A QUALITATIVE CASE STUDY IN THE COE AT PCRU: EXPLORING RESEARCH PRESSURE ON HECPS AND ITS IMPACT ON INSTRUCTIONAL EFFECTIVENESS AND STUDENT SUCCESS

By

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A Dissertation Submitted in Partial Fulfillment of the Requirements for the Degree of Doctor of Education in Assessment, Learning, and Student Success: Higher Education Concentration of Education

Middle Tennessee State University

May 2025

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DEDICATION

The work of this dissertation is dedicated first and foremost to my Lord and Savior, Jesus Christ, to my family, and friends at the office. It is difficult to adequately express how much your encouragement, support, and love have meant to me throughout this doctoral journey. Many thanks to all!

To my husband, I appreciate your support throughout this process and encouraging me to apply to the program in the first place. Thank you for expressing your confidence in me and never doubting my ability to obtain this degree. I appreciate all the love and support you have always provided me, especially while earning this degree.

To my children and grandchildren, thank you for always being so understanding when I needed to focus on school. You have been my support system and have sacrificed some time away from me, and you will never know how much I appreciate the fact that you were always so understanding. Thank you for your constant love and encouragement, especially when I wanted to quit.

To my mother, thank you for being an encourager through this doctoral journey and my entire educational career. You have taught me to finish all I start, work hard to reach my goals, and never give up. Thank you for constantly reminding me to be confident, try new things, and reach for goals that I set for myself.

ACKNOWLEDGEMENTS

Many people have supported me during my doctoral studies at Middle Tennessee State University. There is no way to thank every person who has impacted this journey, so please know that I am most appreciative of all who have helped me along the way.

To my doctoral advisor and dissertation chair, Dr. Jim Rost, thank you for going above and beyond your responsibility to help me achieve this degree. You have been very supportive and understanding throughout this entire journey. There are not enough words to express my gratitude for your guidance, constant communication, feedback, and answering many of the questions I had throughout the program and dissertation process.

To Dr. Kevin Krahenbuhl, thank you for your willingness to serve on my dissertation committee, helping me navigate the doctoral program, and providing guidance that set me up for success in the program and especially through the methodology class. I would not have made it through ALSI 7630 if it were not for you. Also, thank you for the many conversations about my dissertation topic and the knowledge you provided as I worked on the beginning stages of my study.

To Dr. Keri Carter, thank you for your willingness to serve on my dissertation committee. I am grateful for the expertise and input you provided me and continued guidance throughout this dissertation journey.

To my family, thank you for your continued love and encouragement throughout this journey. Each of you has played a significant role in helping me succeed. This journey is not for the faint of heart; having each of you by my side helped me more than you will ever know.

To my classmates and colleagues, thank you for your professional and personal support throughout my doctoral education. I cannot express my gratitude enough for the encouragement,

input, and interest that you have given me over the last several years. I am grateful to each one of you!

To my friends, thank you for encouraging me throughout this process. For showing interest in my journey and asking for updates. Thank you for always being so understanding when I needed to step away and focus on my education.

ABSTRACT

This study explored the impact of research pressure on instructional effectiveness and student success within the College of Education at a newly recategorized R2 public research university in the American southeast. The study investigated how the university's emphasis on producing research, which enhances institutional prestige and funding, affects faculty members' ability to provide high-quality instruction and promote student achievement. By employing a qualitative instrumental case study approach grounded in social constructivist theory, the research examined the experiences of professors who are required to balance their instructional responsibilities and managerial/service duties, with the demands of creating, designing, investigating, funding, and publishing research projects. Data was collected through interviews, participant journaling, and artifact analysis to capture the complexities of these multiple roles. The findings provided insights into the relationship between research productivity pressures and the quality of instruction within the College of Education at a Public Comprehensive Research University, ultimately offering recommendations for higher education curriculum planners and policymakers to better support faculty and improve student outcomes.

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Chapter I: Introduction

In today's universities, as Roos and Borkoski (2021) point out, a successful career in the academic world hinges on research productivity, service to the university, and excellent teaching methodology demonstrating an appropriate level of student attainment. A cause for concern exists in the abundance of press news releases around the subject of occupationally related-pressure and stress on university professors (Morrish, 2019). Higher education college professors (HECPs) assume three crucial functions which include instruction, investigative research, and managerial/service duties for the institution they are employed with (Boyer, 2004; Maaranen et al, 2020; MacPhail and O'Sullivan, 2019; Morrish, 2019; Nguyen et al, 2021; Rost & Hover, 2023; Tuinamuana, 2016).

Many HECPs are greatly overburdened by pressure to obtain research grants and publish, complete the required workload within specific time constraints, and the debilitating impression from administration that personal progress is in no way satisfactory (Roos & Borkoski, 2021; Tung & McKercher, 2016). Typically, university administration from R1 and R2 institutions stress the need to emphasize a particular job requirement above another, regardless of the recognition that all areas are supposed to be of equal importance (Boyer, 2004; Tung & McKercher, 2016; Fennell, 2013). Additionally, Boyer (2004) and Kelly (2013) review the predicament of the college professor who feels compelled into juggling a demanding teaching schedule while at the same time seeking a suitable research project to publish in the appropriate journal.

Statement of the Problem

As Boyer (2004) explains, teaching today is frequently regarded as a mundane responsibility, added on, "something almost anyone can do" (p. 574). Professors are expected to

provide not only great teaching but also cultivate lucrative research opportunities and publications that benefit the university. Occupational advancement at the college level is increasingly centered on the research record of the professor (Boyer, 2004; Bridge et al, 2021; Miller et al, 2011; Nguyen et al, 2021; Roos & Borkoski, 2021; Tung & McKercher, 2016). The pressure placed on the faculty to create, design, and investigate these money-making research-based projects can be overwhelming (Morrish, 2019). The university collects valuable funding but also receives distinguished status for its involvement. This elevates the rank and reputation of the university (Kelderman, 2018; Seecharan, 2020). A professor's instructional ability to provide the best quality education for their students is greatly impacted by the pressure a university applies to its faculty members to create, design, fund, and investigate research projects (Bridge et al, 2021; Haven et al, 2019; Miller et al, 2011, Morrish, 2019). The purpose of this research study is to explore the pressure exerted on academics to produce research and how it impacts the relationship between instructional effectiveness and student success of the HECP in the College of Education (COE) at a newly recategorized R2 public comprehensive research university in the American southeast that will be known as PCRU.

Several studies have been conducted about the impact administrative-induced and self-imposed pressure has on higher education (HE) professors in the areas of stress-related health concerns and mental health. These studies have centered around approaches to cultivating the HECP's health and welfare strategies to prevent HECP burnout (Morrish, 2019; Roos & Borkoski, 2021; Rost & Hover, 2023). In another group of studies, pressure and stress revolve around the requirements of meeting specified high-impact research production standards and grant funding opportunities for job security and career satisfaction. Constant worry about producing research in the correct quantity and at the appropriate level of quality for publication

in the top-tiered journals consistently has HECPs under immense pressure to outperform other HECPs to maintain their employment (Bridge et al, 2021; Miller et al, 2011; Pop-Vasileva et al, 2013; Sharobeam & Keith, 2020; Tung & McKercher, 2017; Waaijer et al, 2017). A couple of additional studies by Maaranen et al (2020) and MacPhail and O'Sullivan (2019) focus on professional HECPs becoming research-driven out of necessity through strategies created within intensive concentrated professional development programs. A fear among well-established professors exists that a significant shift has emerged prioritizing research production and grant funding over teaching and supporting students. Thus, the problem being examined in this study is the effect research productivity pressure has on the HECP's ability to design and implement effective high-quality instruction to achieve student success.

Purpose of Study

A limited amount of recent research (Fairweather & Rhoads, 1995; Gregorutti, 2010) has been completed about the correlation between the quality of teaching and increased rigorous research productivity demands on HECPs. Although research could be an influential and effective instrument for advancing teaching, strengthening efforts to generate knowledge in programs of study, and tackling societal difficulties (Kezar & Eckel, 2000, Waghid, 2002, Johnsrud, 2008 as cited in Gregorutti, 2010), few inquiries have directly focused on the impact research productivity pressure exerts on the HECP while trying to meet high-quality instructional standards and attain student success. Therefore, the purpose of this study is to determine if pressure exerted on HECPs in the COE at PCRU, a university that was recently advanced on the Basic Carnegie Classification System to the rank of R2, to create, design, fund, implement, and investigate research projects then publish their findings influences their ability to provide high-quality instruction for their students to be successful in their classroom.

Significance of Study

The shortage of factual information and evidence-based guidance about the effects that research productivity pressures have on the instructional quality of a HECP's teaching performance and the connection to student achievement, unfortunately, leads university tenure and promotion policies to concentrate more on research production rather than quality teaching and student achievement. This study is important for providing research-based information to enhance the knowledge base by probing the impact of pressure on HECPs to maintain high research productivity as opposed to generating essential high-quality instruction that will promote student success. As a result of the intensified prominence in college mission statements, in particular for the Southeast, to provide the maximum value for learner involvement and an individual's education, instructing students who eventually flourish as professionals and participate with and give back to society (Public Comprehensive Research University, 2024a; The University of Tennessee, n.d.; University of West Florida, 2024), PCRU's HECPs should purposely focus more of their time on instructional effectiveness in order to achieve student success.

Research Questions

This exploratory research case study will examine the experience of HECPs in the COE at the R2 PCRU utilizing the following questions:

1. What are COE HECPs' perceptions of the research pressure PCRU, an R2 institution, places on faculty to create, design, investigate, fund, and publish research?
2. How do PCRU COE HECPs describe their ability to provide high-quality instruction to students while experiencing research pressure?

3. How do the PCRU COE HECPs feel about their ability to promote student success while meeting research requirements?

In response to these queries, this research proposal will employ an instrumental case study from the constructivist viewpoint to evaluate how HECPs in the COE at PCRU feel about the link between the university's exerted research productivity pressure and the HECP's capacity to provide high-quality instruction to promote student success.

Context

As the higher education community acknowledges, HECPs are responsible for three essential roles which include instruction, investigative research, and managerial/service duties (Boyer, 2004; Maaranen et al, 2020; MacPhail and O'Sullivan, 2019; Morrish, 2019; Nguyen et al, 2021; Rost & Hover, 2023; Tuinamuana, 2016). PCRU faculty members are no different, especially now that their status has advanced to an R2 research facility. This constructivist instrumental research case study will be conducted within the COE at PCRU, a fairly new R2 research university. Tenured-track assistant and associate professors will be sampled from the faculty members of the COE. The sampling of faculty members was taken from the PCRU COE website and COE employee list during the 24-25 academic year. I chose a modest group of assistant and associate COE professors for a total of 6 participants. My demographic requirements include assistant and associate ranked professors, tenured and tenure-track positions, and participants with a varied amount of experience.

Positionality

As Creswell and Poth (2018) emphasize positionality explains the role the researcher plays purposefully when moving into the context of the research setting. The attributes included in the description involve the researcher's socioeconomic status, demographic characteristics

(e.g., race, gender, age, ethnicity, citizenship status), personal, professional, and political beliefs as well as other relevant experiences (Berger, 2015 as cited in Creswell and Poth, 2018; Yin, 2018). Individually, every researcher conveys their particular identity and cultural position to their research dialogue. As a result, it is essential for the readers to understand the researcher's mindset.

I am a middle-aged Christian, Irish American, educational professional female. My family came to the United States (US) from England and Ireland. All of my great grandparents were factory workers with the exception of my great grandfather. He enlisted in the military at seventeen and began a line of military men in my family. My grandfather and father were in the military as well as my brother. My father was the first in the family to attend a college and he graduated with a bachelor's degree and was commissioned into the US Air Force as a Second Lieutenant. My mother did not attend college but worked hard at a small publishing company. When she married my father, they began a life moving across the country wherever my father was re-assigned by the Air Force. Before I was eight years old, I had lived in seven different locations. This has provided me with a distinct perspective on transient populations. My cultural identity is multifaceted with each element contributing a significant part to my personality.

Considering positionality in the framework of my proposed study, I acknowledge that I have a valuable knowledge base within the educational setting, but I have breaches in my experience that can reduce the effectualness of my objectivity, my assessment, and my realm of study. For instance, my professional experience is restricted to teaching and administration in K-12 public education and teaching at the community college level. During my professional experience, the focus has consistently been about effective instruction and student success. In

my current role as Director of Attendance, Data, and Accountability for a medium-sized public school system, I spend substantial time analyzing data as well as preparing and implementing strategies to improve teaching effectiveness, attendance, behavior, and student success.

My responsibilities as an education professional have targeted specific techniques and active engagement in the classroom, but my function as a researcher is to be sincere, inquiring, and open-minded throughout this investigation. Thus, I will put to one side my expectations of best practices for preparing and implementing teaching effectiveness and student success strategies to understand the PCRU decision-making processes. It is essential to remain cognizant of implied or expressed biases and while I feel assured in my determination, I will also trust in the direction from my chair and committee. As a professional educator, I have been employed with Barbour County Schools, AL, Wallace State Community College, AL, and Bedford County Schools, TN. I have not worked in a four-year university or a liberal arts college, so I am lacking some of the experiences that my participants will have. My study does, however, focus on teaching effectiveness and student success, which elicits the understanding from my previous professional experience within both the K-12 public school and community college setting.

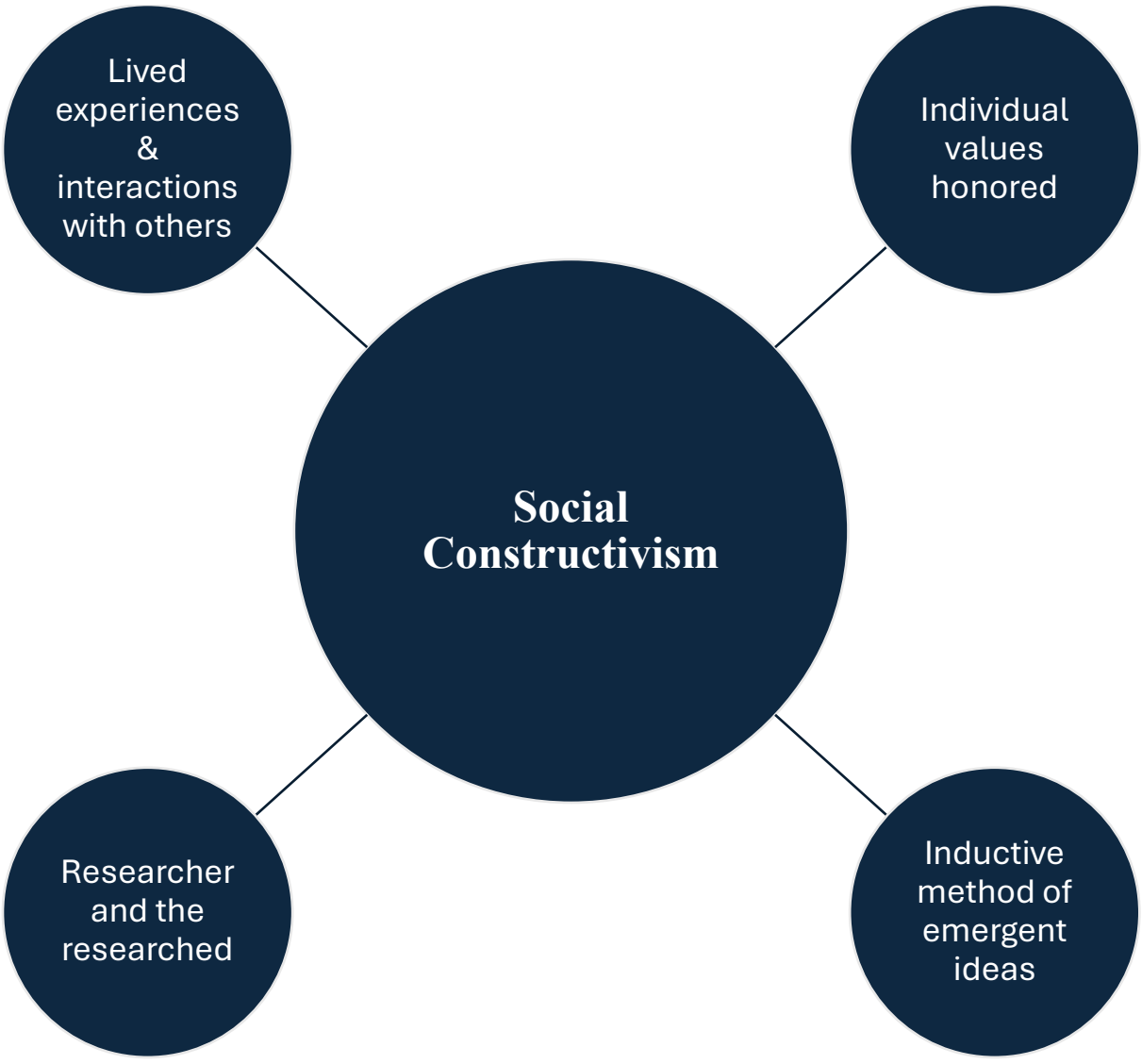
Contextual Framework

This study utilizes a qualitative instrumental single case study from a social constructivist framework with a holistic viewpoint for data analysis. Creswell and Poth (2018), Yin (2018), and Krahenbuhl (2024a) explained that utilizing a case study research format is a qualitative method where the researcher concentrates on a component of the study identified as a "bounded system (e.g., individual teachers, a classroom, or a school)." A bounded system refers to a specific timeframe, location, organizational group, or other related elements to a group of individuals (Creswell & Poth, 2018; Yin, 2018). The bounded system for this study will include

individual assistant and associate faculty members from the COE at PCRU during the 2024-2025 academic calendar. Figure 1 portrays a visual of the social constructivist paradigm and its key elements that are contributing to the researcher's overall framework.

Figure 1

Social Constructivist Framework and Philosophical Belief



Source: Adapted from Creswell and Poth, 2018

An instrumental case study means as Yin (2018) and Creswell and Poth (2018) explain the aim is to understand a particular difficulty, problem, issue, or challenge. The instrumental

aspect fits nicely with the social constructivist perspective which cultivates the researcher's desire to pursue an understanding of the environment in which they exist. The participants will foster intrinsic meanings from their individual experiences targeted at specific objects, things, or challenges (Creswell & Poth, 2018). These intrinsic perspectives can be divergent and numerous providing the researcher the opportunity to view the complexity of the issue instead of trying to limit the results to a few ideas or classifications. Many of these intrinsic perceptions are navigated through a historical or social lens. They are typically not just ingrained within individuals but are created by contact with other humans "hence social construction" and through historical and social norms that drive the participants' lives (Creswell & Poth, 2018).

The researcher's goal is to depend to the fullest extent on the participants' viewpoint about the challenges of the situation. Due to the focus on the participant's perspective, an instrumental constructivist case study does not start by selecting or formulating a theory, instead, the inquirer designs or inductively creates a relationship or theory of understanding (Creswell & Poth, 2018). Accordingly, "in terms of practice, the questions become broad and general so that the participants can construct the meaning of a situation, a meaning typically forged in discussions or interactions with other persons," as expressed by Creswell and Poth (2018, p. 24). As a social constructivist researcher, it will be important to attend to the practices of interaction among participants. In addition, it is vital to acknowledge that the researcher's experience and background help to shape the interpretation of the data, and the researcher must determine their place in the research to understand how their analysis radiates from social, emotional, and historical events (Creswell & Poth, 2018). Hence, the intent of this single instrumental case study will be to explore the specific issue concerning the effect that research productivity

pressure exerted by PCRU on COE HECPs has on instructional effectiveness and student success from the HECP's perspective.

Summary

In modern research universities, as Roos and Borkoski (2021) note, a flourishing scholarly career reflects a combination of community and university service work, research productivity, and effective instructional approaches that display student success. Consistently, however, concerns have surfaced from multiple reports regarding job-related pressure and stress among HECPs (Morrish, 2019). HECPs confront many challenges during their career to secure research grants and publish the results within specific time constraints all the while feeling that their progress is not satisfactory for the administration (Roos & Borkoski, 2021; Tung & McKercher, 2016). The administration's focus on research and publication oftentimes overshadows other aspects of the HECP's job responsibilities, creating a substantial imbalance. This imbalance compels HECPs to brush aside demanding instructional schedules for the pursuit of research projects (Boyer 2004; Kelly, 2013). This pressure can negatively affect the HECP's ability to deliver the best instruction, as the emphasis on research eclipses instructional obligations as conveyed by Bridge et al (2021) and Haven et al (2019).

While a number of studies have investigated the effect of organizational and self-induced pressure on the emotional well-being and career satisfaction of HECPs (Morrish, 2019; Roos & Borkoski, 2021), few have converged on how research productivity pressure impacts instructional effectiveness and student success. This study intends to address the gap in research by examining whether the pressure on HECPs at PCRU to generate research influences their competence to deliver top-notch instruction. This instrumental case study research aspires to shed light on the detrimental effects of research productivity pressure on high-quality instruction and student achievement. By understanding the experiences and perspectives of HECPs

regarding research obligations and their correlation to student success, the study aims to offer insights that could inform university policies and practices, ultimately promoting a balanced emphasis on both research and teaching excellence.

Chapter II: Literature Review

The environment of the higher education system (HES) has experienced considerable transformations over time, influenced by developments in research, changes in the needs of society, and modifications in the priorities of the higher education institution (HEI). The development of the HES has observed the rise of the research HEI as a leading epicenter of innovation, with the responsibilities of the HECP transforming to provide for the necessary challenging demands of teaching, research, and service (Peterka, 2023; Roos & Borkoski, 2021). A chief advancement in the evolution of the HES was the formation of the Carnegie Classification System, created to classify HEIs centered around their research productivity and educational opportunities (Carnegie Foundation, 2023b; Douglass, 2005; McCormick & Zhao 2005). As the HES continues to transform, teaching effectiveness and its influence on student achievement must be understood. As HEIs strive for equilibrium among research, instruction, and service, newly elevated R2 universities like PCRU must understand the increasingly significant connection between teaching effectiveness and student achievement. The following literature review will explore the evolution of the HES and HECP's responsibilities, the formation of the Carnegie Classification System, PCRU's development, the connection between instructional effectiveness and student success, and how each piece relates to research productivity pressure on the HECP.

Historical Development of the Academia

The function of both the HEI and the HECP has undergone significant transformations over the years, developing in reaction to ever-changing educational models, societal outlooks, and university requirements. Generally, the primary responsibility of HECPs was to impart knowledge through teaching, often characterized by a mentor-mentee paradigm. HECPs were

esteemed scholars who devoted their lives to nurturing and fostering minds, with their influence predominantly anchored in their depth of knowledge and their ability to stimulate intellectual curiosity (Peterka, 2023; Sam & van der Sijde, 2014; Shen, 2016). As HEIs developed and broadened their horizons, the HECP's official duties started to shift, involving a wider range of responsibilities. This expansion echoed the evolving landscape of higher education (HE), where research and generating new knowledge began to achieve status alongside instruction.

The Evolution of the Academia

Peterka (2023) explains that today's university has evolved from the establishment of the twelfth and thirteenth century European academy especially the influences regarding academic freedom as well as the advancement of specific scholastic disciplines. The original European HEIs included the University of Bologna established around 1088, the University of Paris established about 1150, followed by the University of Oxford which was founded sometime shortly thereafter. The university of the Middle Ages became the Christian ideological domicile that housed the "universal knowledge" (Ruegg, 2003 as cited in Peterka, 2023). During the Middle Ages, academics trekked across Europe to explore and instruct students, which offered a unique and sophisticated element to the medieval HEI. Delanty (2001) suggests that exterior relationships with the academic institution and the outside realm were practically nonexistent, and if a slight connection did materialize it was controlled and restricted by the church.

Typically, education historians agree that the prevailing research HEI concept emerged during the early 1800s from Prussia now known as Germany. Preceding this timeframe, the academy was primarily operated by a professional society or the church (Rolfe, 2019). The scholarly groundwork that originated with the academic scholar Friedrich Schleiermacher was substantially influenced by Europe's Enlightenment period, "based on secular humanist ideals

and a belief in the intrinsic value of intellectual inquiry" as denoted by Rolfe (2019, p.108). These influential concepts were brought into play by Karl Wilhelm von Humboldt, a famous scientist and the Minister of Education for Prussia, with the establishment in 1810 of the University of Berlin (UofB) (Rolfe, 2019; Sam & van der Sijde, 2014). This was the first time that teaching and research were looked at as a collaborative endeavor in which both students and professors combined forces for the betterment of science (Sam & van der Sijde, 2014).

Therefore, instruction and research were first paired concurrently as a necessary learning experience at the UofB. Previously, research and teaching institutions were divergent entities that did not have the capability of interconnection. The Humboldtian model as it became known focused on utilizing two fundamental elements in conjunction with each other. The heart of the process planned to create the most effective instructional method through the development of academic freedom within the research process (Peterka, 2023; Rolfe, 2019; Sam & van der Sijde, 2014). The HEI influenced by this paradigm assigns vast significance to academic freedom for instruction and freedom to learn through the utilization of the research process excluding governmental interference. In addition, it vocalized the separation of classifications between HEI types into university academics and career and technical training institutions (Arthur & Little, 2010 as cited in Peterka, 2023; Rolfe, 2019). This led universities, which were originally designed to educate and serve the aristocracy high society, to become transformed into a faculty-managed organization (Peterka, 2023).

