fall 2022, and follow up should occur to see how well those changes have helped ensure students demonstrate the competencies. Additionally, any other major offering its own Senior Seminar course (currently only the HDP major) should ensure its version of the course also requires student demonstration of all the needed competencies.
- It would be good to benchmark where we want our incoming students to be on the CCTST and track their progress during their time at LPU, including setting a goal to measure their progress by the time they graduate. It would be good to know what sort of development we should expect during students' college tenure so we can assess how well LPU's various academic efforts are supporting students' critical thinking growth.

Update on Recommendations from Prior Year Assessment

- Last year it was recommended that Senior Seminar transition to a GE course, and that has happened. After AY 2022-2023, there will be student work that can demonstrate how much of an effective this new strategy has worked, not just in critical thinking but in all core competencies. Since this change didn't take place at the time this work was collected, it is not reflected in the current data for this report.

Update on Recommendations from the most recent Program Review

- The GE Program Review from 2020-2021 recommended changing the Senior Seminar capstone project to more accurately measure the Core Competencies, and this is in process (see above).

Appendix L – SCU initial permission letter

1/11/22

Dr. Daniel Ruarte
Life Pacific University
1100 W Covina Blvd
San Dimas, CA 91773

Dear Professor Schwartz:

After careful review of your research proposal entitled “Threats and Opportunities to Critical Thinking Development Students Encounter in a Christian College Environment”, we have decided to grant you permission to conduct interviews with B.A. degree alumni from 2021 and 2022, conduct a focus group with full-time faculty members, and access the 2009 and 2017 General Education annual assessments on Critical Thinking.

Sincerely,

Dr. Daniel Ruarte
Vice President of Academic Affairs
Office of Academic Affairs
Life Pacific University

Appendix M – SCU final permission letter

Mark Schwartz

From: Daniel Ruarte
Sent: Tuesday, January 17, 2023 1:34 PM
To: Mark Schwartz
Subject: Re: Text of Dissertation Proposal

Hello, Mark,

This was approved you might go ahead and proceed with the research.

Congratulations!

Daniel

Dr. Daniel Ruarte, Ed.D.
 Provost & Vice President of Academic Affairs
 Office of Academic Affairs
 Life Pacific University



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The content of this email is confidential and intended for the recipient specified in message only. It is strictly forbidden to share any part of this message with any third party, without a written consent of the sender. If you received this message by mistake, please reply to this message and follow with its deletion, so that we can ensure such a mistake does not occur in the future.

Appendix N – List of codes identified

Name	Description
Academic standards	thoughts on what kind of academic standards the college should uphold
Campus Life	reflections on experiences living on campus; dorm life; social dynamics, etc.
Campus Life\Chapel	activities associated with chapel services, worship teams, speakers, etc
Campus Life\Global Life	activities related to missions trips, outreaches, etc.
Campus Life\Student leadership	activities related to student government, resident assistants, other student leadership positions
Campus Life\WAM	comments related to the Worship Arts & Ministry major: it's courses, activities, community
Community Life Agreement (CLA)	comments about the CLA, its enforcement, its purpose, etc.
Courses	specific academic courses (or groups of courses) mentioned by name in interviews or focus groups
Courses\Apologetics	this was a course not offered by the college, but suggested for the college to add
Courses\Bible courses	comments related to non-specific courses from the Bible curriculum
Courses\Bible courses\Biblical Exegesis Practicum	comments related to this specific course
Courses\Bible courses\Biblical Languages and Exegesis	comments related to this specific course
Courses\Business courses	comments on non-specific courses in the business major
Courses\COMM courses	comments related to non-specific courses in the Communications major
Courses\Community Development	comments related to this specific course
Courses\Comparative Religions	comments related to this specific course
Courses\Ethics	comments related to this specific course
Courses\First Year Seminar	comments related to this specific course
Courses\Foundations of Global Engagement	comments related to this specific course
Courses\Human Sexuality	comments related to this specific course
Courses\Internship	comments related to this specific course
Courses\Intro to Dramatic Lit	comments related to this specific course
Courses\Psych courses	comments related to non-specific courses in the Human Development and Psychology major
Courses\Romans	comments related to this specific course

Name	Description
Courses\Roots of Modern Thought a.k.a. Christian Worldview	comments related to this specific course
Courses\Spiritual Gifts	comments related to this specific course
Courses\Theo II	comments related to this specific course
Courses\Theo III	comments related to this specific course
Definition of Critical Thinking	definitions of "critical thinking" given by students during interviews
Disposition toward critical thinking	comments related to the disposition toward critical thinking from the interviews or focus group
Disposition toward critical thinking\Challenging existing ideas to develop CT	comments related to the idea of challenging existing thoughts as a way to improve critical thinking skills
Disposition toward critical thinking\Experience's role in CT	comments on the role of experience in helping people develop their critical thinking skills
Disposition toward critical thinking\Safety and CT	comments on the nature and importance of "safety" as a value offered by Christian colleges
Diversity	comments on the nature and importance of diversity in developing critical thinking skills
Faculty	comments on the role of faculty in helping students develop their critical thinking skills; some specific examples along with general statements
[denomination]	thoughts on the denomination, its relationship to the college, and the role it plays in helping or hindering CT development among students
[denomination]\licensing	thoughts on the licensing process
[denomination]\Indoctrination	comments on the idea that religious institutions may sometimes attempt to indoctrinate students with the "right" answers to specific questions that are in line with supporting denomination, or even favouring certain perspectives in giving out grades, selecting for specific positions in leadership, conveying licenses to preach, etc.
LGBTQ+	comments related to the college and its interactions with members of the LGBTQ+ community
Measurements of Critical Thinking	comments related to how best to know when students are good critical thinkers, how to measure students' critical thinking ability, etc.
Measurements of Critical Thinking\Can graduates think critically	specific mentions from students about how well they feel they can think critically after graduating
Measurements of Critical Thinking\Tracking improvement	student reflections on how, when, and why they feel their critical thinking skills improved during their time at the college