Next emerged the Napoleonic model from France which intended to instruct, train, and direct students for occupations in government institutions, business organizations, and areas of public service. A significant amount of prominence was placed on substantially systematic, scientific, and technological learning and competencies (Rolfe, 2019; Sam & van der Sijde,

2014). This institutional model is the forerunner to the United States' current set of career and technical institutions. Sam and van der Sijde (2014) further explain that this methodology modified the modern HEI's function to provide students with the necessary information and technical know-how to begin a career following commencement.

An additional concept developed and was referred to as the Anglo-Saxon model which originated with the United Kingdom (UK). It has transformed the primary responsibility of the HEI concerning "professionalism and life-long learning which are developed within individual students to enable them to act flexibly and intelligently in the changing situations in their jobs," (Sam & van der Sijde, 2014, p. 899). This vision corresponds with the forward-thinking responsibility of the modern university in designing an innovative character in students to prepare and manage swiftly shifting essentials in the practical workforce within the information-driven society as explained by Sam and van der Sijde (2014) and Shen (2016). Continuing beyond this idea, Shen (2016, p. 30) denotes that "liberal" means "large, general, and learned". Consistent with the then-prevalent faculty's intellectual philosophies, this type of significant academic instruction will educate each aptitude of a person, creating a well-rounded knowledgeable individual. Table 1 gives a brief description of all four models.

Table 1

Higher Education Models, Features, and Impacts

HIGHER EDUCATION MODELS	BASIC FEATURES	IMPACTS
HUMBOLDTIAN MODEL	* Research-based learning * Academic freedom of research and learning * Centralized system of governance	Research becoming a central area of study in modern higher education.
NAPOLEONIC MODEL	* High-level vocational training * Professional education * Centralized system of governance	Vocational and technical training becoming crucial to prepare

		students for rapidly changing labor markets.
ANGLO-SAXON MODEL	* Personality development through liberal education * Professionalism * Institutional autonomy or self-governing institutions	Soft skills being emphasized in modern higher education to enable students to act flexibly and intelligently in a changing and challenging environment.
ANGLO-AMERICAN MODEL	* All the basic features of the European models integrated * Decentralized system of governance * Massification of higher education	Research, technical training, and professionalism are being incorporated into contemporary higher education worldwide. Entrepreneurialism model of higher education institutions becoming critical for the competitive academic market.

Source adapted from Sam & van der Sijde, 2014, p. 896.

Originally, the United States (US) patterned its higher educational system after its parent country the UK. However, as Sam and van der Sijde (2014) and The Legacy of Service in Higher Education (2002) noted it did not take long for the US to divert toward a different HEI path from the UK. It became known as the Anglo-American model. As Trow (1989) points out by the beginning of the American Revolution the US had nine HEIs while the UK still only had two – specifically Oxford and Cambridge. Within a hundred years when the US Civil War began, there were approximately 250 HEIs in existence. Diversity became a distinctive feature of the US higher education system. It is the diversification of HEIs through the amalgamation of the three university models that created extraordinary growth in the US HEI system (Shen, 2016; Trow, 1989). The US rapidly modified its system of HEIs into a "decentralized, pluralistic, and intensely competitive academic marketplace fueled by federal research dollars" as referred to by Graham and Diamond (1997, p. 2) in Sam and van der Sijde (2014, p. 895). The US's distinct system of higher education has empowered our HEIs to captivate so many individuals, fulfill several different purposes, and immerse themselves into several components of community cultural and life (Trow, 1989).

In 1862, The Morrill Act, also called the Land Grant College Act, bestowed on each state a portion of federal land that was to be sold, allocating the proceeds for mechanical arts and agricultural education as well as liberal arts (Campbell, 1998 as cited in The Legacy of Service in Higher Education, 2002; Gittleman, 2015; Ford, 2017; Peterka, 2023). The Morrill Act was paramount in providing access and programs of study for those students who would have been excluded from college as a result of financial conditions. The newly developing HEI establishments created by the Morrill Act provided an additional, practical, and functional education, appealing to individuals who formerly enrolled at technical HEIs or not at all (Bisesi, 1982; Ford, 2017; Peterka, 2023; The Legacy of Service in Higher Education, 2002). As Kerr (1963) and The Legacy of Service in Higher Education (2002) implied the Land Grant Act initiated a time when the HEI system became more available to all. Higher education became regarded as not only citizenship preparation for all free citizens (Shen, 2016) but also accommodated and catered to a widespread request for "liberal arts education" sometimes referred to as a "general education" (Bisesi, 1982).

Many US HEIs began enrolling vast numbers of students who were unsure of their professional career goals (Bisesi, 1989). By the start of the 20th century with the fusion of the land grant university and the German Humboldtian research model, the US had enrolled over 330,000 students and operated almost a thousand HEIs (Gittleman, 2015; Trow, 1989). It became law in the 1930s for numerous states that their state HEIs were required to admit all applicants that met the school entrance required qualifications (Charters, 1937 as cited in Shen, 2016). Consequently, teaching, service, and research became securely entrenched in the recently established land grant HEIs. Implemented for the first time, educational institutions in the US

were focusing on ordinary issues for ordinary individuals (Campbell, 1998 as cited in The Legacy of Service in Higher Education, 2002).

The Legacy of Service in Higher Education (2002) emphasized that service to the general population was the long-term inheritance from the Morrill Act, which became embedded within the foundation of the triad mission statement to include instruction, research, and service within higher education. Additionally, the increased funding provided by The Morrill Land Grant Act is further credited with the advancement of the university into a Multiversity – a multifunctional HEI with comprehensive offerings, constructed to appeal to a diverse set of individuals with multiple pursuits, and a magnified mission (Kerr, 1963; The Legacy of Service in Higher Education, 2002). This new university concept is also known as the entrepreneurial university for its inclusion of the corporate world. These multiversities that have developed and are continuing to transform are what compose the majority of HEIs within the Carnegie Foundation classification system.

The Function of Higher Education

The original function of colleges and universities in the US almost 400 years ago dates back to the aspirations and motivations of our founding fathers. The New England colonies founded by the Puritans were specifically concerned about an HEI that would yield a knowledgeable citizenry qualified for self-government (Ford, 2017). Many of the originally founded colleges, such as Harvard and Princeton, were established to instruct the country in the "knowledge and godliness." It became swiftly apparent to the American colonies governing class that in order to safeguard the vitality of a Christian society, it had to prepare most all citizens holding or preparing to hold influential positions for leadership in a method consistent with the Christian traditions and ideals, especially politicians, lawyers, and doctors (Ford, 2017).

Today, our multifaceted higher education system (HES) has numerous purposes that fulfill the needs of each of our diverse communities. However, originally most universities were essentially established to deliver the state new knowledge and protect state societal customs and traditions (Delanty, 2001; Peterka, 2014; Santos, 2024) and the colonial universities were no different (Shen, 2016). Nevertheless, as explained previously the Anglo-American Model introduced the world to a hybrid institutional concept that combined segments of the other three previously mentioned historical models into a unique multi-layered higher educational system. The revolutionary concept of the HES blended the typical HEI with the research institution creating an independent institution separate from the former liberal education institution governed in many cases by the church. The HES has grown and transformed from supplying education for the privileged to providing educational equality for all class members of society (Gittleman, 2015; Peterka, 2023). Even in the US, until after World War II, the HES was primarily for the well-to-do members of society. However, after the GI Bill was approved an influx of new students ultimately changed the HES system in the US forever (Ford, 2017; Gittleman, 2015; Loss, 2015). The US HE system initiated a massification effort of the higher education system that had never been explored previously and has become very popular around the world (Sam & van der Sijde, 2014).

The equalization of knowledge and the launch of HEI access to all economic classes have increased the pressure on HEIs to accept more responsibility and involvement for program knowledge applicability (Peterka, 2023; Santos, 2024). Therefore, HEIs are faced with the burden of evolving to meet our quickly developing societal needs to support the labor market's workforce (Peterka, 2023; Sam & van der Sijde, 2014). The process of learning as a life-long commitment was introduced to help prepare students to learn for future societal developments.

Since a college degree has become an ingress opportunity into the job market, it is essential for future employment that the student becomes a lifetime learner and solution creator (Gibb & Hannon, 2006; Sam & van der Sijda, 2014). This implies that an additional responsibility of the HE system is to prepare and implement the distribution of available and identified knowledge as well as the promotion for application (Kesten, 2019; Peterka, 2023; Sam & van der Sijde, 2014; Santos, 2024).

As Sam and van der Sijde (2014) further explain universities cannot be simply the HEI supplying liberal arts learning with technical skills otherwise the students will be ill-equipped for the ever-evolving careers not even developed yet in our global commerce system and world knowledge economy. Many HEIs' mission statements have advanced significantly since the start of the 21st century and their determination to adjust their mission to their new roles has been successful overall such as the University of Minnesota (UM) which includes research and discovery, teaching and learning, and outreach and public service within the essential guidelines of their mission statement (University of Minnesota, n.d. as cited in Kesten, 2019). Kesten (2019) further labeled these roles as technology transfer and innovation (research), continuing education (instruction), and social engagement (community outreach). Universities such as UM which implement robust service-oriented, teaching, and research mission statements recognize that HEIs have a great deal more to offer society besides the institution's ability to conduct only research or educate students (Ford, 2017; Kesten, 2019). Some mission statements similar to UM have continued to transform into another type of functioning HEI, such as the environmental and entrepreneurial institutions.

Etzkowitz (2008, as cited in Sam & van der Sijde, 2014) maintains that the original mission of HEIs for instilling learning stimulated the evolved mission of innovation and research

development which has now inspired the third mission reform for social and economic expansion. As a result of the massification of education, inadequate state and national funding sources, and economic changes creating more competition among HEIs, the HES has been prompted to seek connections with economic partners through entrepreneurial opportunities (Gibbons, 1994 as cited in Peterka, 2023; Sam & van der Sijde, 2014). The entrepreneurial university's mission is grounded in acceptance of the responsibility for technological, economic, and social development, an inter- and multi-disciplinary structure, and HEI management configurations that are capable of handling the complex challenges that accompany a society's constantly changing needs (Peterka, 2023; Sam & van der Sijde, 2014).

Another function of HEIs is grounded in the mission statement of what is called the environmental college. Ford (2017) claims this term is given to colleges such as Sterling College, Prescott College, and College of the Atlantic as well as others that have taken the traditional liberal arts curriculum and charted a more sweeping fundamental version. Because of the transformation of these colleges, the utmost crucial objective according to their mission for HES is "to help young people understand and enjoy the natural world that is the foundation of all human civilizations," as Ford (2017, p. 575) explains. Different environmental colleges employ their unique perspectives to grounding learning in the ecological world. This is done by emphasizing programs such as marine biology, oceanography, agricultural farming, sustainable food systems, environmental humanities, ecology, and several more options. What these HEIs share is the common responsibility to society to instruct individuals on the fundamental connection between life and the mutual concern for the community's physical and natural world (Ford, 2017; Kester, 2019).

Before the US existed HEIs had primarily been preparing individuals for future leadership positions in society. The HES has evolved over the last several centuries to include numerous functions that the original institutional founding fathers could not have even anticipated. HEIs still provide intense instruction and psychological development of self through liberal arts institutions (Sam and van der Sijde, 2014), but through the research HEI, entrepreneurial universities, environmental colleges, and technical colleges so many more experiences are offered to prepare and support a much more substantial and passionate mission for the advancement of our global economy within our society (Ford, 2017). This is only possible through the US's massification and diversification of our HES's educational mission statement. Today's HEIs' missions include teaching, research, collaboration with corporate partners, personal moral and ethical self-reflection, community service opportunities, and many other societal needs.

The Changing Academic Atmosphere

As discussed in the previous section, the function of the HES has evolved tremendously over the last couple of centuries and the university's atmosphere has met with many changes as well. Initially, the universities in Europe had a cosmopolitan nature about them as the scholars traversed the European landscape to teach, study, and explore (Peterka, 2023). This allowed students to be exposed to multiple teachers with various perspectives. Later at Oxford and Cambridge, as Shen (2016) clarified students and instructors shared a collective living arrangement within the university environment. Students and teachers interacted not only in the classroom but also within the natural environment, allowing them to bond more closely with their mentors. As a result, students were strongly affected and guided by their instructors, tutors,

and peers. In addition, Shen (2016) communicated that studying the classics provided intellectual preparation and a network for students to penetrate the ranks of imperial power.

As the liberal arts HEIs were infiltrated in Germany and united with the research institution the environment was modified again. Teaching was still considered the primary function, but the way teaching occurred was focused on the "research seminar" (Rolfe, 2019). Reitter and Wellmon (2016, as cited in Rolfe, 2019) emphasized that within teaching, students and their instructors connected within an equal partnership-type relationship that coordinated the sharpness and resourcefulness of the student with the professor's focused philosophical exploration. Sam and van der Sijde (2014) suggest that the partnership between the professor and student steered both parties to centering their attention on "the science" rather than each other. "In other words, both the professors and students were supposed to work together to produce new knowledge" (p. 893). Peterka (2023) also suggested that pressure was mounting to design a trustworthy and accountable HEI that performs a substantial function in the production of economically sound community growth within the surroundings in which it operates.

As the call for accessibility to HE soared in the last sixty years, the deviating objective of "original inquiry and mass education" has developed a fracture among college students and HECPs that created sorrow and lamentation for the casualty of personal connection which is now seen as an asset and advantage in the academy (Loss, 2015). This allowed for the development of corporate and entrepreneurial universities (CEUs). During the rise of the CEUs, the concept of the worth of education and the significance of culture were superseded by cynical and hardnosed economic societal tenets (Rolfe, 2019; Sam & van der Sijde, 2014). HEIs, for the first time, were required to provide evidence of a quantifiable return on investment for federal and state funding by producing a measurable impact on commerce and the community's economic

markets (Rolfe, 2019). Furthermore, as Peterka (2023) and Sam and van der Sijde (2014) reference, it is expected that CEUs will create and nurture relationships with strategic partners to generate and enhance informational dissemination of knowledge and innovative technology, advance its reputation within the public, and establish the potential for new revenue sources.

However, Gittleman (2015) explains the US allowed this system to develop that provides astonishing diversity and selection options from an incredible assortment of public institutions including both two-year and four-year colleges and universities, private options such as faith-based, church-affiliated, for-profit, nonprofit, online, on-campus, no-campus, and fluctuating in size from as small as 100 students to as many as 80,000+ and anywhere in between. US HE has something for anyone who wants to pursue additional learning. Peterka (2023) comments one of the most recent developments in HE is the materialization of the increasingly popular virtual/online HEI programs and universities. As a result of the intensifying effect of innovative technology information availability, anyone with the technology and resources can now access higher education learning anywhere in the world.

The University's Competitive Nature

Universities that are classified as research universities are renowned for their competitive nature, cultivating an atmosphere where educational superiority and extracurricular athletic ability are exceedingly valued. An HEI distinguishes itself by maintaining a robust research nature, characterized by a pursuit of innovation and quality across diverse programs (Douglass, 2005; Douglass, 2016; Kelderman, 2018; Tung & McKercher, 2016; Waaijer, 2017). HECPs are motivated by a culture of achievement, striving to succeed and excel in their chosen disciplines. Typically, competitive grants, significant publications, and significant discoveries are trademarks

of the HEI's research culture (Douglass, 2005; Douglass, 2016; Kelderman, 2018; Tung & McKercher, 2016; Waaijer, 2017).

Introduction of the Carnegie Classification System

Just after the turn of the 20th century, the Carnegie Foundation for the Advancement of Teaching (CFAT) (Carnegie Foundation, 2023b) was founded by Andrew Carnegie, an American philanthropist and entrepreneur, to tackle what he recognized as an urgent dilemma within educational institutions. Shortly after the founding of the CFAT, the United States Congress in 1906, commissioned the CFAT as an autonomous research hub and policymaker christened to "do and perform all things necessary to encourage, uphold, and dignify the profession of the teacher and the cause of higher education," (Carnegie Foundation, 2023b). As a Cornell University trustee, Carnegie and the President of the Massachusetts Institute of Technology, Henry Pritchett discussed the minimal wages and blatant poverty that many professors faced (Carnegie Foundation, 2023b), Carnegie concluded a deficiency existed in the form of a retirement system for higher education (HE) faculty members. Consequently, Carnegie launched the CFAT as a standard retirement fund for a broad selection of institutions in the United States, Canada, and Newfoundland (Carnegie Foundation, 2023b).

The CFAT (Carnegie Foundation, 2023b) had to establish some guidelines to decide the eligibility criteria for a higher learning institute to be considered as a genuine HE institution and who on their teaching staff met the qualifications for a retirement account. The ensuing standards of qualification developed by the CFAT grew into the greatest extensively utilized source "for the admissions requirements and instructional policies of colleges and universities, as well as the graduation requirements for high schools," (Carnegie Foundation, 2023b). HEIs quickly implemented what became the famous "Carnegie Unit" (CU) which was employed to

evaluate student progression within the student's program of study. The CFAT (Carnegie Foundation, 2023b) defined a CU as, "a measure in which one hour per week of contact between student and faculty equaled one credit." The initial influence of these guidelines on the scholastic establishment and processes in both high school and HE in America persists even today.

In the late 1960's, the CFAT (Carnegie Foundation, 2023b; Douglass, 2005; McCormick & Zhao 2005) established the Carnegie Commission on HE (CCHE) followed in 1973 by the Carnegie Council on Policy Studies in HE (CCPSHE). Steered by the previous President of the University of California (UC) system, Clark Kerr, both of these agencies collectively produced in excess of 120 substantial papers and investigative studies in the US on HE (Carnegie Foundation, 2023b; Douglass, 2005; McCormick & Zhao 2005). It became the comprehensive platform that would speak about the needs and contributions of HE for years to come. Douglass (2005) further explains that although the CCHE noted that the US provided an extensive selection of scholastically robust universities, many institutions were comparatively weak and inadequate. In addition, implications existed that would suggest the excellence of education for undergraduate students had declined significantly at public HEIs during the extensive growth of the sixties. The US government created the HE General Information Survey (HEGIS, eventually becoming IPEDS) to assist with data collection and analysis of HE admissions, finances, and specific degree types offered and awarded (Douglass, 2005). The CCHE soon acknowledged that an issue existed in working with HEIs. A viable way to categorize and evaluate HEIs was not available (McCormick & Zhao, 2005).

Therefore, following the great expansion of HEIs in 1960s, the CCHE created a system for classifying and categorizing HEIs. Originally expected to assist, support, and advocate for

investigative inquiry and policy evaluation, the Carnegie Classification System (CCS) utilizes publicly obtainable quantitative data concerning attributes of HEI staff and students in addition to the composition of work of the HEI to characterize the classification of similar HEIs centered around mission, purpose, and goals (Carnegie Foundation, 2023b; McCormick & Zhao 2005). Douglass (2005) and McCormick and Zhao (2005) noted that in an interview with the original director Clark Kerr, the initial desire was for the CCHE to build a framework that could be generally homogeneous concerning the operation and performance of the HEI in addition to the faculty and student characteristics. It is now considered one of the earliest and leading recurrently published standings of HEI curriculums and statuses for Ph.D. awarding HEIs (Kosar & Scott, 2018). In addition, the CCS is considered to be the primary frame of reference for communicating the diversity among US HEIs (Indiana University, 2021). The CCS incorporated categories that recognized specific qualities in doctoral conferring institutions, comprehensive HEIs, liberal arts institutions, professional schools such as medical and law, two-year institutions, and specifically focused HEIs (Carnegie Foundation, 2023b; Indiana University, 2021).

The Carnegie Foundation (2023a; 2023b) and Kosar and Scott (2018) describe the CCS as one of the leading and earliest systematically published rating systems for HEI programs and standings for doctoral conferring institutions. Consistently revised previously at five-year intervals but now closer to three-year intervals, the CCS operates as the utmost renowned and commonly utilized classification method, driving HE analysis by standardizing and explaining the diversity and similarity between contemporary HEIs (Carnegie Foundation, 2023c; Indiana University, 2021; McCormick & Zhao 2005). Around 2014, as Kosar and Scott (2018) and Indiana University (2021) clarified, the CCS moved its home base to reside under the direction

of the Indiana University Bloomington's Center for Postsecondary Research. Then at the end of 2021, the CCS relocated again and now is governed by Albion College in Michigan (Indiana University, 2021; Albion College, 2021).

Over the last fifty years, the CCS has evolved to incorporate categorizing programs of instruction, synopsis of enrollment, capacity, venue, and specific specialized categories (Carnegie Foundation, 2023c; Kosar & Scott, 2018). Functionally, the CCS for HEIs was developed around the analysis of practical information acquired on research appropriations, the quantity of research faculty and staff, enrollment exclusiveness, and how many doctorates are awarded on an annual basis (Carnegie Foundation, 2023c; Kosar & Scott, 2018; McCormick & Zhao, 2005). Allocations for research are partitioned into classifications: science, technology, engineering, and mathematics (STEM) spending and non-STEM spending. Doctorate categories are divided into four areas which include STEM, social science, humanities, and "professional." Converting these seven parameters over to a viable measurement ranking diminishes the impact of excessive disproportionality and anomalies (Kosar & Scott, 2018; Carnegie Foundation, 2023c; Indiana University, 2021).

The outcome was a categorical system prescribed by the level of degree and HEI specialty designation including doctorate awarding institutions, master's ranking universities often referred to as comprehensive universities, four-year liberal arts institutions, two-year institutions, and specialty colleges, among which each classification other than the two-year institutions were additionally separated into subdivisions. The CCS has been overhauled several times since its inception including in 1976, 1987, 1994, 2000, 2005, 2010, 2015, 2018, and 2021 (Carnegie Foundation, 2023c; Kosar & Scott, 2018). The original CCS in 1971 was established with five main delineating categories: doctoral conferring institutions, comprehensive colleges,

liberal arts colleges, two-year institutions, and professional schools or other specialized institutions, see Table 2 (adapted from McCormick & Zhao 2005). The basic CCS, as defined by the Carnegie Foundation (2023c), substantiates the " status quo refracted through the lens of prestige that reinforced striving toward a narrow form of excellence and a single institutional model defined by the research university." The desire to reach the peak of success was occurring regardless of the CCS, however, the prominent categorical system was intensifying the ambitious nature of institutions as well as pressure to achieve that prestigious top category (Carnegie Foundations, 2023c). John Thelin (2004, p. 320), an author of *A History of American Higher Education*, perceived that the formation of the CCS "set off a competitive rush by institutions to meet the operational criteria" to climb that proverbial ladder to reach the pinnacle of success.

Table 2: The First Carnegie Classification (1971)

1. **Doctoral-Granting Institutions**
   a. Heavy emphasis on research
   b. Moderate emphasis on research
   c. Moderate emphasis on doctoral programs
   d. Limited emphasis on doctoral programs
2. **Comprehensive Colleges**
   a. Comprehensive colleges I
   b. Comprehensive colleges II
3. **Liberal Arts Colleges**
   a. Liberal arts colleges – Selectivity I
   b. Liberal arts colleges – Selectivity II
4. **All Two – Year Colleges and Institutes**
5. **Professional Schools and Other Specialized Institutions**
   a. Theological seminaries, bible colleges, and other institutions offering degrees in religion
   b. Medical schools and medical centers
   c. Other separate health professional schools
   d. Schools of engineering and technology
   e. Schools of business and management
   f. Schools of art, music, and design, etc.
   g. Schools of law
   h. Teachers colleges
   i. Other specialized institutions

Source Adapted from*: Carnegie Commission on Higher Education, New Students and New Places.*

The CCS delivered an approach to characterize the diversity among HEIs by bracketing similar institutions into significant, methodically controllable clusters. Saltmarsh and Johnson (2020) indicate that following the success of the basic CCS, additional selective categories were piloted about 30 years after its formation anticipated to complement the basic CCS. This complementary classification, the community engagement classification (CEC), became an opportunity for HEIs to be categorized as a university that focused on community engagement by creating an institutional identity that connected superior criteria to the institutional environment. In addition, a difference between the type of measurement of the CCS and CEC is the fact that the new selective category relies primarily on data that the HEI reports to supplemental administrations. The CEC depends on verification supplied by a completed product submitted to the foundation where HEIs record in detail their commitment to engage the community with diverse events, appropriations of funding resources, and framework of infrastructure (Saltmarsh & Johnson, 2020).

As described on the Carnegie Foundation (2023c) website, the latest version of the CCS was released in 2021 and incorporated minimal updates to the previous revisions, see Table 3. In particular, the classification "Tribal Colleges" was updated to the previous label "Tribal Colleges and Universities." Likewise, the specific emphasis classification of "Engineering Schools" and "Other Technology-Related Schools" have been consolidated within one individual class. Furthermore, the "Special Focus Research Institution" category was introduced for HEIs that satisfy the requirements for consideration as a "Research University" but graduate students in a restricted number of instructional programs (Carnegie Foundation, 2023b).

Table 3: The Basic CarnegiClassification (2021)

1. **Doctoral Universities**
   a. R1: Doctoral Universities – Very high research activity

b. R2: Doctoral Universities – High research activity c. D/PU: Doctoral/Professional Universities
2. Master's Colleges and Universities a. M1: Master's Colleges and Universities – Larger programs b. M2: Master's Colleges and Universities – Medium programs c. M3: Master's Colleges and Universities – Small programs
3. Baccalaureate Colleges a. Arts and Sciences Focus b. Diverse Fields
4. Baccalaureate/Associate's Colleges a. Mixed Baccalaureate/Associate's Colleges b. Associate's Dominant
5. Associate's Colleges a. High transfer i. High Traditional ii. Mixed Traditional/Nontraditional iii. High Nontraditional b. Mixed transfer/career & technical i. High Traditional ii. Mixed Traditional/Nontraditional iii. High Nontraditional
6. Special Focus Institutions a. Two-year i. Health Professions ii. Technical Professions iii. Arts & Design iv. Other Fields b. Four-year i. Faith-Related Institutions ii. Medical Schools & Centers iii. Other Health Professions Schools iv. Research Institution v. Engineering and Other Technology-Related Schools vi. Business & Management Schools vii. Arts, Music & Design Schools viii. Law Schools ix. Other Special Focus Institutions
7. Tribal Colleges and Universities

Source Adapted from: *Basic classification.* Carnegie Classification Institution of Higher Education.