Name	Description
Rigor of Critical Thinking	comments on how difficult it is to think critically and how difficult it is to develop one's critical thinking skills
Rigor of Critical Thinking\Sub-types of Critical Thinking	some insights into which component of critical thinking is strongest or weakest among students at the college
Spiritual Development	comments related to spiritual development and its relationship to critical thinking
Strategies for improving CT	comments on potential suggestions for improving critical thinking development at the college
Strategies for improving CT\Faculty	comments on (and suggestions for improving) how faculty help promote critical thinking

Appendix O – SCU curricular map

Introductory (I) = Some direct instruction; short exercise or assignment (often completed in class or with instructor guidance) Practiced (P) = Instruction building on previously learned material; longer assignment completed independently Competency (C) = Discussion of previous instruction; significant assignment completed independently	Objective 1: Apply critical and creative thinking skills to provide reasoned analysis of competing ideas as well as solutions to difficult problems.	Objective 2: Analyze quantitative data to address questions, support arguments and evaluate conclusions.	Objective 3: Access and evaluate information in conducting research and conveying results of that research ethically to others.	Objective 4: Compose multi-media presentations and written communications, including those specific to their discipline.	Objective 5: Communicate orally in various settings, including those specific to their discipline.	Objective 6: Express an appreciation for the diversity of people and their cultures, in order to honor God's creativity and his creation.
Undergraduate Programs						
Core Curriculum*						
BIBL 101 Pentateuch	I/P (Final Project)		I (Weekly Reading Assignments)			P (In-Class)

						Worksheets)
BIBL 113 Introduction to Biblical Literature*						
BIBL 216 Synoptic Gospels	P (OQ Assignments, 3-4 Redaction Criticism Assignments, Fine Arts Presentation on the Passion Week)			I (Fine Arts Presentatio n on the Passion Week, Optional Fine Arts Project on the Transfigura tion)		P (7-8 Analysis of Mediterr anean Cultural Context)
BIBL 230 Biblical Exegesis Practicum	P (Exegetical Projects)		P (Exegetical Projects)	I (Parable Exegetical Project)		I (Letter Exegetica l Project)
BIBL 301 Romans	C (Final Worksheets, Integration Assignments)			P (Fine arts presentatio n on Romans 8)		
BIBL 343 Kings & Prophets	I (Sessions 3, 4, 5 22, 29 - Reading and Observation of Biblical Texts)		P (Sessions 4, 5, 9, 13, 15, 18, 20, 21, 25, 29 - Reading, Observation of Biblical texts, and synthesis)			I (Sessions 7, 16, 17, 19, 29 - Reading, Observati on of Biblical texts, and synthesis of cultural backgrou nd)
BIBL 131 Biblical Languages & Exegesis	I/P (Final Exegetical Paper, Exeg. Assign. #2 - Genre Analysis & Structural Outline, #10 - Argument of the Text, #7 -		I/P (Final Exegetical Paper, Exeg. Assign. #9 - Commentary Analysis)	I (Final Exegetical Paper)		I (Cultural Backgrou nd Analysis)

	Situational Reconstruction, 9-Commentary Analysis)					
ICST 131 Cultures of Ancient Civilization	I (In-Class Worksheets, Reading Assignments)		I (Reading Assignments, Final Presentation)	I/P (Final Presentation)		I (Bible Culture Study #1, Bible Culture Study #2, In-Class Cultural Integration Worksheets)
THEO 220 Theology I	P (Case Studies I-IV, Final Project Case Study)		P (Case Studies I-IV, Final Project Case Study)	P (Case Studies I-IV, Final Project Case Study)		P (Case Study IV)
ENG 103 English Composition & Research	I		I	I		
COMM 202 Speech & Presentation					I	
INST 105 Disciplines of Life Seminar						
PHIL 214 Roots of Modern Thought	(I) Mid-term exam & final exam, Reading Reflections		(P) - Group paper & presentation	(P) - Reading reflections; group paper & presentation	(P) - Presentation project	I

SBS 230 Marriage & Family						P
HIST 408 History of Christianity	P (Research Paper)		P-C (Research Paper)	P-C (Research Paper)		
LDST 401 Disciplines of Leadership	C					
MIN 210 Spiritual Gifts						
MIN 230 Discipleship & Spiritual Transformation						
Social/Behavior Science elective						
THEO 420 Theology II or	P (Christology Worksheet 4, Christology/Har martiology Worksheet, Harmartiology/S oteriology Worksheet, Soteriology Worksheets 1, 5, 7, 9, and Final Exam)		P (Christology Worksheet 4, Christology/Har martiology Worksheet, Harmartiology/S oteriology Worksheet, Soteriology Worksheets 5, 7, 9, and Final Exam)			I (Christology Worksheet 2)
THEO 320 Theology III	P/C (Research Paper, Worksheets, Book Critique)		P/C (Research Paper, Book Critique)			P (Issues in Ecclesiology Discussion Ecclesiology Reading Report #1 and Images of the Church -

						Case Study)
Biblical & Theology Program*						
BIBL 403 Prison Epistles	C		C			C
THEO 320 Theology II (see above)	C		C			
THEO 420 Theology III (see above)	C		C	C		C
MIN 370 Internship						
INST 451 Senior Seminar	C	C	C	C	C	