HEIs Research Designations

Doctoral Universities according to the Carnegie Foundation (2023c), Seecharan (2020), and Burghardt et al (2020) contain HEIs that confer at a minimum of twenty doctoral research or

scholarly degrees for the duration of the evaluation year as well as HEIs with under twenty doctoral research or scholarly degrees that conferred thirty or more doctoral degrees of professional practice within two different disciplines at a minimum. The R1 and R2 classifications incorporate only universities that conferred a minimum of twenty doctorate research or scholarly degrees and had in excess of $5 million disbursed for overall research during FY20 (as reported through the National Science Foundation (NSF) Higher Education Research & Development Survey (HERD)). The action indicator for research incorporates a synopsis of empirical research activities including research & development (R&D) allocations in science and engineering (S&E); R&D allocations in non-S&E disciplines; S&E research personnel (postdoctoral employees and other non-faculty research personnel with doctoral degrees); doctoral conferment in humanities, social science, STEM (science, technology, engineering, and mathematics) disciplines, and in additional disciplines (e.g., business, education, public policy, social work) as identified by the Carnegie Foundation (2023c). The charting of doctorates into four disciplinary categories is documented in Table 4 which is publicly available on the Carnegie Foundation website.

Table 4

Descriptive Statistics on Four Disciplinary Categories of Doctoral Universities

Category		S&E R&D Expenditures (1000s)	Non-S&E R&D Expenditures (1000s)	S&E Research Staff	Doctorates Social Sciences	Doctorates Humanities	Doctorates STEM	Doctorates Other Fields
Doctoral Universities-Very High Research Activity (Standardized Radius>= -0.15)	N	148	148	148	148	148	148	148
	Minimum	22,812	940	6	0	0	19	0
	Maximum	3,104,869	146,396	7,147	96	174	635	370
	Mean	439,807	28,584	561	32	39	194	76
	Medium	273,789	21,824	317	28	32	158	60
Doctoral Universities-High	N**	131	131	131	131	131	131	131
	Minimum	539	0	0	0	0	0	0

Research Activity (Standardized Radius< -0.15)	**Maximum**	460,692	34,334	168	50	46	119	491
	Mean	37,725	4,448	25	5	4	24	37
	Medium	22,170	2,658	16	2	0	17	24
All institutions	**N****	277	277	277	277	277	277	277
	Minimum	539	0	0	0	0	0	0
	Maximum	3,104,869	148,396	7,147	96	174	635	491
	Mean	249,853	17,168	308	19	23	113	57
	Medium	91,606	8,387	79	11	9	59	40
Correlations	**Aggregate Index**	0.734	0.714	0.606	0.836	0.762	0.817	0.504
	Per-capita Index	0.613	0.608	0.545	0.559	0.515	0.678	0.184
	Radius	0.734	0.714	0.612	0.808	0.738	0.815	0.458

*Postdoctoral appointees in health, science, and engineering and nonfaculty research staff in science and engineering with doctorates.
**(modified May 2, 2022) Excludes 3 institutions that were granted aberrant year data exceptions and not included in the research activity index analysis but includes one institution that was subsequently moved to Special Focus: Research Institution (Univ of Md. Baltimore)

Category		**Per Captia S&E R&D Expenditures (1000s)**	**Per Capita Non-S&E R&D Expenditures (1000s)**	**Per Capita S&E Research Staff**	**Number of Faculty Used as Denominator**	**Distance (Standardized)**		
Doctoral Universities-Very High Research Activity (Standardized Radius>= -0.15)	**N**	146	146	146	146	146		
	Minimum	37.4	0.7	0.0	218	-0.15		
	Maximum	1350.6	99.9	4.4	5280	1.96		
	Mean	290.3	23.0	0.4	1473	0.82		
	Medium	252.3	18.6	0.3	1173	0.78		
Doctoral Universities-High Research Activity (Standardized Radius< -0.15)	**N****	131	131	131	131	131		
	Minimum	1.6	0.0	0.0	93	-1.64		
	Maximum	582.8	67.9	0.4	2,310	-0.16		
	Mean	7504	8.7	0.1	532	-0.92		
	Medium	53.0	4.5	0.0	506	-0.91		
All institutions	**N****	277	277	277	277	277		
	Minimum	1.6	0.0	0.0	93	-1.64		
	Maximum	1350.6	99.9	4.4	5,280	1.96		
	Mean	188.7	16.3	0.2	1,028	0.00		
	Medium	147.3	11.6	0.1	715	-0.01		
Correlations	**Aggregate Index**	0.607	0.405	0.468	0.737	0.992		
	Per-capita index	0.804	0.555	0.605	0.409	0.874		
	Radius	0.667	0.447	0.509	0.698	1.000		

*Postdoctoral appointees in health, science, & engineering and nonfaculty research staff in science & engineering w/doctorates.
** Excludes 3 institutions that were granted aberrant year data exceptions & not included in the research activity index analysis.

Source Adapted from: *Basic classification.* Carnegie Classification Institution of Higher Education.

Such detailed figures were systemically integrated utilizing “principal components analysis” to construct two indicators of activities for scholarly research revealing the full disparity between these quantities (Carnegie Foundation, 2023c).

The first index designates the total accumulation of research endeavors, and the second indicator acquires per capita research action employing the allocation of funds and personnel measures allotted by the number of full-time faculty members holding the rank of full, associate, or assistant professor (Carnegie Foundation, 2023c). Every HEI was then positioned on an embedded planar graph using the quantities from each indicator. An interval range calculation was computed for every HEI to a standard frame of reference (the modicum value for both scales). Following the calculation outcome, each HEI was evaluated to determine which of the two categories the HEI would be designated according to the standard frame of reference. Prior to performing data analysis, preliminary baseline data were transformed to “rank scores to reduce the influence of outliers and to improve discrimination at the lower end of the distributions where many institutions were clustered,” as rationalized by the Carnegie Foundation (2023c).

The Carnegie Foundation (2023c) reports the number of conferred doctorates by discipline was obtained from the Integrated Postsecondary Education Data System (IPEDS) for the 2019-2020 reporting year. The total faculty numbers were retrieved from the human resources (HR) division of IPEDS based on the categories of full-time instructional personnel, professional rank, and tenure standing during the Fall of 2020. R&D allocations were derived from the National Science Foundation (NSF) HERD Survey for the 2020 fiscal year (Carnegie Foundation, 2023c). Research numerical data for faculty and staff were derived from the NSF survey of graduate students and post-doctorate students in Science and Engineering for the 2018-2019 fiscal year. During the stage when the analysis began, this was the most recent and

thorough information accessible, and the Carnegie Foundation (2023c) ascertained up-to-date datasets to be more relevant than syncing all datasets within the same time frame.

As previously mentioned, instances existed where the NSF recorded aggregation at greater quantities than what was necessary for determinations of classification such as several campuses that are included in one HEI system that represent separate institutions for classification reporting but were chronicled collectively as a sole unit for NSF dataset reporting such as the University of California's multiple individual institutions at various locations like Berkeley, Davis, Irvine, and others (Carnegie Foundation, 2023c). Furthermore, the Carnegie Foundation (2023c) utilized a quantified percentage of research/doctorate-awarded degrees by an entity as a representation for apportioning the allocations among HEIs. When marginally more customary, cumulative recordings of faculty and staff information sets were employed for the comparable distribution of appropriations data to assign faculty and staff across compound entities recorded as a solo institution from the NSF HERD survey.

Master's colleges and universities, according to the Carnegie Foundation (2023b), incorporate entities that confer a minimum of fifty degrees at the master's level and less than twenty earned doctorates for the duration of the preceding evaluation year. This methodology disregards the classifications of Tribal Colleges and Universities and Special Focus Institutions. The Master's Colleges and Universities division includes M1 – Master's Colleges and Universities with larger programs, M2 – Master's Colleges and Universities with medium programs, and M3 – Master's Colleges and Universities with small programs. Classification at this level was established by the quantity of degrees conferred at the master's and doctoral levels during the 2019-2020 school year. Larger program subdivisions were those HEIs that conferred at a minimum of 200 degrees; medium program subdivisions were those HEIs that conferred at a

minimum of 100 degrees but at most 199 degrees; and small program subdivisions were those HEIs that conferred at a minimum of 50 degrees but at a maximum of 99 degrees (Carnegie Foundation 2023c). The small subdivision category contained entities also if they conferred less than fifty degrees at the master's level, but the Enrollment Profile categorized them as entirely Graduate/Professional or as preponderance Graduate/Professional, and the entity conferred a total majority of graduate/professional degrees above the number of undergraduate diplomas. In addition, a certain group of HEIs that were originally categorized within the Master's Colleges and Universities subdivision were re-categorized or provided the opportunity to be classified with the Baccalaureate Colleges centered around the institution's overall profile (Carnegie Foundation, 2023c).

The next classification is the baccalaureate colleges. This category contains HEIs in which baccalaureate and above degrees embody at a minimum of half of all conferred diplomas but award less than 20 doctoral degrees or 50 master's degrees for the period of the update year (Carnegie Foundation, 2023c). This designation precludes Special Focus Institutions and Tribal HEIs. The Carnegie Foundation (2023c) further subdivides this division into two subgroups which include the Arts & Sciences and the Diverse Fields subcategories. HEIs that award at a minimum of fifty percent of their bachelor's degrees in disciplines of the arts and sciences are contained in the Arts & Sciences subclassification while all other HEIs are within the Diverse Fields subcategory (Carnegie Foundation, 2023c). Some HEIs that were previously categorized as either a Doctoral/Professional University or within the Master's Colleges and Universities category were offered the opportunity to be re-classified within the Baccalaureate Colleges as a result of their inclusive profile. The Carnegie Foundation (2023c) outlined the specifications as follows:

- FTE enrollment of fewer than 4,000 students
- Highly residential (Size & Setting classification)
- And one of the following:
    - Enrollment Profile classification of Very high undergraduate or High undergraduate, combined with No graduate coexistence or Some graduate coexistence (Undergraduate Instructional Program classification)
    - Enrollment Profile classification of Majority undergraduate combined with No graduate coexistence.

The Carnegie Foundation (2023c) continually offers this option as a choice, and monitoring former applications assists in deciding which HEIs were previously awarded the exception and how it is benefiting them.

The division of Baccalaureate/Associate's Colleges four-year HEIs that have at a minimum of one baccalaureate program that awarded associate's degrees exceeding fifty percent of their conferred degrees (precluding Tribal Colleges and Universities, special focus institutions, and HEIs that complete satisfactory doctoral or master's degrees to reside in those divisions). This designation is subdivided into two divisions: Mixed Baccalaureate/Associate's Colleges and Associate's Dominant HEIs. The Carnegie Foundation (2023) describes the Mixed Baccalaureate/Associate's Colleges as those individual HEIs that award at least ten percent of their degrees at or above the baccalaureate level (below ninety percent of degrees conferred were at the associate's level). The Associate's Dominant HEIs award less than ten percent baccalaureate or higher-level degrees (which is over the ninety percent threshold for associate's degrees).

The Carnegie Foundation (2023c) identifies the next division as the Associate's Colleges which represents HEIs that have the associate's degree as the highest degree conferred. HEIs are organized into nine subunits centered around the combination of two features: the program focus mix (career & technical, transfer, or mixed) and the principal student group (nontraditional, mixed, or traditional). This category precludes Tribal Colleges and Universities as well as the Special Focus HEIs. The methodology utilized for the classification of these HEIs was first introduced during the 2015 classification system update. The HEIs were differentiated concerning whether their overall associate degree conferrals and certificates were essentially in one or a limited set of disciplines (Carnegie Foundation, 2023c). HEIs with at most 35.7% award completion in career and technical focus areas were specified as maintaining a program mix with a high rate of transfer. The high rate of career and technical program mix were HEIs with a minimum of 53.8% conferred awards within the career and technical fields. While HEIs were classified as mixed transfer/career & technical program mix if their awards fell between 35.7% and 53.8% (Carnegie Foundation, 2023c).

The rationale behind this classification process is centered around the fact that career and technical programs are created to supply the recipient with an awarded credential that will provide employment immediately within their discipline area. Degrees in professional fields or the arts & sciences typically involve additional education to attain a baccalaureate or advanced degree in the discipline (Carnegie Foundation, 2023c). A synthesis of the percentage of overall matriculation is regulated by degree-pursuing students contrasted with non-degree seeking students and the fraction of fall headcount to yearly un-replicable count. In particular, the product of these two fractional parts is specified as the student focus group of "high traditional"

if the result is above 0.628 and “high non-traditional if it is below 0.533. The rest of the HEIs would be identified as “mixed traditional/nontraditional” (Carnegie Foundation, 2023c).

The Special Focus HEI category is for institutions with a greater level of degrees awarded in a solitary discipline or closely related discipline area at both the associate, baccalaureate, and postbaccalaureate levels. HEIs were defined by the Carnegie Foundation (2023c) to possess a special focus provided the HEI met at least one of the subsequent criteria:

- Conferred at least 75% of degrees in just one field (as determined by the first two digits of the classification of instructional programs (CIP) Code) other than "Liberal Arts & Sciences, General Studies or Humanities" (CIP2=24) and did not confer degrees in any more than 6 different CIP2 categories
- Conferred 70-74% in one field and conferred degrees in no more than 2 other CIP2 categories.
- Conferred 60-69% in one field and conferred degrees in no more than 1 other CIP2 category.

In addition, the HEI’s website was accessed to evaluate the HEI’s mission and curriculum opportunities.

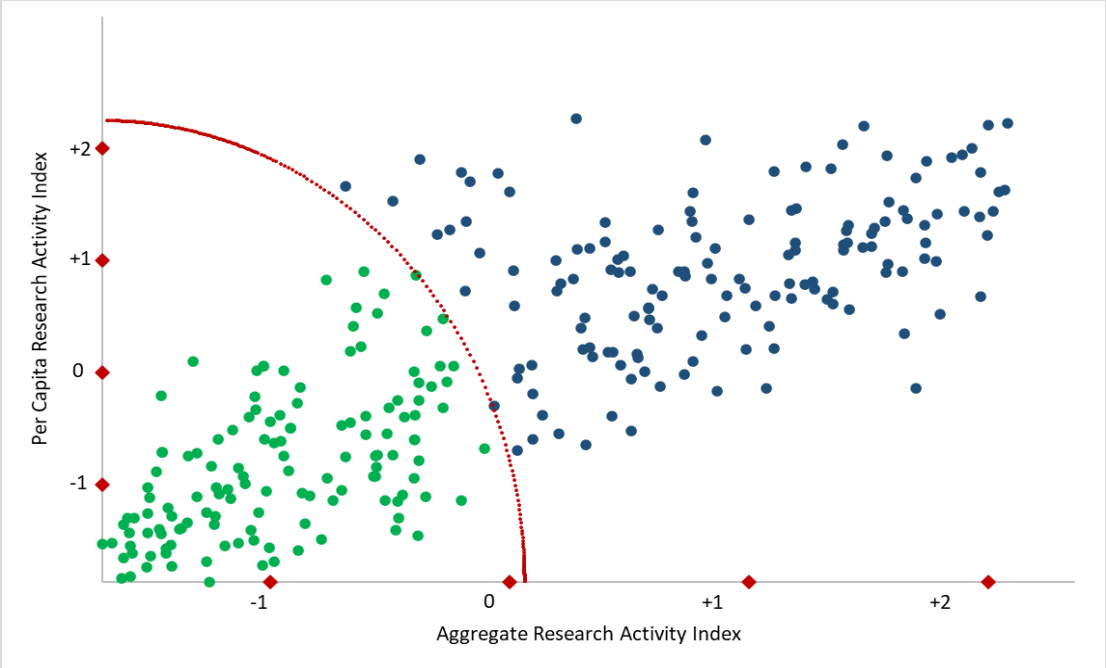
The final category in the 2021 Carnegie Foundation basic classification methodology is the Tribal Colleges and Universities. This grouping includes HEIs that hold membership in the American Indian Higher Education Consortium, as indicated in the Integrated Postsecondary Education Data System (IPEDS) Institutional Characteristics (Carnegie Foundation, 2023c). Examples of these institutions include College of the Muscogee Nation, Oklahoma and Institute of American Indian and Alaska Native Culture and Arts Development, New Mexico.

Calculating Doctoral University Research Designations

When an HEI achieves the status of the prestigious doctoral rank, it has jumped into the narrowing collective group of elite research HEIs that are contending for more selective and competitive options in research funding (Cole, 2016; Seecharan, 2020). HEIs of this caliber entice world-famous investigative research professors and supply accessibility to many of the best scholastically equipped undergraduates (Seecharan, 2020). Of the 3940 institutions evaluated by the Carnegie Foundation (2023a), 277 institutions are classified as in the Doctoral Universities classification of Very High Research Activity or High Research Activity. Figure 2 which is publicly available on the Carnegie Foundation website illuminates the research vitality indicator exercised in the 2021 Carnegie paradigm. R1 HEIs are represented by the dark blue points and the R2 HEIs are indicated by the green points. The red dotted arc depicts the cut scores that separate the higher education institutions of rank R1 from R2 (Carnegie Foundation, 2023c). As evident a fine line exists between some of the HEIs that were classified as R1 and R2 in the latest recategorization.

Figure 2

Research Activity Index Results Based on Rank-order Data



Source: (https://carnegieclassifications.acenet.edu/carnegie-classification/classification-methodology/basic-classification/)

Legend:
Blue: R1: Doctoral Universities – Very High Research Activity
Green: R2: Doctoral Universities – High Research Activity

Notes:
-Points represent institutions.
-Units represent standard scores.
-X-axis represents aggregate research index; Y-axis represents the per capita research index.
-Doctoral Universities that are not included in the NSF data collections are not represented and all placed in the Doctoral/Professional Universities category
-To reduce the influence of outliers, we converted the raw data to rank scores. This had the effect of compressing differences at the high end of the distributions while increasing differences at the low end, where a large number of institutions were clustered.

During 2021 the Carnegie Foundation (2023c) released its latest updated list of criteria that classified HEIs on the Carnegie classification spectrum. Some minor changes were made to the various categories including the R2 designation for Doctoral Universities. In determining if an HEI is classified as an R2 institution, information is gathered based on several criteria. To qualify for review in the doctoral classification, the HEI must confer at a minimum of twenty research/scholarship degrees at the doctoral level or confer at a minimum of thirty doctoral

degrees of professional practice in more than one program (Carnegie Foundation, 2023c). In addition, the HEI is required to expend research funds at or above $5 million. Institutions were designated into two divisions determined by their research vitality index. The measures for research vitality involved a correlation of mapping within the following disciplines of science and engineering (S&E) expenditures, research and development (R&D) expenses, R&D disbursements for non–S&E disciplines, S&E research personnel (non-faculty doctoral research personnel and postdoctoral assignees), doctoral degrees awarded in social science, STEM (science, technology, engineering, and mathematics), humanities disciplines as well as in other disciplines (social work, education, public policy, and business) (Carnegie Foundation, 2023c).

The Carnegie Foundation (2023c) evaluation process mathematically blended statistical data employing principal elements analysis to develop two indicators of scientific research activity contemplating the overall variances among these measurements built around the initial element from each evaluation. The first indicator symbolizes the comprehensive stage of total research, while the second depicts the research vitality per capita utilizing the expense and staffing quantities partitioned by the total amount of full-time faculty members that qualify in the professor ranks of full, associate, and assistant professor. The American Council on Education (ACE) (2022) in *The Carnegie Classifications of Institutions of Higher Education* explanatory methodology document describes the stages for calculating the indices and determining the rank. The quantities for individual indices were utilized next to pinpoint distinct universities on a graphical plane. The HEI's distance from a customary reference locus (the bare minimum of each range), and subsequently employ the findings to designate HEIs to either the R1 or R2 classification categories according to their distance away from the reference locus. Prior to analyzing the original data, all datasets were transformed into categorical results to diminish the

impact of outliers and increase distinction near the bottom end of the spectrum where several HEIs were bunched together (Carnegie Foundation, 2023c).

PCRU's R2 Classification

During the latest reiteration of the Carnegie Classification System (CCS), Public Comprehensive Research University (PCRU) received the designation of Doctoral University: High Research Activity also known as R2. The diagnostic identifying information was indicated in the Indiana University Center for Postsecondary Research (2021) dataset from the *Carnegie Classifications 2021 public data file*. The file provides the final 2021 designation and all the criteria considered during the evaluation process for the CCS. The following table indicates some of PCRU's dataset for consideration:

Table 5: PCRU's Statistics (2021)

Characteristic	***Code***	***Definition***
2021 Carnegie Basic Classification	16	Doctoral Universities: High Research Activity
2021 Undergraduate Instructional Program Classification	13	Balanced arts & sciences/professions, some graduate coexistence
Graduate Instructional Program Classification	15	Research Doctoral: Comprehensive programs, no medical/veterinary school
Undergraduate Profile Classification	13	Four-year, full-time, selective, higher transfer-in
Enrollment Profile Classification	3	Very high undergraduate
Size and Setting Classification	15	Four-year, large, primarily nonresidential
2020/2015 Carnegie Community Engagement Elective Classification	1	Classified

Region code	5	Southeast AL AR FL GA KY LA MS NC SC TN VA WV
Sector of institution (control and level combined)	1	Public, 4-year or above
Level of institution	1	Four or more years
Control of institution (IPEDS)	1	Public
Degree of urbanization (Urban-centric locale)	12	City Midsize
Land-grant institution	2	No
Postsecondary and Title IV institution indicator	1	Yes
Institution confers research /scholarship doctoral degrees	1	Institution confers research/scholarship doctoral degrees
Selectivity Index	2	Selective

Numerical Indicators	***Quantity***
Doctoral degrees research/scholarship conferred	56
Master's degrees conferred	722
Bachelor's degree total conferred	4096
Total degrees conferred	4874
Science & Engineering Research & Development Expenditures ($Thousands)	4780
Non Science & Engineering Research & Development Expenditures ($Thousands)	3917

Number full-time of faculty in ladder rank (assistant, associate, and full professors) Fall 2020	749
Annual enrollment headcount, academic year 2019-20	25,346
Total Fall 2020 enrollment	22,080
Undergraduate total enrollment, fall 2020	19,188
Graduate total enrollment, fall 2020	2892

Source Adapted From: Carnegie Classifications 2021 public data file, http://carnegieclassifications.acenet.edu/downloads/CCIHE2021-PublicDataFile.xlsx

PCRU (2023a) engaged in significant actions to cultivate an academic environment between 2015 and 2022. These extensive endeavors paid off on March 25th, 2022, when PCRU Provost revealed the attainment of R2 High Research status on the final day of Scholars Week during the concluding ceremony. Roughly, about three percent of HEIs merited the R2 accolade during the 2021 re-classification process (Wagner, 2022). PCRU qualified in 2021 for the rank of Doctoral University: High Research Activity based on the total number of conferred doctoral degrees and total research expenditures in S&E and non-S&E R&D (Indiana University Center for Postsecondary Research, 2021). Wagner (2022) stipulated that in order to advance the rank from an R3 Moderate Research Doctoral University, which was eliminated from the CCS in 2021 to an R2 High Research Doctoral University, the institution had to confer at a minimum of 20 research/scholarship doctorates and expend $5 million in research funding for three consecutive years. Climbing the CCS requires a great deal of strategic planning, visionary focus, and cultural development. This includes raising and expending considerable funds in areas such as constructing laboratory facilities, recruiting and retaining prominent professional faculty, and increasing graduate student stipends (Kelderman, 2018). In addition, the rivalry

among HEIs to obtain both prominent faculty and desirable research awards is escalating, while the funding sources for these grants have become stationary. Kelderman (2018) further explains that opponents speculate pursuing increased research funding and an elevated Carnegie ranking has more in common with advancing the HEI's official persona and prominence to the detriment of scholastic excellence specifically for undergraduates.

In reaching this newly competitive status of R2, PCRU will need to expand its vision, strategic planning, research, and funding plans. PCRU (2023a) significantly accelerated its contribution in initiating, maintaining, and sharing intellectual knowledge that nourishes academic learning, erudition, and nurturing collaborative relationships with all stakeholders including alumni, community and business partners, faculty, staff, and students. The Provost signified, "This new designation reflects the hard work of our university community in our doctoral programs and research effort," (Wagner, 2022). Additionally, "Many of our metrics improved in 2020–21 that led to this achievement, including 156 proposals and 64 new awards to principal investigators across campus," the Provost commented (Wagner, 2022). The PCRU's Data Science Institute and professor of biology was highlighted during this milestone occasion for his influential impact on PCRU's research endeavors. Additionally, he exclaimed the R2 advancement is a momentous landmark for PCRU and "it shows sustained success by the research-active faculty on campus, which includes the acquisition of externally funded projects and the development of Ph.D. students," (Wagner, 2022). The biology HECP, further expressed, "These successes clearly show that in addition to providing an excellent classroom experience for students, PCRU also has a thriving research community. It's my hope that this status change will attract more grant funding and top scholars to the university," (Wagner, 2022).

Wagner (2022) quoted the President of PCRU, emphasizing “this significant development was several years in the making,” as he spoke to a multitude of faculty, staff, and students at the ceremony. “This news raises the profile of the university, but, most importantly, it also enhances the value of this university for students who are provided opportunities to work alongside our faculty researchers on important projects that hold tremendous transformational potential,” (Wagner, 2022). Likewise, PCRU’s vice provost for research and the dean of the College of Graduate Studies articulated, “this (R2) advancement confirms our faculty, administration and student commitment to research and creative activities, especially in sponsored research,” (Wagner, 2022). The Vice Provost announcement culminated in underscoring the preeminence of research not exclusively for the HEI campus neighborhood but more importantly for the greater local community that it contributes to and enhances. “The more research centers and institutes we create, the more extremely precious gems of knowledge we can produce to improve the quality of life for the citizens,” the Vice Provost declared. “We strive towards a sustained effort of research productivity and growth as a public university,” (Wagner, 2022).

PCRU’s striving to reach the R2 status will require continued effort to maintain the new ranking and advance to the top-tiered level of the CCS. While harnessing existing curriculum design assets, PCRU’s personnel have established new programs in evolving innovative interdisciplinary disciplines (PCRU, 2023a). PCRU's (2023a) fresh and updated scholarly programs in African Studies, Commerce, Data Science, Fermentation Science, Photography, Physician Assistant Studies, Religious Studies, Risk Management and Insurance, Supply Chain Management, Video and Film Production, and several others have cultivated additional undergraduate and graduate studies that have enriched not only the on-campus environment but the local community as well. In cooperation with undergraduates, graduate students, and other

faculty and staff, PCRU's exceptional faculty persists in creating and generating advances in enhancing disciplinary knowledge amidst their creativity and research (PCRU, 2023a). In the push to reach R2 status, students and faculty at PCRU in 2019 launched a new campus association known as the Student Organization for the Advancement of Research (SOAR). These partnerships supply PCRU with valuable collaborators in the area, country, and within the global economy. PCRU's collective outreach for academic research curricula, Academic Affairs' collaboration initiatives among the university and community stakeholders, and departments throughout the college community cooperate to create off-site partnerships that promote the expansion of societal experiences and financial resources (PCRU, 2023a).

Professional development opportunities have been expanded by the PCRU Learning, Teaching, and Innovative Technologies Center (LT&ITC) to accommodate additional learning experiences such as book studies, guest speakers, peer-initiated workshops, professional learning communities (PLCs), writing consortiums in addition to other special events and the open classrooms project (PCRU, 2023a). Overall involvement has expanded dramatically from the 15-16 school year with 636 participants to the 18-19 school year with 1830 participants, and even during the 19-20 Covid-19 disruption 1487 participants were still obtaining valuable learning experiences. Financial support for faculty and staff professional growth and development represents a prominent part of PCRU's expenditures in the Quality Enhancement Plan, MT Engage, which provides offerings of workshops throughout the year and a summer seminar annually in addition to assistance and encouragement for LT&ITC PLCs and MT Engage Major Pathway PLCs (PCRU, 2023a). MTSU seeks to provide additional learning experiences for both its faculty and students by approaching community leaders and academically diverse cultures to provide mentors and role models for its campus members. For

example, Dr. Beth Harwell, a notable visiting academic and previous Tennessee Speaker of the House of Representatives supported and guided students majoring in Journalism and Political Science as well as undergraduates engaged in the American Democracy Project and the Free Speech Center (PCRU, 2023a).

With the elevated R2 research status comes the need for additional support from the Information Technology Division (ITD). After the announcement was released in March of 2022, the Office of Research and Sponsored Programs (ORSP) and ITD joined forces collaborating extensively to acquire and implement a superior-rated electronic research administration (eRA) suite named Cayuse (PCRU, 2024b). Members of both faculty and staff across PCRU were engaged in this substantial endeavor to bring regulation compliance in research and administration of grants to the surface. Utilizing Cayuse, an innovative technology tool, began in the fall of 2022, which supplied the essential framework for broader and more effective engagement and grant funding opportunities, providing additional investments and greater recognition on a national and global scale to PCRU (2024b).

While PCRU (2024b) persists in the navigation of organizational technology assets and funding modernization and development endeavors, the groundwork has been solidified by the execution and amalgamation of the Ellucian Ethos system across the PCRU campus. This technology infrastructure has become the chief backbone of cloud tools, for example, Intelligent Learning Platform (ILP), Experience, and the incorporation of most of our present externally provided products. Live integration among applications such as Desire2Learn and Banner is supplied by Ellucian ILP and is essential for functioning at the R2 research level (PCRU, 2024b). The Ellucian Experience, a user-oriented, consolidated, and easily understood dashboard that provides its clients the option to customize their dashboard to improve workflow and efficiency,

unshackles and energizes faculty, staff, and students to be more proficient and productive in their discipline to secure grant research funding (PCRU, 2024b).

Competition between Universities

Douglass (2014) and Seecharan (2020) indicated that research HEIs have steadily developed through the years and are currently acknowledged as possessing a trichotomous mission statement that consists of research, teaching, and service. Nations and universities have become highly competitive over the years in trying to reach the pinnacle of the top-tiered ranking systems. Traditionally, the US and UK institutions have topped the ranking systems. As a result, when nations and HEIs were dissatisfied with their ranking within specific ranking systems some nations chose to create their own classification ranking system such as the Russian Federation and the European Union (Douglass, 2014). Seecharan (2020) and Douglass (2014, 2016) proclaimed prominent public HEIs are categorized by economic advancement, the generation of knowledge, the production of public and pecuniary leaders, and the development of innovativeness and shared introspection. As HEIs seek to intensify their academic standing and prominence, they must recognize that climbing the research rankings will involve focusing heavily on the production of research and publications.

During the study that Seecharan (2020) conducted on R2 HEIs, he discovered that R2 universities encounter extrinsic and societal challenges, implement paradigms from accomplished research HEIs, and undergo transformation across the board within their administration, faculty, staff, and professional partnerships. Douglas (2016) and Seecharan (2020) suggested the existence of an expanding and flourishing network of dominant HEIs with a collective goal to influence our culture, provincial economies, and additional municipal establishments. Furthermore, Kerr (1963) claimed that HEIs are and should be the heart of

developing and advancing knowledge in the US. In addition, it was recorded that Kerr endorsed research HEIs as the primary producers of innovative and fresh information (Keller, 2003; Seecharan, 2020). The necessity of society requires scholarship and expert personnel to act at essential times and the research HEI fulfills these requirements (Keller, 2003) creating impressive universities. Douglas (2014, 2016) signified that an unequivocal connection exists between the appearance of HEI rankings and the ubiquitous ornateness and preoccupation with the flagship university status.

Flagship HEIs are "research-intensive institutions, or in the process of becoming so, but have wider recognized goals," (Douglas, 2014, 2016). O'Meara and Bloomgarden (2011) also define this desire to become an elevated institution as "striving" which is roughly described as the pursuit of world-class institutional status within the ranking system of the CCS. For instance, Kelderman (2018) explains that Saint Louis University (SLU) an R2 research university has a great deal to be proud of, however, the university is actively pursuing that R1 status. In the research conducted by O'Meara and Bloomgarden (2011), faculty members sensed their HEI was divided between remaining seated in their responsibility to instruction and pursuing superior prestige. Further, interviews with faculty indicated that the HEI developed an identity crisis wanting to provide both outstanding teaching and excellent investigative research, although at times their objectives were opposed. As O'Meara and Bloomgarden (2011) share this can be difficult especially when a conflict arises over which focus is more important teaching or research. Thus, to avoid disagreements SLU desires to double its monetary contributions, private contracts, and community donations granted for faculty research (Kelderman, 2018). For SLU to attain its objectives, a demonstrated array of strategies will be utilized, such as centering its research energies on unique scientific and emergent technologies where the struggle for funding

is less aggressive, bestowing university funding to germinate new investigative research endeavors, and providing professional development for faculty to write compelling and persuasive funding proposals (Kelderman, 2018).

Central Michigan University (CMU) is another R2 research university pushing up the CCS ladder. Dunbar (2019) suggests the key to CMU's success has been the development and implementation of a team approach whereby skilled upperclassmen undergraduates and graduate students function as research mentors to inexperienced undergraduates who support the mentor team with delegated sections of the research assignment. In addition, Dunbar (2019) also notes that the improved quality and quantity of published work from the CMU's lab is attributed to the increased number of students working at the graduate level which is funded and provided as a result of the R2 university status. Although it appears that CMU has been able to develop a method to improve research productivity with the use of undergraduate and graduate students' input at their HEI, some HEIs are not as fortunate, such as the one referenced in the study by O'Meara and Bloomgarden (2011). Their study indicated several faculty members were disgruntled with the significant teaching requirements and service responsibilities while feeling like they were not completing enough "real work" i.e. research. While a positive outcome occurred, a few inventive programs began to bloom, some faculty members believed striving added to the attitude of second-rate and conflicting comparability.

Furthermore, while faculty members sporadically accepted that a few advantages occurred due to HEI striving, and several were pleased to see their HEI improve their ratings, many expressed more negative comments than positive ones about institutional striving especially in terms of faculty work-life and teaching effectiveness (O'Meara & Bloomgarden, 2011). Kelderman (2018) reported that the founding director of the National Institute for

Learning Outcomes Assessment indicated that appealing to faculty members who are research-focused does not suggest that they will be more involved with undergraduate students or instruction. Realistically, instructing underclassmen is a difficult sell for the highly sought after researcher. In addition, Doug Rush, SLU Faculty Senate president and associate professor of HE administration is an outspoken opponent of any striving effort that tries to only improve research metrics and climb the status rankings to gain prestige. O'Meara and Bloomgarden (2011) indicated that faculty members from their study believed that striving swayed what was determined to be real work, neglecting instruction and community service from this new characterization of what is important.

The Historical Changes in Job Responsibilities of the University Professor

The HECP role has undergone a significant transformation over the centuries, revealing comprehensive changes in the design of higher education. Originally, the fundamental emphasis of the HECP was instruction and conveying knowledge to students. However, as universities have evolved into multifaceted institutions, the areas of responsibility for HECPs have multiplied and diversified (Miller et al, 2011; Sharobeam & Howard, 2002; Waaijer et al, 2017). Currently, HECPs are expected to not only be outstanding teachers but also contribute to ground-breaking research, undertake administrative roles and responsibilities, seek and secure grant funding from external sources to the benefit of the university, and participate in community outreach programs that provide advances to society (Morrish, 2019; Roos & Borkoski, 2021; Tung & McKercher, 2016). These transforming roles reveal the changing priorities and requirements placed on HEIs, propelled by society's demands, advancements in technology, and shifting regulations. Exploring these historical transformations supplies beneficial insights into the challenges HECPs are confronted with.

History and Evolution of the University Professor

Peterka (2023) indicates that the original professor known as a scholar during the Middle Ages traveled across the European countryside to explore, study, teach, and investigate topics at different academies. Paris was the setting for the first university in Europe, established in the late 11th century and governed by a select group of autonomous HECPs. This group or HECPs during the 13th century managed the HEIs, with constraints enforced by the Roman Catholic Church until the King of France and the Pope stepped in and officially recognized the establishment as a university. The original focus of the organization was to ensure their own rank, select new professors, and sidestep direct supervision and inflexibility of the chancellor of Notre Dame but after reaching autonomy the HECP council and select officials managed the HEI wholly. This model became widely adopted and HECPs were responsible for selecting and authorizing instructional content, assessments, and credentials in addition to selecting new HECPs and outlining the "concept of academic freedom" according to Peterka (2008) cited in Peterka (2023).

Shen (2016) noted that in the late 18th and early 19th centuries Oxford and Cambridge had professors living on campus with their students. The professors and students resided within the same consistent living atmosphere. This allowed students to be continuously taught, influenced, and inspired by their professors and peers. This mentor-mentee relationship climaxed during the mid-19th century. This system allowed the development of a unique relationship between the instructor and the student. Gittleman (2015), Loss (2015), and Thelin (2004) indicated that a tremendous amount of growth in the number of students enrolled in HEIs took place after the end of World War I. An alliance of key foundations hastened their attempt to standardize guidelines for American HE from the 1920s to the 1940s. The HECPs expanded in content, character, and

strength slowly between the first and second world wars. The foremost chief improvement "for faculty in terms of campus power was the emergence of the 'departmental chair' as a seignorial role – an enduring source of local patronage and power," (Thelin, 2004).

As the US entered World War II a big expansion in responsibilities took place for the HECP. Many HECPs from a selection of disciplines demonstrated willingness and expertise to support wartime endeavors. This successful collaboration solidified the working relationship between the US government and universities, creating an avenue for new funding sources (Thelin, 2004). Following the conclusion of the second world war, the GI Bill led to large influx of students enrolling in HEIs across the country. Massification of the HES was necessary which meant HEIs needed more college professors (Gittleman, 2015; Thelin, 2004). As a result, many new HECPs were trained, provided a textbook, pointed toward the location of their classroom, and advised to teach in a specific area within a discipline (Chism et al, 2002). Over the next several years a HECP hiring boom for additional professors existed. By 1972 the academic market was saturated with HECPs which provide limited mobility or influence within HEIs (Thelin, 2004). Chism et al (2002) indicated that much changed in terms of faculty development over the 80's and 90's. "Teaching centers, faculty development committees, or some form of teaching support service exist at most institutions," (p. 34). Students in graduate school at several HEIs are provided programs to assist in preparation for faculty positions.

As the nation began to call for HEIs to emphasize learning rather than just teaching often times represented by the instructor lecturing, it became essential to provide support and resources for faculty members to focus on effective student learning (Chism et al, 2002). Haynes and others (2024) further indicate that advocating for HECPs as leaders is crucial to validating worth and excellence to both students and other invested parties. In fact, participants in Haynes and

colleagues' (2024) study coupled instruction with an ethical responsibility to educate the citizens of the state, particularly since it is a fundamental section of their land grant vision. Chism et al (2002) further indicate that when faculty instructional personal growth and advancement is successful in promoting excellent teaching through well-informed innovation then the process will be embedded in the institution's identity.

Fast-forward to the 21st century and that relationship, albeit somewhat different, is still of primary importance. President Obama (2005) as quoted in Roos and Borkoski (2021, p. 831) stated "The single most important factor in determining student achievement . . . . It's who their teacher is." Roos and Borkoski (2021, p. 831) further indicate from the Coleman Report (Coleman et al, 1966) that "the single most important in-school factor for student success is the student's teacher," even now instructors from kindergarten to beyond graduate school provide intense contributions to their students' lives. Haynes and colleagues (2024) affirm these statements in their study when they announce "effective teaching by effective educators is a bottom-line financial necessity for many institutions" (p. 134).

However, the focus of a HECP has evolved to include a trichotomy workload that requires not only continuous accomplishment in teaching but investigative research and grant procurement as well as community and societal service (Boyer, 2004; Haynes et al, 2024; Morrish, 2019; Pop-Vasileva et al, 2013; Roos & Borkoski, 2021; Tung & McKercher, 2016). HECPs' responsibilities have undergone so many modifications over the last several decades that some are opting to leave the profession. Moreover, Boyer (2004) emphasizes that although HEIs feign cooperation with the idea of a trichotomous workload, the three responsibilities are rarely appointed uniform merit. Academics are confronting higher pupil-instructor class ratios, faculty

shortages, requirements to increase research productivity and obtain financing for research, and expand community involvement (Morrish, 2019; Pop-Vasileva et al, 2013; Waaijer, 2017).

Current Job Responsibilities

The path that leads to a career in HE which is successful and flourishing can be strenuous and troubled during the journey. A current HECP's position responsibilities include teaching, research, service, and managerial requirements (Apps, 2018; PCRU, 2023; Roos & Borkoski, 2021; Rost & Hover, 2023; Tung & McKercher, 2017). PCRU (2020) in the guidebook defines "regular, full-time faculty" as its position and functions of faculty members and differentiates between the multiple categories of faculty assignments accessible at PCRU. Furthermore, PCRU defines what regular, full-time faculty means and their principal activities (PCRU, 2023):

- Faculty - Limited to regular, full-time personnel whose regular assignments include teaching, research/scholarship/creative activity, and/or service as a principal activity, and who hold academic rank as professor, associate professor, assistant professor, master instructor, senior instructor, instructor, or lecturer.
- Regular, Full-Time Personnel - As used in the definition of faculty, is limited to those persons whose appointments are for a complete semester, academic year, or fiscal year.
- Principal Activity - As used in the above definition shall mean that the person's regular assignment in the areas of teaching, research/scholarship/creative activity, and/or service must be at least fifty percent (50%) of the total assigned duties.

- Teaching, Research/Scholarship/Creative Activity, and Service - Limited to those academic activities properly assignable to the University's current fund expenditure accounts designated as “Instruction,” “Research,” “Public Service,” and “Academic Support.”

While other non-tenure track positions exist, this study will focus on the tenure track positions at PCRU. Faculty perform an essential function in issues related to governance and academics. PCRU (2020) explains the crucial criteria:

> Academic matters – The creation, change, and approval of curricula and new programs begin with the faculty. Faculty participate in the creation and development of the curriculum through membership on appropriate department or school curriculum committees, college-level curriculum committees, and the Undergraduate Curriculum Committee and/or the Graduate Faculty Curriculum Review Committee in the case of changes in the curriculum that involve graduate credit. Each department, interdisciplinary major, or school assigns faculty to oversee curriculum development and review.
>
> Governance matters – The University recognizes that faculty participation in institutional governance is fundamental to the development and maintenance of effective academic policies. Through membership on University standing and special purpose committees, faculty members provide advice and expertise to administrators. The Faculty Senate conveys faculty concerns to administrators and provides administrative officers the faculty perspective on University policy.

Professor Apps (2018) further commented that when he was advanced to full professor on top of his regular teaching duties and service outreach requirements he was obligated to supervise and

manage research as well as publish his results in appropriate journals. Newly employed professors, particularly those who were from a public secondary school background, had trouble adapting to the challenge of being excellent researchers while maintaining their exemplary teacher status.

Competition among Faculty

Competition is supposed to be beneficial to the creation and development of new innovative ideas and products, enhanced services, and decreased prices (Bauld, 2023). Although competition sometimes provides that much needed boost to initiate progressive intellectual thought and advancement, competitive market pressures also have many negative consequences, especially for teaching, learning, and scholarship. Society is unable to comprehend all of the recent scandals and misappropriation of funds and resources without considering the economic pressures of the HE marketplace and how they affect the HECP. (Mintz, 2020). Competition in the academic community among HECPs is frequently portrayed as a highly driven atmosphere with fierce rivalry. According to Mintz (2020) and Watermark Insights (2023), HEIs must compete against one another in many areas such as faculty recruitment, funding both in research and donations, prestige, research opportunities, and even survival in certain instances. HECPs engaged in publishing are certainly not limited to R1 HEIs but are now present across a wide range of institutions. Furthermore, Mintz (2020) continues to explain that the educational workforce has become so over-saturated with well-prepared, first-class faculty members that institutions have many individuals to choose from creating a highly competitive atmosphere among HECPs.

As Guardian News and Media (2018) reports, higher education college professors (HECPs) are under more pressure to aggressively operate counter to one another rather than in a

joint effort. Although most professions have a competitive nature, the type of competition contained within the walls of the university comes at a high price for society. Indeed's Career Guide (2023) explains that competition in HEIs can be stiff as a result of numerous extremely capable applicants pursuing a restricted number of accessible positions at colleges and universities. It can be challenging for applicants to acquire a permanent position, even when they have an exceptional research record, an outstanding number of published articles, and superior instructional experience. In addition, Indeed's Career Guide (2023) concludes that several HECPs are forced to hunt interim positions as guest lecturers and visiting fellows to promote and enhance their careers. Professors are expected to provide not only great teaching but also cultivate lucrative research opportunities and publications that benefit the university. In today's universities, a shared criticism amongst HECPs continues with excessive workloads. James et al. (2021), Merlo (2016), and Morrish (2019) affirm that HECPs assume three crucial functions which include instruction, investigative research, and managerial or service duties. Typically, HECPs are limited by class load, time constraints, and requirements from the administration, and may sense the tension from upper management to emphasize one discipline above another, regardless of the recognition that all areas are of equal importance (Tung & McKercher, 2016; Fennell, 2013). Moreover, Kelly (2013) discusses the predicament of the HECP who feels compelled to struggle with a demanding teaching schedule while at the same time seeking that one suitable worthwhile research project to publish in the appropriate top-tiered journal. In addition, Waaijer et al (2017) note that the HECP must compete against colleagues in numerous areas such as securing external grant funding, dissemination of not only monetary resources but also physical supplies and time allocation, future academic job opportunities, and being the first to publish an innovative breakthrough.

Challenges Facing Professors Today

Miller et al (2011) and Waaijer et al (2017) have suggested that career and employment prospects in the world of academia are sparse and highly competitive. As a result, many faculty members feel intense pressure to improve their chances of securing a permanent position through publishing their investigative research often and in excellent-rated journals as well as securing the grant funding for future research. This highly driven process will encourage faculty members to attempt to surpass their peers by producing more publications, improving the quality of their research papers, and choosing journals with a better quality factor. Moreover, in a study conducted by Bianchetti and Quartiero (2010), the Brazilian and European participating HECPs found it essential to perform research, write papers, and publish the results, instruct, mentor, and supervise students, and attend seminars. "The higher education professor is, today, a stressed guy. . . . He's an unhappy guy," (p. 504). Another Brazilian HECP suggested that professors were ". . . under unfair pressure. We are in a war, a competitive war," (p. 505). All of the participants in Bianchetti and Quartiero's (2010) study conveyed they submitted to the pressure of their HEI and suffered the effects of "increased productivity and psychosomatic factors," (p. 505). In addition, Tung and McKercher (2016) indicated that HECP rivalry for monetary resources for research is connected to the rivalry for employment opportunities based on the reality that procuring financial means produces job options for faculty research personnel. As a result, the career-minded HECP must perform superior quality research above the neighboring HECP but does not have a specified level of attainment to reach meaning there is no pinnacle of success (Waaijer et al, 2017).

Furthermore, Tung and McKercher (2016) reiterate that occupational advancement at the college level is increasingly centered on the research record of the professor. The pressure that

resides on faculty members to create, design, and investigate these money-making research-based projects can be overwhelming. Tung and McKercher (2016) also noted from previously reviewed research that university scholars have an extraordinary amount of pressure on them to generate high-quality influential research to fulfill obligatory research requirements. Simultaneously, Waaijer and colleagues (2017) framed a research study to investigate the connections between the academic career market, grant pressure, and the pressure to publish research findings in the higher education system of the Netherlands. In additional research, it was expressed that in many instances the researcher's employment depends on attaining proposal-centered grant funding (Waaijer et al, 2017).

In the 2011 study conducted by Miller, Taylor, and Bedeian about the perceptions of pressure to publish or perish on management faculty yielded several interesting results. Miller et al (2011) indicated that ninety-four percent of all their 322-participating faculty in management science at business schools in research-focused universities in the US agreed or strongly agreed with the declaration, "I feel pressure to publish articles in peer-reviewed journals," (p. 428). The majority of the faculty members (3 out of 4) both agreed or strongly agreed that pressure was exerted by their dean to publish research in peer-reviewed publications. Tung and McKercher (2016) explain that this pressure on HECPs has permitted an escalation of unethical conduct and gamesmanship amongst HECPs to meet and exceed performance objectives.

Waaijer, Teelken, Wouters, and Van Der Weijden (2017) specified in their study that a fairly significant group of PhDs (over 23%) revealed the competitive nature of science was steering the field into a depreciating tailspin. Many PhDs experienced continuous pressure "to publish unfinished work, or saw falsification or omission of data as a way to tenure," (p. 12). A number of participants describe their experience in the world of science as incredibly frustrating,

a constant battle, where scholarly inquisitiveness is replaced with political appropriateness. In addition, several PhDs indicated they were concerned and hesitant about a career in academia as a result of the pressure applied to submit publications and acquire grant funding. In truth, one social sciences PhD male participant acknowledged:

> *Career prospects within science are not very bright. Most people have fixed-term contracts with little hopes of attaining tenure. There also is very stiff competition when it comes to obtaining grants and these also involve a decent amount of luck. The fact that only publications contribute to a successful career in science, leads to a rather one-dimensional view on researchers. For me, the unhealthy focus on publications and the high amount of uncertainty with regards to employment contracts may be reasons to leave science.* (Waaijer et al, 2017, p. 11).

Another PhD female in the medical and health sciences department commented:

> *I chose this job because I have a passion for teaching the next generation of scientists and for providing service to my profession and public health. The increasing emphasis on research money over quality of research, with almost no importance attributed to teacher, makes me think this profession is moving the wrong direction* (Waaijer et al, 2017, p. 12).

Miller et al (2011) also implied, the pressure not only refers to publishing research, but publishing said research in the "A" tier peer-reviewed journal. It appears that universal pressure exists to publish investigative research articles in high-ranking peer-assessed journals at management divisions at US schools of business. Most participants (91.2 percent) responded either agreed or strongly agreed when replying to the survey item: "Faculty in my school who do not publish in peer-reviewed journals are denied tenure," (p. 431). A senior-level faculty

participant indicated, “I think there is a tremendous, sometimes crippling, pressure to publish in peer-reviewed journals for junior faculty, but the pressure goes away for senior faculty.” Another respondent expounded, “part of the stress associated with the pressure to publish is due to... uncertainty about what the current standard is, whether it will be the same in several years – not the standards themselves.”

Liz Morrish (2019) relates that a progression toward performance-based outcomes has created the “Raising the Bar” proposal and initiated new expectations for generating the required amount of quality research and obtaining specific levels of grant funding in the UK Higher Education system. Waaijer et al (2017) also noted that the “publication bar that has to be reached to gain recognition, but also to obtain funding, has been set higher over time” (p. 5). In their study, surveys were sent out utilizing a Likert 5 – point scale “far too low” – “too low” – “about right” – “too high” – “far too high” evaluating both exerted pressure from requiring publications and securing grant funding. The results include six out of ten PhDs reveal the “pressure to publish in academia as ‘too high’ or ‘far too high’” while seven out of ten PhDs felt that pressure to secure grants was ‘too high’ or ‘far too high’ (p. 8). Moreover, many academic professionals have indicated that their employment depends on their ability to publish and secure grants.

According to both the Miller et al (2011) and Haven et al (2019) studies, disproportionate amounts of pressure to publish are linked to inferior research quality, diminished commitment to disclose authentic information, lack of the researcher’s participation in civic and planning issues, and subdued scholarly creativity. Haven and colleagues (2019) expand the pressure of publication to other countries by exploring the publication pressure experience of HECPs in Amsterdam. The present atmosphere among the professors and postdoc students supports a negative stance regarding the environment of publishing research and does not discriminate over

academic fields or faculty levels. In general, an attitude of negativity persists within the atmosphere around publishing research (Haven et al, 2019; Tung & McKercher, 2017; Waaijer et al, 2017).

As previously indicated, the HECP does not organize and complete research in an abyss all by itself. The HECP has other job responsibilities that obligate their time such as teaching, managerial duties, and university service opportunities all with a very restricted timeframe (Haven et al, 2019). Haven and colleagues (2019) conclude that pressure to publish research creates anxiety for HECPs from all disciplines and appears to be a specifically debilitating stressor for the categories of assistant professors and postdocs in particular.

Instructional Effectiveness and Academic Success

Instructional effectiveness and academic success are foundational mainstays of HE, elaborately connected to the quality of instruction and student outcomes of the educational system. Instructional effectiveness includes the approaches, strategies, and procedures exercised by the educator to advance learning, captivate students, and cultivate critical thinking (Cohen & Donaldson, 2021; Guskey, 2021; Jimerson & Haddock, 2015). In contrast, academic success is the accomplishment of educational objectives by learners, revealed in their scores, retention, and comprehensive intellectual development. In the dynamic environment of HE, the interchange between effective instruction and student success is more crucial than ever before. As HEIs struggle to transform to meet the needs of diverse student groups, utilize new technological advancements, and conform to societal requirements, understanding and enriching instructional effectiveness is a prerequisite to guarantee that students not only succeed educationally but are also equipped to significantly participate and contribute to their professions and communities as expressed in Cohen and Donaldson (2021) and Arabit and associates (2023).

The Relationship between Instructional Effectiveness and Academic Success.

Jimerson and Haddock (2015, p. 488; as cited in Duncan et al, 2011; Hattie, 2009; Reddy et al, 2013) state that "individually and collectively, teachers represent the single most powerful force in facilitating student success at school." HEIs are starting to realize that instructors are highly important to student success. In addition, universities are becoming increasingly alarmed about improving the knowledge and understanding of students in their classes (Osler & Mansaray, 2014). Educational research, especially in the public education sector, on the relationship between instructional effectiveness and academic success has been well-documented, underscoring how high-quality instructional practices directly influence increased student outcomes. Furthermore, research reveals that a sequence of high-quality instructors overwhelmingly contributes to launching a student on an optimistic and confident academic educational growth track, although the contrary is true as well (Hanushek, 2009 as cited in Jimerson & Haddock, 2015; Kane et al, 2013 as cited in Jimerson & Haddock, 2015). Moreover, additional investigations endorsed the intense relationship between instructors' perception of efficacy and their student's academic achievement at all educational levels including post-secondary (Ashton, 1984 as cited in Guskey, 2021; Guskey, 1987 as cited in Guskey, 2021).

As Arabit and colleagues (2023) explain improved student success in HE must be the primary purpose for all faculty, staff, and administrators. In a study conducted at San Jose State University, student success was shown to be positively impacted by additional interactions with HECPs outside of the standard classroom. The faculty-in-residence (FIR) program appeared to be highly effective in improving instructional effectiveness which in return increased student success. FIR consisted of nine faculty members who lived with their students in residential settings to assist in interpersonal connection development which in turn permitted the

HECP to increase their capacity for understanding how to better teach their students, changing pedagogy as necessary which prepared them to be more effective instructors (Arabit et al, 2023).

This is further explained in the effectiveness of instructional strategies work detailed by Marzano (2007) as cited in Jimerson and Haddock (2015) when he describes the nine elements of the teacher effectiveness model:

1. Communicating learning goals, tracking student progress, and celebrating success:
2. Establishing and maintaining classroom rules and procedures;
3. Helping students interact with new knowledge;
4. Helping students practice and deepen their understanding of new knowledge;
5. Helping students generate and test hypotheses about new knowledge;
6. Engaging students;
7. Recognizing and acknowledging adherence or lack of adherence to rules and procedures;
8. Establishing and maintaining effective relationships with students; and
9. Communicating high expectations for all students.

These strategies not only improve academic performance but also enhance students' motivation and engagement, which are crucial for sustaining academic success over time. University administration should strongly encourage the use of evidence-based instructional effectiveness strategies as well as provide leading-edge research such as Arabit and colleagues (2023) study on FIR faculty to advance academic achievement and social-emotional health for every student. This would allow for the advancement of knowledge concerning the significance of faculty in the acceleration of student achievement (Jimerson & Haddock, 2015).

Another study by Cohen and Donaldson (2021) about teacher effectiveness in online HEI classes explained that during online classes the instructor represents the lifeline for the student and that if the faculty member has a strong presence within the class the online student feels more connected to the learning community and is more likely to persist and be successful during the course. This is reiterated in papers by Martin (2021) and Osler and Mansaray (2014) where their findings established that close-knit connections between instructor effectiveness and student achievement increased both persistence and success rates, due partly to the anticipated objectives of the course framework, practical experience, educational level, instructor strategies, and enthusiasm.

As Li and Yan (2023) expound instructional effectiveness in HE fortifies students' influence and achievement in the classroom environment. This research study further reinforced the critical need to focus on the individual needs of the students for them to be successful. Community-based learning (CBL) is a methodological approach to integrate student learning in HE courses with a commitment to the local community. This involves faculty dedication to incorporate proven teaching strategies with real-world experience that positively enhances student achievement (Li & Yan, 2023; Martin, 2021). Research has proven that instructional pedagogy when linked to quality instruction has as potent of an influence on student achievement as the student's socioeconomic standing (Martin, 2021). Moreover, effective instructional practices play a vital role in spanning the gap and ensuring equality for all students to achieve academic success. Populations of diverse student groups benefit considerably from instructional effectiveness strategies adapted to their distinct needs (Arabit et al, 2023; Paganelli & Cangemi, 2019). By acknowledging and validating diverse perspectives, educators can create more equitable academic learning environments that champion all students in achieving their full

potential. Hence, instructional effectiveness is not just the chief component of educational success but also a critical element in cultivating inclusive and equitable instructional practices.

HECPs Effective Instructional Responsibility.

R2 research universities often emphasize research productivity above instructional effectiveness. University administration and academic chairs should be responsible for fostering an institutional atmosphere that respects and rewards effective instruction. Furthermore, Boyer (1990 as cited in Houdyshell et al, 2022) argues in his book on the scholarship of teaching that acknowledging and rewarding instruction as a form of scholarship is crucial for advancing instructional effectiveness. "We urge the nation's ranking universities to extend special state and salary incentives to those professors who devote most of their time to teaching and are particularly effective in the classroom," states Boyer (1991). This type of acknowledgment will stipulate that the HEI considers high-quality instruction as a trademark of a successful career. Creating an atmosphere where instructional effectiveness is respected and rewarded, faculty members are inspired to invest in their instructional responsibilities, advancing the total value of education delivered to students.

HECPs at all HEIs have a significant responsibility to organize and deliver effective instruction but that is even more important at R2 universities. Since R2 research universities typically develop an overshadowing of instruction by research. Instructional design and implementation of an engaging rigorous curriculum is a key aspect. Kirby and Thomas (2022) provide evidence that is consistent with other investigative studies at both the K-12 and post-secondary levels toward the significance of pedagogical instructional design and professional ability to create belongingness in the classroom. A pronounced result in the HE sources is that if HECPs create an atmosphere in their classroom for student belongingness by appropriate design

of the instructional setting, student academic achievement and motivation will increase (Jones, 2008 and Tinto, 2005 as cited in Kirby and Thomas, 2022). According to Boyer (1991), Cohen and Donaldson (2021), and Kirby and Thomas (2022), excellent HECPs are those who design instruction and learning experiences that challenge students to think critically and creatively. HECPs must guarantee that their coursework is not only informational but also profoundly thought-provoking, connecting recent innovative research results and motivating students to engage in inquiry-based learning. This method assists students in developing a stronger understanding of the course material and augments their analytical abilities.

Moreover, HECPs have a duty to develop an inclusive and supportive learning atmosphere that accommodates diversity in the student population. Inclusive instructional practices through the idea of belongingness are fundamental for cultivating academic achievement among all students, especially in diverse classroom settings (Arabit et al, 2023; Kirby & Thomas, 2021). Furthermore, the HECPs in the FIR study that Arabit and colleagues (2023) conducted signified that all FIRs described emergent professional relationships with the students in residential housing that they connected with. They concluded that the additional engagement positively influenced the total academic achievement of their students.

Li and Yan (2023) highlight the significance of employing instructional strategies such as active learning, differentiated instruction through problem-based learning, and community-based learning techniques to address numerous learning styles and abilities. HECPs should strive to make their classrooms accessible and welcoming for all students, delivering additional support as necessary to promote an environment where each student is valued and respected. By so doing, HECPs ensure that all students have the opportunity to succeed. Osler and Mansaray (2014) also noted that learner-focused instruction through collaboration within teams was highly beneficial

to comprehend the required course material. Moreover, the results also portrayed favorable results in exploring the relationship that developed between HECPs and students providing robust content knowledge yields and improvement in student aptitude and teacher efficacy.

In addition to effective curriculum design and inclusive instructional practices, HECPs should likewise participate in continuing evidence-based professional development (PD) to polish and enhance their teaching techniques (Guskey, 2021). Most HECPs have never officially been taught how to teach, but as professionals, they are duty-bound to assess their instructional effectiveness for the improvement of student achievement (Stripling, 2019). The swiftly evolving landscape of HE and innovative developments in pedagogy demand that HECPs stay abreast of new instructional strategies and technological advancements. Likewise, Fairweather (2002) as cited in Stripling (2019) suggests reflective practice is critical for professional growth, encouraging educators to constantly evaluate and develop new and innovative instructional strategies. Moreover, "self-evaluation of scholarship of teaching allows instructors to examine their productivity in scholarship related to teaching and learning, including participating in teaching-related research and attending teaching-related conferences or professional development" (p. 347). By dedicating themselves to continuous learning and PD, HECPs in R2 research HEIs can more effectively meet their dual responsibilities as educators and researchers, ultimately contributing to the academic achievement of their students.

HECPs Obligation to Ensure Student Achievement.

Martin (2021) indicated that student success or lack thereof is evaluated in numerous ways including retention rates, student achievement, and student contentment. As the cost of a college education continues to rise more emphasis is placed on student success in both the classroom and being prepared for a career. As the HECP's role has evolved so has their

responsibility for ensuring students have a reasonable opportunity to be successful. HECPs must provide high-quality instruction that fosters deep understanding and critical thinking. HECPs at R2 research universities must ensure student achievement, a responsibility that encompasses multiple dimensions of their academic roles.

Unfortunately, Stripling and contemporaries (2019) explained that most HECPs are subject-matter oriented and were not trained in educational pedagogy or instructional techniques, but they are still obligated to assess their instructional strategies to increase student success and advance professional growth. The limited professional instructional preparation causes many HECPs to teach students in the format that they were taught creating an unreceptive, lecturer-driven classroom atmosphere. As the magnitude of continuing evaluation of instruction spreads in HE, HEIs must guarantee procedures are established to effectively determine the instructional effectiveness of the HECP (Bok, 2013; NRC, 2009; Richardson, 1990 as cited in Stripling et al. 2019). Moreover, in the study conducted by Osler and Mansaray (2014), students were surveyed about "how significant is the interaction with your instructor (in-and-out of the classroom) helped towards your learning success in the course?" (p. 33). The results were recorded at 87.5% of the students who indicated it was significant (25.0%) or very significant (62.5%). My 38 years of experience in education as both a mathematics instructor and administrator can back up this finding. The instructor can make all the difference in that classroom and it is the instructor's duty to ensure their student's success.

This involves the HECP designing courses that are carefully planned, systematic, engaging, and aligned with evidence-based instructional strategies. Likewise, if the HEI's ultimate objective is to inspire students to be continuing learners secure in their capabilities to vigorously pursue their career choices and interested activities, then stressing evidenced-based

approaches of effective instruction in HE is paramount for student achievement (McKeachie, 1979 as cited in Stripling et al, 2019; NCR, 2009 as cited in Stripling et al, 2019). By integrating active instructional strategies and encouraging students to engage in discussions, hands-on activities, and experiential community projects, HECPs can create a vibrant learning atmosphere that stimulates student engagement and accelerates the understanding of the material within the discipline. Jimerson and Haddock (2015) affirm that with the paradigmatic significance of instructors, it is essential that all HE educational personnel work together to implement a strategic plan for the advancement of student achievement. In addition, to instructional effectiveness, Wilson et al (2015) cited in Kirby and Thomas (2022) indicate that the sense of belonging to a specific classroom group has a much stronger benefit than the equivalent campus-level sense of belonging. The HECP can support this sense of belonging by taking an interest in their students' lives. In the research, it has been shown that a classroom sense of belonging is critical to both temporary and lasting academic achievement (Kirby and Thomas, 2022).

Summary

The roles and responsibilities of HEIs and HECPs have transformed significantly over the centuries, evolving from a preliminary emphasis on instruction to a dual focus on both teaching and investigative research. Generally, HECPs were mentors dedicated to conveying knowledge, but as HEIs developed, a new concentration emerged in the form of investigative research with the formation of the Humboldtian model during the 19th century. Persuaded by Enlightenment perspectives, this paradigm endorsed academic freedom and cooperation among faculty and students, supplying the foundation for contemporary HEIs. Additional models, such as the Anglo-Saxon and Napoleonic methodologies, continued to influence the development of mission

statements for HEIs by including a focus on technical training and lifelong instruction. These changes spotlight the continuing adaptations of the HES to meet educational and societal needs.

Multifaceted research HEIs are denoted by a competitive environment that stresses not only excellence in education but also athletic attainment, requiring HECPs to reach significant landmarks including publishing meaningful research and securing monetary funding. The Carnegie Foundation, founded in the early 1900s, was created to address challenges and support the needs of HEIs. It developed the first method for categorizing HEIs centered around their missions and research abilities. As the HES grew in the 60s and 70s, the CCS developed into a crucial instrument for assessing academic excellence and diversity within the US HES. The establishment of the CCS amplified the competitiveness among HEIs to improve specialized performance benchmarks, ultimately escalating the amount of research productivity pressure on HECPs. Institutional administration and HECPs must work together to create a balance between research requirements and instructional responsibilities.

Pivotal components in the HES include instructional effectiveness and student success which are interconnected to the quality of teaching and academic outcomes. Instructional efficacy and student achievement work together to provide essential strategies to improve student success. Research has consistently shown that high-quality educational processes substantially improve student achievement. Effective instructional stratagems enhance academic achievement and student motivation. By addressing diverse student needs while building a comprehensive learning environment educators can support equitable instructional experiences, guaranteeing all students have the opportunity to achieve and reach their maximum capabilities.

Chapter III: Methodology

Tenured-track HECPs experience a considerable measure of stress around tenure procedures and developing their research portfolio to become successful scholars, (Solomon, 2011) potentially jeopardizing a necessary focus on the production of high-quality instruction. Based on the scarcity of accurate knowledge and evidence-informed guidelines about the consequences that research production pressures have on the educational quality of HECP's instructional performance and that relationship to student success, university tenure and promotion policies, unfortunately, tend to concentrate more on research production than quality teaching and student achievement. This investigative research instrumental case study is essential for presenting evidence to advance the body of knowledge by exploring the influence pressure has on HECPs to sustain distinguished scholarly output in contrast to producing crucial superior quality instruction that will support future student achievement. The current study explores the level of research-induced pressure on HECPs and how that affects the professor's instructional ability to create high-quality instruction that promotes student success.

This chapter encompasses the methodology for this investigative instrumental qualitative case study. Ahmed (2024) and Creswell and Creswell (2018) explain qualitative research is an approach for studying and perceiving the significance individuals or groups of individuals attribute to community-based or human issues. This approach to research includes developing queries and processes, generally gathering data in the individual's locale, inductive analysis of data creating themes from specific to general, and the inquirer producing perceptions about the data implications. The section will discuss the methodological approach, the procedures for data gathering, and the methods of data analysis. This study utilized a qualitative, single-site instrumental case study to understand from the professor's perspective the impact of research

pressure on a professor's teaching effectiveness and their students' success at PCRU, an R2 research university.

Restatement of the Problem and Research Questions

It follows logically in consequence of the magnified distinction US mission statements for colleges, especially in the Southeastern states of the US, to deliver the utmost quality for student engagement and an individual's learning opportunities, teaching individuals who continuously thrive and prosper as professionals and engage, connect and contribute to the needs of society (Public Comprehensive Research University, 2023; The University of Tennessee, n.d.; University of West Florida, 2024), PCRU's HECPs should intentionally concentrate on the development and effectiveness of instruction to produce excellent student achievement. Therefore, the purpose of this study is to determine if pressure exerted on HECPs in the COE at PCRU, a university that was recently advanced on the Basic Carnegie Classification System to the rank of R2, to create, design, fund, and investigate research projects then publish their findings influences their ability to provide high-quality instruction for their students to be successful in their classroom. This exploratory research study will examine the experience of HECPs in the COE at the newly elevated R2 research institution, PCRU utilizing the following research questions:

1. What are COE HECPs' perceptions of research pressure PCRU, an R2 research institution, place on faculty to create, design, investigate, fund, and publish research?
2. How do a PCRU COE HECPs describe their ability to provide high–quality instruction to students while experiencing research pressure?
3. How do the PCRU COE HECPs feel about their ability to promote student success while meeting research requirements?

Research Design

This research study will be best served by utilizing a qualitative instrumental case study approach from the social constructivist perspective focusing on a single argumentative issue (Creswell & Poth, 2018). This issue involves the elevated research productivity pressure exerted by PCRU's administration on faculty and how it impacts high-quality instruction. This qualitative research instrumental case study design is remarkably suitable for this inquiry. Intrinsically, the method allowed for a comprehensive assessment of participants' perceptions and experiences related to research productivity pressure concerning their job expectations.

Creswell and Creswell (2018) explain qualitative approaches depend on written or verbal expression and visual documents, contain distinctive phases in the analysis of data, and appeal to different design methods. Qualitative methods pursue a focus on understanding the nature of human behavior and experiences from the participant's viewpoint rather than the researcher's (Bogdan & Biklen, 1998 as cited in Solomon, 2013; Creswell & Creswell, 2018). Utilizing the qualitative case study approach has provided rich and comprehensive insights into the complexities and nuances of the research context. In case study analysis, "the development of themes and categories into patterns, theories, or generalizations suggests varied end points for qualitative studies," (Creswell & Creswell, 2018, p. 63).

Trustworthiness

Safeguarding trustworthiness is vital in authenticating the reliability and integrity of qualitative results. According to Ahmed (2024), trustworthiness is built upon four fundamental components: credibility, transferability, dependability, and confirmability. Credibility indicates the extent to which data is truthful and accurately represents the participants' experiences. Scholars promote credibility by interacting with the participants over a prolonged period,

monitoring continually, and utilizing triangulation (Ahmed, 2024; Yin, 2018). By integrating multiple data sources and preserving transparency during the collection of data, researchers fortify the legitimacy of their qualitative findings. Prolonged interaction with participants increases the researcher's understanding of the phenomenon. During this study, participants were initially interviewed for approximately one hour, then provided the opportunity to focus on their thoughts and feelings regarding their experience with research productivity pressure and the effects on instructional effectiveness and student success for an extended time while completing the five consecutive weekly journal entries. HECP1 commented in one of the weekly journal entries that this study has provided motivation to reevaluate the amount of time necessary to succeed in both research and teaching.

Moreover, personal bias is always a possibility while conducting research. To mitigate possible bias, reflexivity is an essential process (Creswell & Poth, 2018). It is important to acknowledge individual biases and preferences during the data collection and coding process continually. Notes into key insights and feelings of the participants were documented while interviews were conducted. These notes were studied and analytic memos were indicated based on the researcher's thoughts and perceptions. The practice of memoing was utilized throughout the data collection process. Memoing functions as a bridge that interconnects the data collection and evaluation process, permitting the researcher to pursue interpretations and cultivate discernment throughout the study (Creswell & Creswell, 2018). Furthermore, as Creswell and Poth (2018) explain annotating transcripts or images with notes and memos aids in the preliminary process of analyzing and exploring the datasets. Immediately following the completion of the recorded interview, Zoom software was utilized to provide a starting transcription. The Zoom-created transcript was reviewed, evaluated, and updated to provide the

most accurate depiction of the interview. The researcher read thoroughly and studied each interview, writing memos about thoughts, insights, and perceptions on the hard copy of the transcript to establish a chronological audit trail. As the researcher proceeded from one interview to the next, memos became key to finding connections between codes and providing context for developing emerging themes.

In addition, the study utilized multiple pieces of data including artifacts collected from the PCRU university website, participant interviews, and journal entries to ensure a rich and robust dataset to cross-verify research conclusions. Ahmed (2024), Creswell and Creswell (2018), and Yin (2018) suggest by employing several data-gathering types, the researcher can substantiate information from multiple directions, improving the validity of the interpretations and limiting the effect of possible biases from a single source of data. Participant interviews were conducted via Zoom to allow the faculty members to participate at their convenience and be as comfortable and open as possible. Weekly journal entries were emailed to the participants at the end of each week allowing multiple days for completion. This provided the opportunity to collect comprehensive responses to the inquiries over a prolonged timeline which enhanced the depth and richness of the data, allowing for a more thorough understanding of participants' insights and experiences.

Transferability relates to the applicability of research outcomes to additional environments beyond the particular investigation sample. Ahmed (2024) clarifies that researchers increase transferability by presenting rich, detailed depictions of the research participants, venue, and results. This provides the opportunity for other practitioners and researchers to decide if the study’s findings are relevant and can be applied to comparable conditions. By supplying these deep, contextualized perspectives, researchers empower others to

engage and determine how applicable the conclusions are to diverse people or environments. Unlike quantitative research, which emphasizes generalizability through sampling statistical analysis, qualitative research relies on contextual depth to ensure that readers can relate the study's perspectives to their circumstances. As described more thoroughly in the *Population and Sample* section my study participants included assistant and associate, tenure or tenure-track professors from the COE at PCRU, a newly recognized R2 research university that is experiencing the growing pains of a new research designation.

Ahmed (2024) denotes that dependability is essential to ensure research outcomes are replicable and reliable under comparable circumstances, which is accomplished through meticulous documentation of reflexivity and methodology throughout the research progression. This ensures the stability of the research procedures over time. During the methodological process, it is essential to systematically document each phase of the research approach to ensure transparency and provide continuity by allowing other practitioners to evaluate and reproduce the study. Furthermore, this provides the opportunity for other researchers to review and evaluate the dependability of the investigator's conclusions by following the audit trail of the procedural decision-making processes (Ahmed, 2024). The methodology and audit trail process is more thoroughly explained in the *Data Collection Procedures* and *Data Analysis Procedures* sections.

Confirmability accentuates neutrality by ensuring that the outcomes are shaped by the participants' experiences rather than researcher bias. Strategies such as reflexivity, triangulation, and audit trails help reinforce trustworthiness (Ahmed, 2024). Pursuing additional views from colleagues and professionals assists with the validation of the researcher's interpretations and limits individual bias. Receiving input continuously from the researcher's committee chair, methodologist, and committee reader provided invaluable insights into supplementary

perspectives, thereby enhancing the objectivity and accuracy of the results. In addition, the researcher highlighted and logged personal comments in the margins of textbooks, journal articles, interview transcriptions, and journal entries during the data collection and analysis phases. Ahmed (2024) suggests maintaining a chronological log assists the researcher in tracking their developing biases, beliefs, opinions, and reflections throughout the research study. This contemplative practice enriches transparency and offers discernment into the researcher's perspective and objectivity, supporting the confirmability of the conclusions. By maintaining these four components of trustworthiness, qualitative researchers establish a formidable foundation for trustworthiness, ensuring that their studies contribute significant, reliable, and valid perceptions of the field.

Population and Sample

Professors from the COE at PCRU were selected as a focus group due to the newly elevated R2 research status at PCRU. Previously, the COE within PCRU's emphasis developed an all-inclusive student-oriented educational environment by focusing on excellent instruction, fundamentally applicable research, innovative activities, valuable advising, and diverse collaborative opportunities (PCRU, 2023c). Alongside its outstanding program for teacher preparation, the COE features nationally accredited rigorous programs that equip students with the knowledge and training crucial for success in diverse educational careers (PCRU, 2023c). Many professors within the COE have focused on and succeeded at excellent teaching and now they must shift gears to plan to meet the more intensive requirements for research productivity within an R2 research university setting. The COE's main mission is the production of excellent future educators to ensure a quality education for our children. With the status change to R2 for PCRU maintaining the high-quality teacher preparation program could be in jeopardy. The COE

faculty members were chosen for this study to determine how they feel about research productivity pressure and if it was affecting their ability to provide effective high-quality instruction for their students.

By reviewing the COE department listing of faculty members, I elicited my population sample from the COE at PCRU during the 24-25 academic year. Tenure and tenure-track assistant and associate professors in the COE of PCRU comprise the majority of faculty members as identified on their website (PCRU, 2023b). I confirmed the list of current assistant and associate professors with the COE. I emailed all assistant and associate professors from this list about contributing to my research study. I explained to potential participants that I was interested in interviewing assistant and associate professors about the pressure exerted on them to meet research productivity requirements and how it influences their instructional effectiveness. I supplied a list of broad areas to be included in the interview (e.g., research pressure and sources, job responsibilities, instructional effectiveness, and student success).

When the COE professors replied favorably to my preliminary email inquiry, I requested certain participant information (total educational experience, tenure or tenure track status, and rank) and provided the IRB documentation and consent form in a response email to the HECPs. From the positive respondents, I selected participants who met my sampling criteria, aiming for both assistant and associate ranked professors with various years of experience. The selection was finalized with three assistant professors and three associate professors for a total of six faculty members from the COE at PCRU. Of the participating faculty members, five of the professors were tenure-track and one was a tenured faculty member ranging in educational experience from 21 to 28 years. The data requested by the participating faculty members is displayed in Table 6.

Table 6

Participants' Educational Experience, Track and Rank Data

PROFESSOR	TOTAL EDUCATIONAL EXPERIENCE (IN YEARS)	TENURED OR TENURE TRACK	RANK
HECP1	25	Tenure Track	Assistant Professor
HECP2	28	Tenure Track	Associate Professor
HECP3	26	Tenure Track	Assistant Professor
HECP4	21	Tenured	Associate Professor
HECP5	25	Tenure Track	Associate Professor
HECP6	22	Tenure Track	Assistant Professor

Instrumentation

Since this instrumental case study focuses on the impact of research-induced pressure on HECPs and how that affects the professor's instructional ability to create high-quality instruction that promotes student success, it is essential to gather information from the HECP's perspective. A comprehensive data collection will require gathering multiple pieces of data including individual interviews, weekly journal entries, and artifacts related to the COE mission statement, job requirements, appointments, tenure, and promotion for analysis. This multifaceted approach ensures a well-rounded understanding of how institutional research productivity expectations shape faculty experiences and instructional effectiveness.

An interview protocol was developed which includes the opportunity to opt out of the study at any time if the participant does not wish to complete the interview process. The interview is intended to provide critical participant perceptions about research productivity pressure and how it affects the professor's ability to create high-quality instruction that promotes

student success. The interview questions (IQs) are focused on answering the research questions in this study. For instance, IQ5 "How does the requirement to produce research affect your preparation and delivery of classroom instruction or course materials?" provides direct participant perspectives connected precisely to RQ2 for my study. A full description of this research study's interview protocol and questions are available in the appendices of this investigative research paper noted as Appendix A.

A journal entry protocol was created which provides the participant with the option to stop the process at any time if the individual does not want to complete the journal entries. The journal entry is designed to be completed once a week by the research participant for a total of five consecutive weeks. It provides the participant's perspective on the subject of research productivity pressure and how that affects the professor's instructional ability to create high-quality instruction that promotes student success. A set of prompts was provided to focus the professor's reflection about the week but the professor was given the opportunity to ignore the prompts and reflect about any topic. One prompt for example was, "Describe the research activities you engaged in this week (e.g., writing proposals, conducting experiments, attending research meetings) and how it impacted your ability to provide effective instruction to your students." This journal entry prompt provides valuable insight into the participant's perspective and relates directly to answering RQ2. A complete explanation of this case study's journal entry protocol is available in the appendices of this paper noted as Appendix B.

As Creswell and Creswell (2018) note, qualitative documents live in the public environment such as newspapers, meeting minutes, official reports, and board policies. Artifacts were collected from the PCRU website which included the PCRU and COE mission statements and the PCRU faculty handbook that establishes the definition of faculty, their roles,

responsibilities, and types of appointment. In addition, the documents on the tenure and promotion of tenured and tenurable faculty as well as the COE tenure and promotion policies. These documents have been reviewed and analyzed to determine if PCRU regards one HECP role or responsibility above another.

Data Collection Procedures

The collection of data for any research project is an essential element regardless of the research design. As Creswell and Poth (2018) indicate, gathering data is more than just collecting information. It involves anticipating ethical challenges in acquiring authorizations, implementing an effective qualitative sampling policy, creating methods for documenting information, addressing concerns that occur on-site, and securely storing the collected data. My approach to data collection for this case study was a trifold process: 1) I reviewed and analyzed institutional documents which include the PCRU and COE mission statements, the faculty handbook, the PCRU tenure policy, the PCRU promotion of tenured and tenurable faculty policy, and COE tenure and promotion policy. 2) I completed interviews with currently employed assistant or associate, tenure and tenure-track faculty participants within the COE at PCRU. 3) I received weekly journal reflections from the same participating faculty members. Consistently verbalizing the collection of data and analysis practices guarantees that the information is managed appropriately.

Initial information was gathered through extraction, a qualitative data collection process that focuses on the availability of public data sources. Examining contextual, applicable, and current documents was a critical element in understanding the organization's expectations of its employed faculty members. This process was exercised to data-mine artifacts related to research productivity, tenure, promotion, and appointment ranking to identify emergent characteristics and

themes that impact the HECP's career (Creswell & Creswell, 2018). Documents were collected from the publicly available source at PCRU's website. These detailed records were constructed and distributed by PCRU for internal and external use with HECPs and for stakeholder transparency. Public documents can be conveniently accessed and provide an unobtrusive foundation for a beginning knowledge base (Creswell & Creswell, 2018). These documents included the PCRU and COE mission statements, PCRU faculty definition, roles, responsibilities, and appointment types policy, tenure policy, promotion of tenured and tenurable faculty policy as well as tenure and promotion policies by the COE (PCRU, 2020, 2022).

In addition, semi-structured interviews were conducted utilizing open-ended questions designed to stimulate participating faculty members' opinions and perspectives (Creswell and Creswell, 2018). Interviewing HECP participants enabled me to comprehend contributors' perspectives on research pressures from their viewpoints. Partly structured interviews track a basal level of universal queries as a plan to follow, however, it permits additional supplemental inquiries that allow the research investigator to dig into the subject and explore numerous perceptions from participants in the study (Creswell & Poth, 2018). As Yin (2018) noted, interviews contribute to case study research in particular by explaining the "hows" or "whys" of significant experiences, as well as perceptions echoing participating members' relativistic viewpoints. Case study interviews are further described as "guided conversations rather than structured queries," (p. 118).

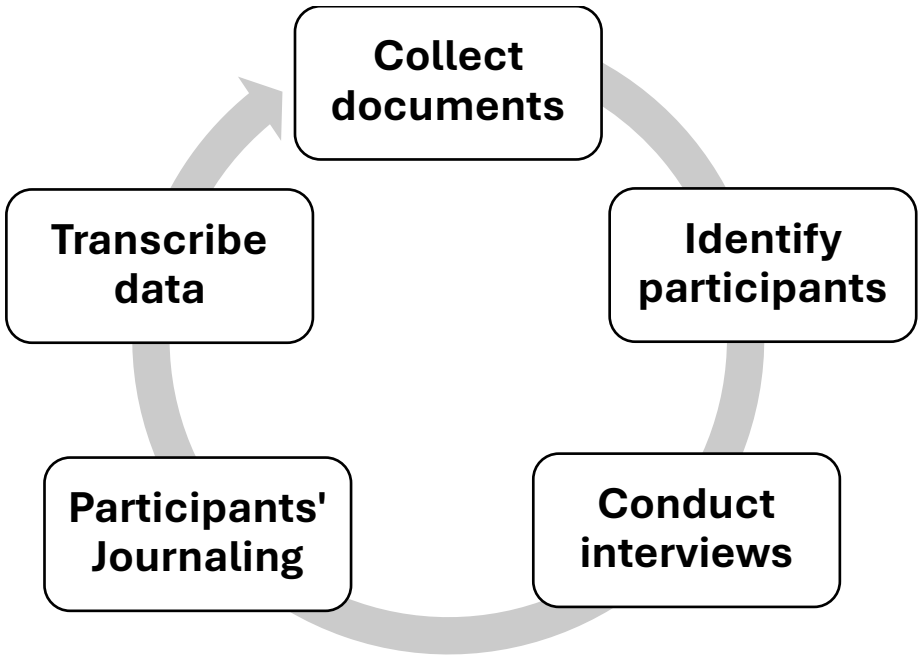
Yin (2018) further explains that the researcher has two roles while conducting case study interviews: (1) pursuing your specific route of investigation, as highlighted in the interview protocol, and (2) articulating the colloquial queries in an objective approach that supports the requirements of your inquiry thread. Interviews may be prolonged or shorter in nature.

Prolonged interviews tend to last 2 or more hours across one or multiple sittings. Shorter case study interviews typically last an hour or less, are open-ended, and conversational in their approach while closely focusing on your interview protocol (Yin, 2018). I conducted shorter concentrated one-on-one interviews over Zoom in a semi-structured format with tenured or tenure-track assistant and associate professors solicited from the COE of PCRU with R2 research status on the CCS ranking list in the Southeast region of the United States. This option provided a relaxed setting which promoted an open dialogue with the participating HECP. Creswell and Poth (2018) maintain that collecting qualitative data by way of a virtual method has several advantages including less time-consuming, more convenient, comfortable environment, reduced cost from travel, and more accurate data transcription.

Finally, participant journaling was employed to allow the participating faculty members additional time to think through their work week and respond to how research requirements have affected their ability to provide the best quality instruction for their students to be successful. As Creswell and Poth (2018) maintain journaling is still a relatively new form of data collection. However, this can be a very powerful tool permitting the participant the opportunity to reflect throughout the week on their instructional efforts and student success stories capturing additional valuable information that interviews alone may not grasp (Creswell & Creswell, 2018). Utilizing journaling has several benefits for the researcher such as allowing the participant's language to speak for them, can be conveniently accessed and unobtrusive, providing extended time to contemplate the topic for discussion, and saving the researcher the time that would be needed from transcribing the recorded journal notations. The data collection process in a qualitative study is cyclic in nature and can be represented by Figure 3. Figure 3 was adapted from Creswell and Creswell (2018).

Figure 3

Qualitative Data Collection Procedures



Source: Creswell & Creswell, 2018

Data Analysis Procedures

Data collection and analysis procedures are not necessarily separate steps in qualitative research. It often involves a cyclic format where the researcher gathers data, analyzes it, then gathers additional data, and analyzes it, repeating the cycle multiple times (Creswell & Creswell, 2018). For instance, interviews may be ongoing, but memoing and coding the previously collected interview data or weekly journal entries occurred within the same timeframe. In addition, "winnowing the data," a process whereby the researcher focuses on a portion of the data while excluding other pieces of the data, will be happening throughout the analysis progression (Creswell & Creswell, 2018).

Qualitative data analysis procedures follow a specific format that assists the researcher in preparing for and systematically managing the collected information. As Creswell and Creswell

(2018) maintain the first step in the analysis phase is to prepare and organize the datasets. For this case study the process includes transcribing interviews, gathering and preparing documents, and collecting weekly journal entries. The second step will require reviewing, reading, and assessing all the data collected multiple times. This crucial stage provides the researcher with a comprehensive overview of the breadth, depth, and complexity of the information that was gathered, serving as the fundamental segment in initiating a systematic and thorough analysis process.

The third step involved the actual winnowing, memoing, and coding of each collection of the accumulated data. Coding is the method for structuring the information by linking chunks of text information and scripting a single word or phrase that represents the meaning behind the text (Rossman & Rallis, 2012 as cited in Creswell & Creswell, 2018; Saldaña, 2021). Coding involves taking the word or phrase and assigning it to categories identified with a label frequently grounded in the participant's actual words known as *In Vivo*. Saldaña and Omasta (2018) as cited in Saldaña (2021) further describe the coding process to ensure understanding as "first cycle coding is analysis – taking things apart. Second cycle coding is synthesis – putting things together," (p. 6). For this study the coding process will be split into two phases. The first phase utilized primarily *In Vivo* coding with descriptive coding employed when the phrase was extensive in length, while the second phase of the coding process will involve coding for patterns. As Saldaña (2021) explains pattern coding is rhythmic, consistent, or methodical incidents of words/data that emerge at least three times. Using patterns to develop the description and themes is an essential feature in the qualitative analysis process.

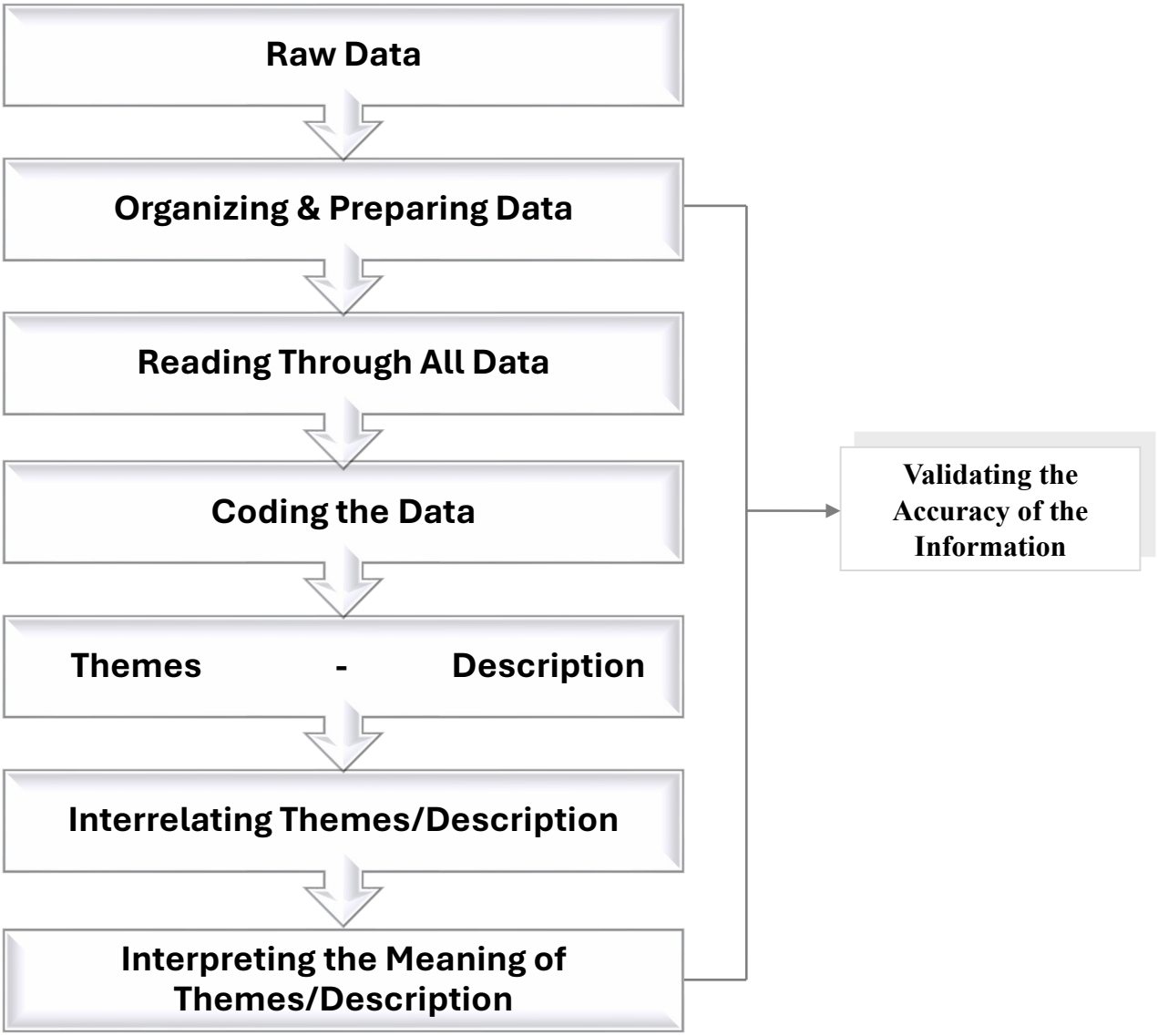
The fourth step will require generating the description and themes for the case study. Description comprises a meticulous interpretation of the collected information about individuals,

locations, or experiences in their locale. Generating codes is a valuable method for designing comprehensive descriptions for a case study research project. Moreover, the coding process will also be exercised to produce a set of themes or categories from the second round of coding for patterns that will be crucial in the major findings section of this study building complex layers of analysis (Creswell & Creswell, 2018).

In the fifth and final step, the crucial task of articulating the descriptions and emerging themes unfolds, typically within a detailed narrative segment that synthesizes and interprets the findings, providing a comprehensive explanation of the analysis results. This discussion can take multiple forms as Creswell and Creswell (2018) specify, however, a thorough explanation of numerous themes, detailed illustrations, and several viewpoints from participants will be employed to portray graphic data about each of the participating faculty members. The following flow diagram, Figure 4 adapted from Creswell and Creswell (2018) explains the process visually to assist with understanding the data analysis process. By integrating both qualitative narratives and visual representations, this approach enhances clarity and ensures a deeper engagement with the study's conclusions.

Figure 4

Data Analysis in Qualitative Research



Source: Creswell and Creswell, 2018

Throughout the data analysis phase each interview, journal entry, and document was explicitly analyzed and interpreted to answer the carefully crafted research questions. Table 7 explains the relationship between the research questions, sources of information, corresponding data analysis, and final reporting process. The interview questions, journal entries, and

document analysis must align with the research questions to establish a viable case study evaluation.

Table 7

Logic of Research Design

Research Question	***Corresponding Source of Information***	***Corresponding Data Analysis/Reporting Procedures***
RQ 1: What types of pressure does PCRU, an R2 research institution, place on its COE HECPs to create, design, investigate, fund, and publish research?	Interview questions 1-3, 11 Tenure document Promotion of tenured and tenurable faculty document Faculty definition, roles, responsibilities, and appointment types document	Winnowing and memoing began the process followed by the first round of coding which utilized primarily *In Vivo* coding, except when the phrase was extensive in length then descriptive coding was exercised. Next coding for patterns was employed to create a description and themes for final display in a graphical discussion and illustrations.
RQ 2: How does a PCRU COE professor's focus on research impact their ability to provide high–quality instruction to his/her students?	Interview questions 4-7, 11 Journal prompt 1	Winnowing and memoing began the process followed by the first round of coding which utilized primarily *In Vivo* coding, except when the phrase was extensive in length then descriptive coding was employed. Next coding for patterns was employed to create a description and themes for final display in a graphical discussion and illustrations.
RQ3: How do the PCRU COE HECPs feel about the research requirements and the correlation to their students' success?	Interview questions 8-10, 11 Journal prompt 2	Winnowing and memoing began the process followed by the first round of coding which utilized *In Vivo* coding, except when the phrase was extensive in length then descriptive coding was employed. Next coding for patterns was employed to create a description and themes for final display in a graphical discussion and illustrations.

Summary

This qualitative research study focused on a single-site recently classified R2 research university's COE to comprehend and explain the impact that research productivity pressure has

on a professor's instructional effectiveness and student success. Chapter three of this paper examines the comprehensive methodological strategies employed, detailing the systematic practices for data collection and the rigorous analytical approaches utilized to interpret and derive meaningful insights from the data. Qualitative research methods involve creating inquiries and protocols, inductively analyzing the gathered data, and identifying emerging themes specific to the topic all the while protecting the participants' identity. As Creswell and Creswell (2018) clarify the choice to utilize an instrumental qualitative research study allows the researcher to focus on the significance of an issue for a group of individuals or community.

First-rate instruction and student success are closely associated with the HECP's teaching ability. Tenure and tenure-track HECPs encounter a substantial amount of pressure around the tenure requirements and process of cultivating a research dossier to further their careers as productive and flourishing scholars (Solomon, 2011), while forfeiting an essential emphasis on the designing and delivery of excellent instruction. This study seeks to determine if research productivity pressure on HECPs affects their capability to prepare quality instruction for student achievement. This exploratory qualitative study is critical to revealing premium evidence to enhance the branch of knowledge by investigating the effect research productivity pressure has on HECPs to uphold a specific level of renowned scholarly performance in comparison to yielding vital high-quality teaching that will promote a high level of student achievement.

Chapter IV: Findings

During Chapter 4, the researcher examined, reviewed, and discussed the qualitative data acquired through the artifacts, interviews, and journal entries of the participants to address the topic of concern: the effect the perception of research productivity pressure has on the HECP's ability to design and implement effective high-quality instruction to achieve student success. The following research questions guided the researcher through the data collection:

1. What are COE HECPs' perceptions of the research pressure PCRU, an R2 institution, places on faculty to create, design, investigate, fund, and publish research?
2. How do PCRU COE HECPs describe their ability to provide high-quality instruction to students while experiencing research pressure?
3. How do the PCRU COE HECPs feel about their ability to promote student success while meeting research requirements?

In response to these queries, semi-structured interviews of PCRU's experienced COE assistant and associate, tenure and tenure-track, HECPs were conducted. The researcher asked them a series of pre-designed questions that revolved around HECPs' perceptions of research pressure, its impact on high-quality instruction, and student success.

About the Participants

The researcher reached out to prospective participants through an IRB-approved email to all currently employed assistant and associate, tenure and tenure-track professors at PCRU within the COE. Six professors responded positively with experience ranging from 21 to 28 years within the field of education. These six PCRU COE HECPs became the case study participants on which the investigation was centered around. Participants consisted of three assistant and three associate professors. Five of the six HECPs were tenure-track while one

associate professor, HECP4 was tenured. The informed consents were finalized and sent to the researcher via email. Each HECP completed their interview within the next few weeks. During the interview process (see Appendix A for the full interview protocol), the researcher was required to follow up with a few clarifying questions to determine the HECP's actual perceptions on the topic. This process was all completed with informal dialogue. The interviews revealed that the HECPs have developed several concerns around the conversion to an R2-ranked institution. Although HECP2, HECP3, and HECP6 each indicated during the interview process that they have applied for and received multiple grants the pressure has escalated considerably since its status change to an R2 facility to find new financial resources for the institution and publish their findings in top-tiered journals.

In addition, journal entries (see Appendix B for the full journal entry protocol) through a Microsoft Form were collected weekly for five consecutive weeks to allow additional time for the thought process and to cultivate the development of patterns and themes that would inform the researcher's understanding and analysis of the effect research productivity pressure has on the HECP's ability to employ effective instruction to produce successful students. The HECP journal entries were to assist the researcher in further understanding the HECP's perceptions over time about research productivity pressure and how it affects the professors' instructional effectiveness to promote student success. During my evaluation, a qualitative case study methodology was employed to explore and investigate the HECP life experiences by utilizing language analysis through *In Vivo* coding as defined by Saldaña (2021). The coding cycles of the HECP responses assisted with the development of several patterns within the interviews followed by the emergence of a number of themes throughout the evaluation and analysis phase of the derived codes.

Qualitative Case Study Process

As Creswell and Poth (2018) indicate, a case study is a particular type of study that is bounded by both location and a specified time interval. Following the case study qualitative method to examine the data, the researcher chose a bounded system that resided within the COE at PCRU over the 24-25 academic school year. During the interview process, the researcher recorded the interviews through Zoom video and stored the interview videos on a secure jump drive with a passcode as well as taking initial notes on the participant's responses. Next, the researcher employed the Zoom software transcribing process to start the conversion of the interview recording into text documents individually. The researcher reviewed the Zoom video and compared it to the transcribed document multiple times making corrections and updates as necessary. Each transcription was deemed accurate and trustworthy. Following up on the completion of the first transcription, the researcher started the process of winnowing the data provided in the document. The researcher followed this up by creating memos of significant perceptions and reflections immediately after completing each interview to ensure capturing the most accurate information while the interview was fresh in the researcher's mind. These memos were invaluable in the development of the description and emerging themes. This was an ongoing process while completing additional interviews continuously memoing and winnowing each of the next interviews.

In order to ensure reliability after completing the transcription process for HECP1 and HECP3, the researcher emailed them to verify that the transcriptions were accurate depictions of their interview. Both HECPs agreed that the transcribed data was accurate. In addition, to safeguard against the possibility of researcher bias after completing the initial coding from the transcription of HECP1, the coded document was sent to the researcher's methodologist for

review and accuracy of the coding analysis. This provided an additional layer of researcher consistency and trustworthiness. As Creswell and Poth (2018) express determining codes and developing themes signifies the core components of qualitative data analysis.

The researcher coded each HECP's interview separately using *In Vivo* coding, except when the phrase was extensive in length then descriptive coding was exercised. These codes represented the participant's insights about the topic. As the researcher moved from one interview to the next, the researcher observed the development of certain patterns and similar phrasing that each of the HECP's interviews had in common. The researcher created a template within an Excel document from each HECP's linguistic codes. Similar codes were sorted from each participant into a particular section within the template. Specific categories began to materialize from the accounts of the participants' perceptions. The researcher continued to utilize the template to narrow the data representations into the precise themes that characterize the information from the participants' experiences. Six themes were determined after reflections, modifications, and updates. These included:

- Theme 1: Employment, Tenure, and Promotion Stress
- Theme 2: Research Expectations and Performance Pressure
- Theme 3: High-Quality Instructional Characteristics
- Theme 4: Navigating and Prioritizing Teaching versus Research Demands
- Theme 5: Evaluating and Enhancing Instructional Effectiveness
- Theme 6: Reflections on the Future of the HECP and the Profession

The researcher followed up within the categories developed in the template by identifying similar linguistic codes from each participant that provided consistent and comprehensive summaries for each theme.

Presentation of Professors' Reflections

Creswell and Poth (2018) emphasize that interviewing participants aims to construct communal meanings around the participants' reflections on the research questions. In this case study, the phenomenon under investigation is to determine if pressure exerted on HECPs in the COE at PCRU, a university that was recently advanced on the Basic Carnegie Classification System to the rank of R2, to create, design, fund, and investigate research projects then publish their findings influences their ability to provide high-quality instruction for their students to be successful in their classroom. An explanation of each categorical theme will be followed by a table summary of selected codes. Following the presentations for each theme, a supplemental table (Table 14) will be provided with a brief set of codes and memos to summarize each of the six themes.

Theme 1: Employment, Tenure, and Promotion Stress

The first theme evident in the interviews was identified as *Employment, Tenure, and Promotion Stress*. PCRU (2022) has an extensive multilayered policy on tenure and promotion of academic faculty members employed in a tenure-track position. Tenure-track faculty have a probationary period and must meet specific criteria on an annual basis for a specified number of years prior to being awarded tenure or promotion at the university. The criteria for consideration of tenure includes what many faculty members coin as the "Golden Triangle Expectations." These requirements include Teaching, Research/Scholarship/Creative Activity, and Service (PCRU, 2022). Tenure comes from within the academic departments; however, the professor's own department determines whether the recommendation will be to grant or deny tenure. When a professor has completed the probationary period and been evaluated through an extensive process, the HECP can prepare and submit the Outline of Faculty Data (OFD) along with the

HECP's detailed supporting documentation. The assessment process for tenure or promotion begins within the faculty member's department. It incorporates impartial and autonomous deliberations by the department Tenure and Promotion Review Committee (TPRC) and the department chair (PCRU, 2022).

The TPRC determines if the candidate's credentials for tenure meet the approved guidelines and follow all specified criteria within the department, college, and university. When the TPRC has completed its review, a recommendation is shared with the department chair. The chair also makes a recommendation following the same criteria. The TPRC and chair send their recommendations for or against tenure up the hierarchy to the next level, College Review (PCRU, 2022). A similar procedure at the college level is exercised. The Dean of the College and the College Tenure and Promotion Review Committee (CTPRC) evaluate the candidate's qualifications independently once they have been received from the TPRC and chair. When the CTPRC and Dean have concluded the assessment of the candidate's credentials their recommendations are referred to the Provost of the university. The Provost completes a comparable review of the candidate's qualities and experience and makes a recommendation to the President. After the President's appraisal has been finished, the final recommendation for tenure is made to the University Board for approval (PCRU, 2022).

This tenure and promotion process at PCRU involves a multidimension evaluation process before tenure or promotion is awarded. It takes a considerable amount of time, substantial preparation, and is a highly stressful process as the HECPs indicated in their interviews. Each HECP expressed how difficult it can be to maintain employment and undergo the promotion or tenure process. The challenging tenure and promotion system emerged as a source of confusion, fear, anxiety, uneasiness, frustration, and bitterness. HECP2, HECP3,

HECP5, and HECP6 all discussed the lack of explanation and support for the tenure and promotion process. In addition, it was emphasized by all HECPs that time constraints for many professors are an issue.

The teaching workload according to the HECPs is very high, while research and service are not provided with the appropriate amount of release time, support personnel, or infrastructure to meet the university and COE demands. HECP1 reported the stress has *driven me to probably the point of insanity*. HECP2 stated, *everyone is overworked* and there is an *overwhelming sense of pressure*. HECP3 described the need for a *better, more tangible, measurable understanding* of the requirements. HECP4 confirmed that there is *not enough time* and if allowed *this job will . . . eat you alive*. HECP5 further explained there now appears to be a *heavier emphasis on research as part of tenure and promotion* but other duties take up a lot of time. HECP6 conveyed that there is a *heavy teaching load*. However, HECP6 has been told to *get more money into the university* which creates *a lot of stress*. See Table 8 for other selective comments about the process, stress, and pressure to meet the COE requirements to maintain employment, become tenured, or be promoted to the next level.

Table 8

Theme 1: Employment, Tenure, and Promotion Stress

HECP1	➢ "I have to produce research work" ➢ Research productivity tied to continued employment ➢ COE program stress ➢ Began job – expectations were more manageable ➢ Grant research requirements create stress ➢ Golden triangle expectations ➢ Limited amount of time to complete all responsibilities ➢ Pressure – job insecurity ➢ "Driven me to probably the point of insanity"
HECP2	➢ Tenure process not explained ➢ "No mentor" ➢ "Overwhelming sense of pressure" ➢ "Fearful"

	➢ "I can't work any harder" ➢ Felt like quitting ➢ Pressure from written administrative policy ➢ 7 layers to tenure and promotion policy ➢ "Everyone is overworked" ➢ Everyone is struggling ➢ High quality in two of three trivariate for tenure ➢ Author position on research pieces important
HECP3	➢ Triad requirements ➢ High quality in two areas for promotion ➢ "What makes it high and what makes it just quality?" ➢ I don't know what quality or high quality means ➢ Job responsibilities need more description ➢ "I better pull my weight" ➢ Colleagues decide first round of decisions about my future employment ➢ Colleagues provide most pressure ➢ "Better, more tangible, measurable understanding" ➢ Perception of quality subjective ➢ Person judging you may think different year after year ➢ "Fear and anxiety for new faculty" ➢ Confusion about requirements
HECP4	➢ "Schedule … 15 workload units" ➢ Teach 4 classes/12 hours ➢ 3 hours for research and service ➢ "Little shocking" ➢ "Produce x number of research or empirical studies" ➢ "Must be first or second author" ➢ Journal impact factor ➢ Required to secure a specific amount of grant funding ➢ Greater expectations within same time constraints ➢ "Really uncomfortable and awkward" ➢ Administration trying to shift from education to business model ➢ "Tension" ➢ "Frustrating" ➢ Was not expecting politics ➢ "Assumed everybody was here to help people learn" ➢ "This job will . . . Eat you alive" ➢ "Not enough time" ➢ Workload structure frustrating
HECP5	➢ Teaching and research stress ➢ "Heavier emphasis on research as part of tenure and promotion" ➢ "Pressure … more pervasive" ➢ "Revising tenure and promotion rubric" ➢ Top-tier journals and conferences required ➢ Guidelines unclear ➢ Lot of frustration ➢ Missing framework ➢ "Really frustrating" ➢ Compounds anxiety for tenure and promotion ➢ Tenure and promotion rubric confusing ➢ "A lot of anxiety" ➢ "Impacts morale" ➢ So many departmental demands

	➢ Other duties take up a lot of time ➢ "Dysfunctional pieces make up my hours and schedule" ➢ "A blurry research expectation, tenure, and promotion process" ➢ "Murky research and teaching process" ➢ Path for promotion and tenure
HECP6	➢ "Get money into the university" ➢ "A lot of focus that I feel for grants" ➢ To get big grants must publish ➢ "Heavy teaching load" ➢ "I teach four classes per semester" ➢ Unusual for R2 ➢ Teaching evaluated by chair and peer on promotion and tenure committee ➢ "Publications and grants are the highest stress" ➢ "High stress" ➢ No supports provided ➢ Told by dean and chair you have to do research grants ➢ Admin does not provide any support ➢ "That's pressure" ➢ Any peer can deny me tenure or promotion ➢ "Lot of pressure" ➢ "Administration telling me, . . . I needed more grants" ➢ "Direct pressure from administration who hold my future in their hands" ➢ "I'm a little bitter" ➢ You need to get more research grants ➢ "That feeling of you're not good enough" ➢ "It makes you feel kind of crappy" ➢ "I'm not wonder woman here" ➢ Modify and revise promotion and tenure guidelines ➢ What am I accountable for ➢ "A lot of stress" ➢ New point system standard ➢ "Feels devaluing" ➢ "They took the goal post and picked it up and ran it down 50 more yards" ➢ "It's just chaotic" ➢ Restructuring the COE ➢ Having to guess about expectations ➢ Held to higher standard ➢ "Uneasy" ➢ Extreme workload ➢ "I've asked for support and been told no" ➢ Volun-told for another responsibility

Theme 2: Research Expectations and Performance Pressure

In coding the remarks from certain interview questions the category *Research Expectations and Performance Pressure* materialized. It was identified specifically by five of the six HECPs at PCRU following the finalization of the reclassification process, creating a status change to an R2 institution during the latest re-evaluation for the Carnegie Classification

System in the spring of 2022. HECP3 was the only professor who did not explicitly point out the change to an R2 status during interview statements. However, based on several of HECP3's other responses, this participant also noticed differences due to the upgraded position of the university.

All six HECPs repeatedly emphasized that the pressure to complete research was becoming more pervasive and sometimes overwhelming. For example, HECP1 specified that an *added emphasis on procuring external grant funding* has become important to the university administration. HECP2 indicated that *a month felt like a year* when discussing research productivity requirements during the month of August 2024. HECP3 stated *you have to do it* while HECP4 stated you are *expected to do it* referring to research in both cases. HECP5 asserted there is a *push to produce research* and HECP6 declared there is *pressure to do it* and *I can't get it done*. Each participant included reflections on research productivity requirements that revealed feelings of worry, anxiety, frustration, negativity, and in some instances extreme stress. HECP1 and HECP6 both suggested in their statements that in addition to generating more research, the priority within PCRU was shifting to emphasize securing external research grant funding as well. Table 9 represents select codes from the theme *Research Expectations and Performance Pressure*.

Table 9

Theme 2: Research Expectations and Performance Pressure

HECP1	HECP2	HECP3	HECP4	HECP5	HECP6
Research pressure from multiple sources	"Added pressure to produce research"	"Expectation to do it"	Constantly told to do research	"Push to produce research"	"Stressful"
"Added emphasis on procuring external grant funding"	"Immense pressure to produce"	"You have to do it"	"Expected to do it"	Move to R2	Admin stated a need for more research grants

More pressure	“We’re an R2”	“Negative impact”	“I’m worried”	"Pressure"	"Pressure to do it"
Productivity concerns	“A month felt like a year”	Everyone is worried about getting enough research	Set time limits	Research expectations is unclear	New R2 research expectation not explained
Acute pressure now until submissions	“A lot of pressure”	“Limited number of hours in the day”	Research pressure frustrating	"Anxiety"	"I can't get it done"
Shift to R2	“Why aren’t you producing more?”	Pressure from colleagues in and outside the COE	“Embrace the R2 status”	At a higher rate	"You need to publish more"

Theme 3: High-Quality Instructional Characteristics

The participants also discussed within their interviews what characteristics constitute high-quality instruction and student achievement. The HECPs mentioned the need to focus on student learning and the desire for students to be able to integrate and apply their knowledge for the benefit of others, especially other students and community needs. Many students that the study participants teach are already educators or preparing for careers in the field of education. They are completing their programs of study to provide better instruction and learning opportunities and achieve greater learner success for their students or future students.

The documented codes accentuate a multifaceted perception of instructional excellence and the evolving responsibility of educators at the R2 university level. The foundation of high-quality instruction relies on the professor not only possessing subject area expertise but also understanding the key elements of how students learn and process information, cooperative and collaborative opportunities for learning, active engagement activities, and approaches for providing performance-based learning throughout their course work. Furthermore, the codes suggest the need to continue enhancing a learner-focused approach to instruction. With a methodology that emphasizes and promotes student learning, faculty can offer a rich environment where students successfully foster continuous growth to become critical thinkers

and globally minded individuals. Although these teaching strategies require additional time and effort, the benefits are worth the undertaking.

Some chief *In Vivo* codes that appeared in this theme through the interview process provided the researcher with additional insights into what represents high-quality instructional characteristics. HECP1 expressed the need to have *competence in the subject,* but the professor must also create a sense of *belongingness* for the student learners. HECP2 suggests *staying current* within the field is an important piece of the professor's job responsibilities. HECP3 reported that high-quality instruction occurs when *students make connections between the content and their real world* environment. HECP4 focuses on the aspect of *help students learn period* as the essential why in education. HECP5 articulated the need for *rigorous content* but also maintained the requisite for *student engagement*. HECP6 verbalized the requirement of *making sure you are teaching the right things* referring to knowing your subject and the research behind it. Table 10 identifies many of the high-quality instructional characteristics that the study participants deemed essential.

Table 10

Theme 3: High-Quality Instructional Characteristics

HECP1	➢ "Competence in the subject" ➢ Communication, responsiveness, reliability ➢ "Belongingness" ➢ "Requires extra time" ➢ "Little things after hours" ➢ "Extra added addition"
HECP2	➢ "Modeling what we are teaching" ➢ "I really try to model what is considered good instruction" ➢ "Staying current" ➢ "Pride in my teaching"
HECP3	➢ "Students make connections between the content and their real world" ➢ Students synthesize and apply info ➢ Students need to become global and critical thinkers ➢ Application of learning

	➢ Surface level knowledge to application
HECP4	➢ “About student learning” ➢ Expanding, growing, and learning ➢ "Help students learn period" ➢ "It should be about just learning in general"
HECP5	➢ "Student engagement" ➢ "Rigorous content" ➢ "Meets the standards" ➢ Pedagogy and knowledge for student consumption
HECP6	➢ “Making sure you are teaching the right things” ➢ Science of reading alignment ➢ Up to date on research ➢ Creating engaging activities ➢ Motivating students ➢ "Cooperative learning" ➢ "Applying your learning in my class" ➢ Engaged and active

Theme 4: Navigating and Prioritizing Teaching versus Research Demands

Although it is understood that in most university settings continued employment and advancement as a faculty member is determined by the triumvirate components including teaching, research, and service; it has been noted that research also dubbed scholarship has become highly prized at many institutions (Bridge et al, 2021; Fairweather & Rhoads, 1995; Nguyen et al, 2021; Rost & Hover, 2023). Within PCRU (2022) the tenure and promotion guidelines express the requirement that a faculty member must be considered as having high-quality performance in at least two of the three elements including teaching and quality performance in the third. However, according to the university guidelines the COE can require the faculty member to maintain high-quality performance in both teaching and research.

Throughout the interview process participants discussed their thoughts and reflections about the relationship between teaching and research. Some insightful perspectives were developed as a result of the memoing and coding processes. All participants explicitly or implicitly agreed that they are teachers at heart. Each HECP’s perspective centered around the

desire to provide the best possible instruction for their students. Several indicated that research does suffer often as a result. HECP1 did indicate when it is necessary, he does have to prioritize research on occasion in order to meet the university requirements. Some of the HECPs revealed that they tried to study their teaching practice and incorporate their teaching, research, and service all into their discipline. This saves some time, energy, and effort. HECP2 indicated that it took several years as a faculty member before figuring out how to integrate these three pieces. No one gave HECP2 any assistance with figuring out a research agenda that would include all three elements.

As PCRU traverses the complexities of transforming into a true R2 institution, several opportunities, as well as challenges, will materialize, including assessing and balancing the demands of increased research productivity requirements with maintaining high-quality teaching and cultivating student success. In several sections of the interviews, it has been denoted that the university and COE administration has not been supportive in providing time, infrastructure, or resources toward the conversion to an R2 institution. This will be essential in order for the transformation to be fulfilled completely. Without deliberate planning and institutional investment in faculty support, the shift to R2 status may lead to unintended consequences, such as faculty burnout, diminished instructional quality, and an overall decline in student engagement (Morrish, 2019).

This researcher found certain HECP perspectives especially insightful in the analysis of the data codes. For instance, HECP1 explained that it is vital for student learning that *we consciously are available to students* when they need us. HECP2 expressed a commitment to dedicate *so much time to my students*. HECP4 declared *my primary job here is teaching*. HECP5 implies although there is a *push and pressure to produce research* oftentimes *research is*

... pushed to the side and HECP6 suggests *I wouldn't pull back from my teaching* because my students would suffer. See selective participants' coded comments in Table 11.

Table 11

Theme 4: Navigating and Prioritizing Teaching versus Research Demands

HECP1	HECP2	HECP3	HECP4	HECP5	HECP6
Imbalance between research and teaching	Top notch quality instruction	Teaching and service take more time	"I like to teach"	Imbalance	"Heavy teaching load"
Need to block time for research	"I'm a really good teacher"	Do minimum research	"My primary job here is teaching"	"push and pressure to produce research"	"I teach four classes per semester"
Importance of availability to students	"Lessons are ready"	Not doing much research currently	Research loses, if out of time	Lack of dedicated time for research	"You just teach all the time"
Sacrificing student needs for research	"Every minute counts"	Very high instructional workload	"80% of my time . . . Dedicated to teaching"	"Frustration"	"You just work with teachers"
"Available outside of the office hours"	Asking for colleagues feedback	Not enough hours in the day to do research	"Responsive to the students"	"Anxiety"	Not really meeting research expectations
Forfeiting student needs due to other requirements	"Team teach"	"Huge teaching load"	Students have a voice and stake	"Pressure to produce research"	Trying to do my best
Research has to take priority under time constraint	Trying to teach method of how to figure out solutions	"Biggest fire … gets my attention"	"I study my teaching practice"	"Time factor"	"I'm a teacher"
Time sensitive demands	Teaching problem solving	"What I'm doing isn't the best idea"	Research tied to teaching	Some professors have left PCRU due to stress	Research is secondary
"We consciously are available to students"	Sometimes frustrating	Chose profession to teach	Courses impact on teachers' perception	Balancing issues	"I wouldn't pull back from my teaching"
Competing demands	"I love teaching"	Teaching and students come first	Weave research into teaching	"Uneasiness"	"I'm a much better teacher than a researcher"
Supportive faculty and environment	"Not giving enough time to research"	Working on two studies but on periphery	"Intentional about connecting" research to teaching	"Tension"	Teaching embedded in me
"What we're doing is great"	"So much time to my students"	"Get to it when I have time"	"Partnership with schools"	"Research is … pushed to the side"	Incorporate my research publications into my classes
Research produces "aura of respect"	"Something is going to suffer"	Time spent on grading and meeting with students			Discuss conference presentations with students
"Integrate a lot of my research into teaching and teaching into research"	"Nobody told me how to make a research agenda that connects to service and to teaching"	"Research and focus are in the same thing"			Teaching not stressed by admin as much as research

Supportive faculty and environment	Connection between research, service, and teaching	Research area focused in teaching and learning	Publish in state and local journals for teachers and students to study
“Teaching drives my research”	“Lot of frustration because we use PBL”	Things I research I use in class	"I put my heart and soul into my classes and students"
“Killing two birds with one stone”		Impacting my teaching with my research	My focus is an environment of student success
Create effectual work practices		“Without creating extra work”	
Research and teaching alignment		Research opportunities created for me	
Research importance for graduate programs		“My teaching and my research are the same”	

Theme 5: Evaluating and Enhancing Instructional Effectiveness

Feedback from both students and professionals in the COE magnifies the significance of balancing stringent academic expectations with substantial, pragmatic applications that enrich both instructional effectiveness and student achievement. Relationships that have developed between students and HECPs support the crucial position of mentorship, leadership, and customized assistance in nurturing student success and professional evolution within scholastic and occupational pathways. Comments emphasized by HECPs in the COE recorded during the interviews underscore the essential need to foster an atmosphere that prioritizes collaboration, innovativeness, and persistent advancement to reinforce the ever-changing needs of learners and educators.

It is a necessity for each course, program, or curriculum to be evaluated based on current research about student learning needs. This is supported by particular comments that some of the HECPs made during the interviews. HECP1 explains that after receiving feedback and evaluating his classes and program the *holistic contribution that I make* will surface when students either finish or not finish the program. HECP3 describes throughout the feedback and

evaluation process the desire to enhance instructional effectiveness by creating opportunities to *meet the basic needs* of students and *personally connecting* with them. HECP4 suggests that within student evaluations it was noted a high capacity to *care for students and availability* while also perceiving that *I see you* and am interested in what you are learning. HECP5 communicated thoughts that this researcher believes most instructors have had at one time or another in the fact that *I don't think that you always get the most robust, accurate, and meaningful feedback from students*. Table 12 indicates other codes related to the evaluation and enhancement of instruction.

Table 12

Theme 5: Evaluating and Enhancing Instructional Effectiveness

HECP1	HECP2	HECP3	HECP4	HECP5	HECP6
Evaluations determine instructor quality	Qualitative feedback from students important	Great feedback provided	Community, relationships, concern for students in student evaluations	Keep quality of instruction current	Update courses based on students' needs
Successful instruction equals program completion	Positive feedback on student success	“Meet your basic needs”	“Care for students and availability”	Tenure and promotion committee evaluations comments	Update courses based on teaching theory and new research
“Holistic contribution that I make”	"I have encouraged them"	“Personally connecting”	Trying to set students up for success	Positive student feedback	Student evaluations are supportive
Program completion is ultimate instructor evaluation	Principals respond very positively when hiring my students	“Being a student … small part of who our students are”	Importance of communication	"I don't think that you always get the most robust, accurate, and meaningful feedback from students"	Students are unaware of research pressures on faculty
Good feedback received		“Very genuine”	Nurturing	Professors played against each other	Connecting and supporting students
		Providing grace to students	“I see you”	Few negative responses	I can't please the department chair
		Peers like creativity	“Helping them get there”		
		“Classes … application driven”	Success is a combination of opportunities		
		“Meets our students and the	“I’m always here”		

	scholar practitioner side of what we do”

Theme 6: Reflections on the Future of the HECP and the Profession

The function of the HECP is transforming at PCRU swiftly, propelled by the shift in university administrative priorities and the status change to an R2 research institution. Although most HECPs face the stress of balancing instruction, research, and service, COE HECPs at PCRU are encountering increased pressure to prioritize research over teaching based on interview comments. Traditionally, the profession has been ingrained within the philosophy of providing instructional excellence, nurturing student participation experiences, and developing heartfelt relationships with learners. PCRU’s (2024a) mission statement indicates that it still desires to “prepare students to thrive in their chosen profession and prioritize student success.” However, as universities like PCRU aspire to climb the Carnegie Classification System rankings and receive the prestige that goes with it, a transition will have to occur. As the administration’s emphasis shifts to a more research-intensive design, HECPs will be challenged with escalating requirements to generate research and secure external grant funds. The triad requirement of teaching, research, and service has imposed significant pressure on HECPs, demanding faculty make difficult decisions about what areas to target with their time, resources, and energy. Although some HECPs consider themselves researchers and flourish in a research-focused environment, others are concerned about the effect that diminished accessibility to learners, reduced mentorship opportunities, and the impending erosion of instructional quality will have on student success.

HECP1 reflected about the constant *added emphasis on research* and needing to *make a choice* between student needs and remaining employed. HECP2 indicated that *it can be a good*

thing but *something is going to suffer* with a transition to a more intensive research formula. HECP3 revealed that when focusing on research *we're not thinking about our student needs first* and *people won't come to our program* if our reputation for instruction and student success is tarnished. HECP4 has already been informed *you don't need to spend this much time on teaching* but her educational philosophy supports the learner with the comment, *I think it's about the people*. HECP5 indicates that if research increases, teaching and learning suffer because of the *messy process of imbalance* within the triad relationship. HECP6 suggests *student success will suffer if people pull back from teaching to do research* and *I do see that happening now that we're an R2*. See Table 13 for additional comments about the future of the HECP and the profession.

Table 13

Theme 6: Reflections on the Future of the HECP and the Profession

HECP1	➢ "Make a choice" ➢ Lack of teaching focus at R1 institutions ➢ "Self-sustaining research" ➢ "Keep the lights on" ➢ Student connection and mentoring will be affected ➢ Competing demands ➢ Impact of administrative mandates ➢ Concerns over potential priority shifts ➢ Institutional shift in priorities ➢ Service diminished first ➢ "Added emphasis on research" ➢ Faculty will prioritize institution's emphasis ➢ "Constant pressure to produce research" ➢ Potentially altering faculty focus ➢ Concerns about future program changes ➢ Not focused on student success ➢ Uncertain future
HECP2	➢ "It can be a good thing" ➢ "I am a better professor because of the research that I do" ➢ "Something is going to suffer" ➢ "Sorry student, but I got to write" ➢ Students have to wait until finished with research ➢ Where PCRU puts its money is what it comes down to
HECP3	➢ If research is forced to be priority, teaching will have to take a backseat

	➢ Individual connections, level of feedback, knowing students will suffer ➢ Failing students in learning if we don't support the individual learner ➢ Find faculty that thrive as teachers and others as researchers ➢ "Makes better sense" ➢ "We're not thinking about our student needs first" ➢ We need great student experience ➢ "People won't come to our program"
HECP4	➢ "You don't need to spend this much time on teaching" ➢ "You need to be focusing on research" ➢ "Like that at R1, R2 universities" ➢ "I think it's about the people" ➢ "About the leadership … how they either support you or don't" ➢ "What it is they're going to value"
HECP5	➢ If research increases teaching and learning suffer ➢ Unclear guidelines continue ➢ Quality and dedication of resources imbalance will get worse ➢ "Inequalities among professors" ➢ R2 transition difficulties ➢ Effective use of time will be more difficult ➢ "Messy process of an imbalance"
HECP6	➢ "We won't make it" ➢ "Make my life miserable" ➢ "I do see that happening now that we're an R2" ➢ Increased and changing expectations ➢ "I perceive a burnout on me" ➢ Long-term burnout is inevitable in the profession ➢ Burnout for professors trying to support students ➢ "Student success will suffer if people pull back from teaching to do research" ➢ "A lot of unease"

For a summary of all emerging themes, sample codes, and memo notes see Table 14.

Table 14

Summary of all Themes Derived from HECP Interviews

THEME	SAMPLE CODES	MEMO NOTES
Employment, Tenure, and Promotion Stress	Research productivity tied to continued employment "Overwhelming sense of pressure"	Shift in expectations as a result of the new R2 research status, more emphasis on obtaining grant funding. Peers serve on the promotion and tenure committee which creates a tremendous amount of stress.

Research Expectations and Performance Pressure	"Immense pressure to produce" Research expectation is unclear	Constantly told that research is essential for advancement. Guidelines for the tenure and promotion rubric are unclear. Feeling additional pressure to produce research at a higher rate.
High-Quality Instructional Characteristics	"Competence in the subject" "About student learning"	Maintaining up-to-date knowledge and competence in the field of study. Helping students engage, grow, and learn.
Navigating and Prioritizing Teaching Versus Research Demands	Teaching and students come first "I wouldn't pull back from my teaching"	All energy is devoted to teaching and student needs. Instruction and my students always come first and are the primary focus.
Evaluating and Enhancing Instructional Effectiveness	Trying to set students up for success Successful instruction equals program completion	Working with students outside the norm to set them up for being successful. Evaluation comes from looking at the holistic picture of students completing the program.
Reflections on the Future of the HECP and the Profession	"You don't need to spend this much time on teaching" "Student success will suffer if people pull back from teaching to do research" If research increases teaching and learning suffer	University administration is increasing pressure to focus on research rather than teaching. If research pressure continues to increase, and unfortunately it is happening student success will suffer. The teaching and learning piece has really suffered at other universities when research expectations have increased.

Weekly Journal Reflections

In addition to the interviews, each HECP was asked to complete optional journal entries for five consecutive weeks. Appendix B provides the complete Journal Entry Protocol for

guidelines, components, and perspectives. The journal entry's emphasis concentrated on the following areas:

- Research activities engaged in and how they impact the ability to provide effective instruction.
- If research productivity pressure was felt, how did it affect teaching effectiveness and student success?
- Any additional thoughts or perspectives.

The HECPs were asked to reflect and comment on the research activities, research productivity pressure, effects on instruction, or any additional thoughts or perspectives they would like to discuss with the researcher. Their reflections and responses were recorded through a Microsoft form and notification of completion was emailed to the researcher. The reflections were reviewed extensively and coded using *In Vivo* coding, except when the phrase was extensive in length, then descriptive coding was used followed by winnowing, sorting, memoing, and coding. The coded responses were entered into an Excel document to help the researcher organize the information, understand the meanings, and determine if additional themes were developing. The researcher determined that each of the codes developed from the weekly journal entries reinforced four of the original emergent themes. Table 15 represents selected codes from the weekly journal entries and the themes they support.

Table 15

Journal Entry Themes and Selective Sample Codes

THEME	JOURNAL ENTRY SELECTIVE SAMPLE CODES
Employment, Tenure, and	"Evaluating the time and mental bandwidth demands to be successful in both teaching and research areas" "Not able to keep up the pace"

Promotion Stress	"Publication, presentations, and securing grants is a requirement" "COE's messages go do research and then no, you have to stay and attend meetings" Reminded supervisor in COE of immense teaching workloads "Tenure and promotion review is coming up"
Research Expectations and Performance Pressure	Intense research pressure "Reminded that research is top priority" "Waiting on an approved IRB protocol" Colleagues' comments created pressure "Working on IRB study" "Holidays will impact my writing and research" Feel pressure to publish before the holidays Pressure to complete research from colleagues Pressure to produce two more research publications No research release hours
Navigating and Prioritizing Teaching Versus Research Demands	Instructional impact depends on if behind on research production rate and time. Teaching focus end of semester Students always come first Teaching priority during short week "Primary focus . . . Wrapping up instruction" "Try to keep effective instruction in the forefront of my activities" "Primary focus is always on my students" "I fear that the load has impacted my teaching"
Evaluating and Enhancing Instructional Effectiveness	Fast (frequent, accurate, specific, and timely) - feedback for students important "Learning is more important than grades" Students take a lot of time – you evaluate needs and help them

All five weekly journal entries were completed by HECP1, HECP3, and HECP6. HECP2 completed four of the five journal entries. HECP4 completed two of the five journal entries while HECP5 completed one of the five journal entries. The journal entries were completed once per week for five consecutive weeks by the three participants who completed all journal entries. HECP2 completed all journal entries except for week four. HECP4 completed journal entries for weeks two and three while HECP5 completed the journal entry for week four. Although many of the journal entries revolved around the two themes of Research Expectations and Performance Pressure and Navigating and Prioritizing Teaching versus Research Demands,

some HECPs' coded comments highlighted the theme of Employment, Tenure, and Promotion Stress, and a few of the HECP thoughts supported the theme of Evaluating and Enhancing Instructional Effectiveness. A number of the coded comments from the individual HECPs exhibited similar phrases throughout their reflections such as students always come first expressed by HECP1 and HECP3. While HECP1, HECP2, HECP3, HECP5, and HECP6 conveyed they were under intense research pressure during some of their reflections.

Summary

Throughout Chapter 4, the researcher explores the qualitative information accumulated during the interview process and the collection of weekly journal entries to investigate the effect of research productivity pressure on HECPs in designing and presenting effective, high-quality instruction that nurtures student achievement. This investigative qualitative study was driven by the following three questions:

1. What are COE HECPs' perceptions of the research pressure PCRU, an R2 institution, places on faculty to create, design, investigate, fund, and publish research?
2. How do PCRU COE HECPs describe their ability to provide high-quality instruction to students while experiencing research pressure?
3. How do the PCRU COE HECPs feel about their ability to promote student success while meeting research requirements?

In reaction to these questions, the researcher chose a qualitative case study in which semi-structured interviews (see Appendix A for the full interview protocol) were conducted with six knowledgeable tenured or tenure-track professors within the COE at PCRU. The interview dialogues were completed utilizing predetermined queries that examined and analyzed

participants' perspectives of research pressure, its effect on instructional excellence, and the ramifications for student achievement. In addition, the HECP participants completed weekly journal entries over five consecutive weeks which allowed the participants to further consider the effects of research productivity pressure on instructional effectiveness and student success. The results emphasized the intricate relationship that exists between the faculty's ability to balance instructional effectiveness and student achievement with research productivity pressures, contributing valuable insights into the challenges encountered by HECPs within the COE at PCRU.

Chapter V: Discussion and Conclusion

The objective of this qualitative case study was to investigate the relationship between research productivity pressure on HECPs in the COE at PCRU and their ability to deliver high-quality instruction to student learners that promotes student achievement. As the community of higher education institutions recognizes, HECPs are accountable for what is called the "Golden Triangle" of duties which are comprised of advancing research, providing high-quality instruction, and service/administrative responsibilities (Boyer, 2004; Maaranen et al, 2020; MacPhail and O'Sullivan, 2019; Morrish, 2019; Nguyen et al, 2021; Roos and Borkoski, 2021; Rost & Hover, 2023; Tuinamuana, 2016). As a newly recategorized R2 research institution, faculty members at PCRU are obligated to meet similar requirements. Career progression on the higher education plane is increasingly aligned with the research productivity of the HECP (Boyer, 2004; Bridge et al, 2021; Miller et al, 2011; Nguyen et al, 2021; Roos & Borkoski, 2021; Tung & McKercher, 2016).

The productivity pressures applied to faculty to design, produce, and probe research proposals can be staggering (Morrish, 2019). HEIs can accumulate beneficial monetary support as well as procure a prominent reputation for their association with specific research projects. This amplifies the prominence and status of the institution (Kelderman, 2018; Seecharan, 2020). Bridge et al (2021), Haven et al (2019), Miller et al (2011), and Morrish (2019) suggest an HECP's instructional effectiveness in delivering a high-quality education is significantly influenced by the pressure an HEI exerts on its college professors to develop, construct, finance, and explore research proposals. A plethora of studies around mental health and stress-induced health issues have been implemented regarding the effect self-inflicted and institutional-initiated pressure has on HECPs. (Morrish, 2019; Roos & Borkoski, 2021; Rost & Hover, 2023).

Additional studies have been conducted about sustaining particularly demanding research productivity specifications, procuring external funding sources, and producing research in the appropriate quality and amounts. (Bridge et al, 2021; Miller et al, 2011; Pop-Vasileva et al, 2013; Sharobeam & Keith, 2020; Tung & McKercher, 2017; Waaijer et al, 2017).

A restricted amount of research has been produced on the relationship between instructional effectiveness and research productivity pressure (Fairweather & Rhoads, 1995; Gregorutti, 2010). Research can be a significant and valuable mechanism for enhancing learning, fortifying endeavors to build knowledge within curriculums, and confronting challenges within the community we live (Kezar & Eckel, 2000, Waghid, 2002, Johnsrud, 2008 as cited in Gregorutti, 2010), however, a limited number of investigations have diametrically centered around the effect research productivity pressure has on the HECP while striving to meet high-quality instructional criteria and successfully increase student achievement. Thus, this case study's purpose is to clarify if research productivity pressure exerted on professors within the COE at a fairly new R2 research institution to create, design, fund, investigate, and publish research findings influences their ability to provide high-quality instruction for their students to be successful in their classroom.

Discussion of Findings

Three research questions guided the development of this qualitative study. The researcher employed a qualitative instrumental case study from a constructivist viewpoint to explore and respond to the questions. This included accumulating open-ended data points through qualitative interviews and journal entries of HECPs within the COE at PCRU. The results assisted in determining if research productivity pressure impacts the HECP's ability to provide high-quality instruction for their students in a newly established R2 research university.

The three focal questions that provided the researcher with valuable insights during the study includes:

1. What are COE HECPs' perceptions of the research pressure PCRU, an R2 institution, places on faculty to create, design, investigate, fund, and publish research?
2. How do PCRU COE HECPs describe their ability to provide high-quality instruction to students while experiencing research pressure?
3. How do the PCRU COE HECPs feel about their ability to promote student success while meeting research requirements?

Six assistant and associate, tenured and tenured-track, COE HECPs were interviewed and asked to complete journal entries to capture their unique perspectives on research productivity pressure PCRU applies to faculty members to construct, plan, probe, finance, and publish research. The analysis and findings of each research question will be examined separately.

Research Question #1: What are COE HECPs' perceptions of the research pressure PCRU, an R2 institution, places on faculty to create, design, investigate, fund, and publish research?

Based on the discussions of theme 1 the participants' perceptions of research pressure at PCRU, an R2 institution, include feelings of anxiety, apprehension, and uncertainty due to vague and murky guidelines about research requirements within the tenure and promotion policy. Information about employment, tenure, and promotion requirements does not appear to be explained to faculty members when they are hired, forcing new faculty to have to figure out things on their own in addition to learning the ins and outs of a new position and employer. This has created a sense of frustration, fear, and dissatisfaction with the entire process. Some of the

participants indicated feelings of confusion and ambiguity around the sections of the terminology within the policy.

Theme 2 and 6's discussion further explains the HECPs' perspectives on research productivity requirements. Each participant, whether explicitly or implicitly, mentioned the university's change in focus as a result of the upgraded status to an R2 institution. Each of the HECPs frequently highlighted that research productivity pressure had increased from the university administration and other colleagues. Moreover, the university seems to have strengthened its emphasis on securing external grant funding according to direct communication from HECP1 and HECP6. All HECPs suggested that research productivity pressure was intensifying and during certain parts of the school year was crushing.

Research Question #2: How do PCRU COE HECPs describe their ability to provide high-quality instruction to students while experiencing research pressure?

Themes 3 and 4 focused on high-quality instruction and the prioritization of teaching versus research respectively. All HECPs established that the pressure to produce research had been mounting. The HECPs indicated that they are managing to maintain the same level of high-quality instruction and refuse to let their teaching suffer, however, it is becoming increasingly more difficult to sustain the instructional quality as a result of the escalating research productivity pressure from the COE and PCRU administration. Currently, all participants still concentrate primarily on instructional strategies that promote student success but they are concerned that a day will come when they will not be able to provide the dedicated time necessary to create an environment that supports and promotes student success. They feel that the connection they have with their students may be lost if the present trend continues. This would mean, as HECP1 acknowledged, forfeiting student needs due to other requirements.

Presently, according to HECP4 and HECP6 the workload for professors at PCRU in the COE is fifteen hours. Of those fifteen hours, twelve hours are dedicated to instruction while three hours are reserved for research and service combined. This represents an eighty percent allocation of time to instruction and twenty percent to research and service. HECP1 and HECP5 deliberated about the disparity between research and instruction. All participants implied that there was a need to reevaluate the workload requirements within the COE since the conversion to an R2 facility. PCRU, in general, and the COE need to either reconfigure the workload distribution between teaching, research, and service or moderate the amount of perceived emphasis on research and grant procurement by the participants.

Research Question #3: How do the PCRU COE HECPs feel about their ability to promote student success while meeting research requirements?

As of now the participants feel overworked, frustrated, and stressed, but are able to create effective high-quality instruction to promote student success in and outside their classrooms. Theme 4 provided many data points that support the HECPs' desire to continue their focus on student learning and achievement. HECP2 indicated that the instructional quality is top-notch. HECP3 emphasized that teaching and students must come first. HECP4 and HECP6 explained they are teachers at heart and that fostering student learning is essential to achieving student success. However, there is concern among all the participants that the increasing research productivity pressure will impede their abilities to promote student success at a certain point.

Theme 6 developed as a result of what the HECPs feel could happen to student learning and success if research productivity pressure continues to intensify at PCRU. HECP1 insinuated that all PCRU professors may have to *make a choice* between championing student learning or maintaining their employment. Both HECP3 and HECP5 conveyed that instruction and student

success will suffer if the pressure to compose research and procure grant funding is not tempered. The study participants believe that the research element of the HECP's triad responsibilities is highly important, they just want to be allocated sufficient time in their work schedule and the resources needed to make it all function together for their good and the university's. Two of the participants also suggested that the prospect of professor burnout was possible due to the heightened research productivity pressures.

Discussion of Themes

During the interview process six themes developed that were reinforced by the HECPs' journal entries. Those themes are as follows:

- Theme 1: Employment, Tenure, and Promotion Stress
- Theme 2: Research Expectations and Performance Pressure
- Theme 3: High-Quality Instructional Characteristics
- Theme 4: Navigating and Prioritizing Teaching versus Research Demands
- Theme 5: Evaluating and Enhancing Instructional Effectiveness
- Theme 6: Reflections on the Future of the HECP and the Profession

Each theme provided extraordinary insights into the transition of a university into an R2-ranked institution and will be discussed separately.

Discussion of Theme 1: Employment, Tenure, and Promotion Stress

As explained in Chapter 4 the tenure and promotion procedures at PCRU include numerous tiers within the evaluation process. Tenure and promotion are granted following an extensive positive assessment over a period of typically five to six years. During the HECP interviews, it was indicated how challenging and demanding this evaluation method could be. The complicated system for tenure and promotion surfaced as a cause for uncertainty, worry,

dread, distress, apprehension, and antagonism. Several HECPs indicated that the tenure and promotion guidelines were somewhat vague and murky in the description of what was required. HECP3 asked what the difference between quality and high-quality performance is. This is not defined and *what makes it high and what makes it just quality*? HECP5 explained that the guidelines are unclear and there is a missing framework for tenure and promotion requirements. Based on the interviews and journal entries, these HECPs emphasize the need to create well-defined PCRU COE guidelines so HECPs have a clearer understanding of the requirements for tenure and promotion.

In addition, several of the HECPs described what seems to be a missing piece that would assist them in preparing for the assessment during the tenure and promotion evaluation process. HECP2 explained that upon hiring the tenure process was not explained and there was *no mentor* assigned to assist with learning the ropes of the job requirements. As Roos and Borkoski (2021) reiterate, attending to the well-being of faculty has benefits that many institutions overlook. Peer mentoring can create structured opportunities for constructive feedback and guidance across the diverse spectrum of faculty responsibilities, fostering strong, supportive relationships. However, minimal time and effort are dedicated to providing mentorship, constructive feedback, or engaging in meaningful reflection, resulting in missed opportunities for professional growth and development.

Over time it was discovered by HECP1, HECP2, HECP3, and HECP4 that if they studied their teaching practice, research could develop from that. Connecting and integrating the research piece within teaching provides numerous opportunities for enriching learner engagement, nurturing critical thinking, and demonstrating the practical application of knowledge, ultimately navigating the divide between theory and practice. This was not

explained to the HECPs and it took years for some of them to figure it out on their own. This missing element would involve providing support and resources to newly hired faculty members. This could be easily overcome if the university and the COE would adopt a mentorship program to assist new faculty members in understanding the guidelines for teaching, research, and service protocols for tenure and promotion as well as assisting in the integration of all three components.

During much of the interview process, an overwhelming sense of pressure and anxiety was described by the HECPs revolving around the process of continued employment. HECP1 indicated that research productivity is tied to continued employment. HECP2, HECP4, HECP5, and HECP6 all suggest they are overworked with the required teaching load and research requirements. Some of the HECPs suggested that institutions that have been elevated to an R2 research status typically have teaching loads of nine hours or three classes rather than twelve hours or four classes that PCRU requires of full-time faculty. This heavier load on PCRU COE faculty members may result in HECPs leaving the institution or experiencing burnout.

As Morrish (2019) expresses much of the stress and anxiety that HECPs experience is related to the heavy teaching workload, the very limited amount of time to complete research, and the increasing pressure to acquire grant funding. PCRU could alleviate some of the stress by reducing the number of required classes a professor teaches to three, providing more availability for research. However, this would require additional financial consideration and hiring extra faculty or supplementary adjunct professors. In addition, as an R2 research institution certain infrastructure could also be supplied such as graduate research assistants (GRAs), a mentorship program, and grant writing assistance to help with the workload. These complementary resources would provide HECPs with the necessary infrastructure to flourish in both instruction and research.

Discussion of Theme 2: Research Expectations and Performance Pressure

All the HECPs in this study indicated that research expectations were increasing and pressure to perform was escalating. Five out of six of the participants directly referenced the status change to an R2 research institution which has created additional stress and performance pressure on the HECP. HECP1 stated that *an undercurrent of pressure to be producing research* exists in higher volumes. HECP4 acknowledged that *publication, presentations, and securing grants is a requirement* within the COE. All of the participants continually underscored that the pressure to increase research productivity was growing stronger and at times becoming oppressive in nature. This is reiterated in the articles by Morrish (2019), Priyadarshini et al (2015), Tung and McKercher (2016), and Waaijer et al (2017) who have suggested that pressure to produce research, publish in excellent journals, and acquire external grant funding has intensified over the years. Both HECP1 and HECP6 described a newly adopted emphasis from the PCRU administration about the need to obtain external grant funding in their research endeavors for the benefit of their institution.

The participants in this study believe that the research component provides a much-needed opportunity for the field of education to grow and develop. It is not that the study participants do not want to do the research, they are just overwhelmed with the teaching workload, service, and administrative requirements. As Rost and Hover (2023) express in addition to research, service, and teaching, some HECPs are required to gather and evaluate course and program data, advise and recruit students, serve on multiple committees, and several other duties as assigned. The participants described how at times there is so much pressure to produce research that they feel overwhelmed. HECP2 stated that *a month felt like a year* when deliberating over the requirements to generate research while maintaining a full teaching load.

Some of the participants denoted that they were able to study their instructional strategies and teaching methods as a way to connect and integrate research with instructional practices. Service can be incorporated by reaching out to community partners to assist local school districts with frameworks for the implementation of vetted learning strategies to improve student achievement. Although each participant voiced reflections about research productivity requirements that revealed feelings of anxiety, frustration, and worry, they also understood the necessity of producing research. The participants need time allocated within their work schedule by PCRU to be able to investigate and complete research projects. Furthermore, as a recently elevated R2 research facility, added infrastructure support might involve resources such as a structured mentoring system, dedicated grant writing program, and GRAs to help alleviate faculty workload. These critical supports would equip HECPs with the necessary instruments to excel in both their research efforts and instructional responsibilities.

Discussion of Theme 3: High-Quality Instructional Characteristics

The HECPs described attributes that constitute high-quality instruction within the context of a central emphasis revolving around student learning and achievement. This is reiterated in what Chism et al (2002) indicated, where the focus on student learning has shifted from optional to essential. Participants expressed a desire for learners to utilize and incorporate their knowledge and understanding to better serve the interests of their community as well as other individuals. Likewise, the participants' coded interviews highlight the necessity for strengthening a learner-centered instructional paradigm. By prioritizing a student-centered learning approach, HECPs can foster an engaging atmosphere that supports persistent growth, helping learners develop critical thinking skills and a global perspective. HECP2 and HECP6 imply that modeling high-quality instruction is a critical learning strategy for their students.

The cornerstone of excellent teaching resides in the HECP's knowledge of their field, understanding the student learning process, providing cooperative, stimulating, and engaging instructional opportunities, and the ability to advance instructional strategies through providing performance-based learning for their students to continue growing and developing throughout their entire educational time at the university. Haynes and colleagues (2024) suggest that more than ever, the financial sustainability of many institutions hinges on the ability of skilled educators to deliver high-quality, effective instruction. Although the generated *In Vivo* codes emphasize a complex insight into what establishes excellent instruction, maintaining high-quality instruction is only one piece of the educator's continuously evolving responsibilities at the university. While this instructional methodology demands extra time and effort, the long-term benefits make the investment worthwhile. Consequently, evidence suggests that high-quality instruction is an essential component of the HECP's job and should be afforded the same prestige as research.

Discussion of Theme 4: Navigating and Prioritizing Teaching versus Research Demands

Throughout the interviews, the participants indicated that teaching their students took precedence over the demands of research. This is reiterated by HECP3 when it was summarized within the coded comments I *chose the profession to teach*. Both HECP1 and HECP5 discussed what an imbalance there is between teaching and research. Research seems to have become the primary focus for PCRU administration, but it does not seem to be provided with the appropriate amount of quantifiable time and supportive infrastructure to produce it adequately. HECP4 and HECP6 explained the employment criteria for faculty members. The workload was described as a fifteen-hour workload, consisting of twelve hours of instruction and three hours assigned to research and service collectively. Thinking mathematically about this configuration HECPs

would logically deduce that eighty percent of their time should be spent on instruction and student success and twenty percent on a combination of research and service. In fact, HECP4 intentionally announced *80% of my time . . . dedicated to teaching* while HECP3 stated we have a *huge teaching load* and there are not enough hours in the day to do research.

However, it was noted from time to time that the HECPs had no choice but to take time out of their instruction and learner-centered activities to generate research. Each of the HECPs insinuated that they were teachers first and foremost, but they also enjoyed researching areas of interest that revolved around their teaching and instructional strategies. It is just as HECP5 stated a lack of dedicated time for research. All of the participants in this study are willing and ready to do research, they just need enough time allocated to the research component of the "Golden Triangle". HECP1 advised that *teaching drives my research* and there is a research and teaching alignment when research projects are selected. HECP2 creates a connection between research, service, and teaching to ensure all three elements work together but this integration must be recognized and understood. HECP2 stated that it *took me 10 years* to figure it out. HECP3 also reinforced this concept of combining the components of the triumvirate suggesting the desire of impacting my teaching with my research.

Although it would initially have a financial impact on the university the solution to this issue would be to reduce the instructional load to three classes or nine hours per semester and increase the number of research and service hours to six. This is not an uncommon problem Tuinamuana (2016) indicates that the faculty at her institution has voiced a similar concern with not enough hours dedicated to research and service. It would require PCRU to hire additional faculty to continue teaching the same number of classes, but it could also provide the faculty members the necessary time they need to increase research productivity, locate and obtain

external grant funding, and create more opportunities for publication in top-tier journals. With additional time allocated to research and service, the faculty members would be better equipped to prepare and manage grant projects that would provide multiple benefits for the university such as an influx of finances, strengthened status, and elevated prestige (Kelderman, 2018; Seecharan, 2020).

Discussion of Theme 5: Evaluating and Enhancing Instructional Effectiveness

It is important to continuously evaluate and enhance the teacher's instructional effectiveness to foster student success and academic growth. Routine assessment of courses and programs through student feedback, COE peers, research-steered transformations, and instructor reflection will provide the HECP with tools to ensure that instruction remains applicable, effective, and aligned with university and student needs (PCRU, 2023a, 2024a; Priyadarshini et al, 2015, Roos & Borkoski, 2021). Each HECP reflected on the ways that courses and programs are evaluated. HECP1 stipulated that evaluations determine instructor quality referencing the student evaluations. HECP6 indicated it is necessary to update courses based on students' needs. This would be done periodically throughout the semester by assessing instructional strategies and supports. HECPs identify topics to reflect upon and develop scientifically grounded methods that nurture information and data retention, collaboration and engagement, and skills necessary to enhance critical thinking with a global perspective. HECP3 suggested that *classes … application driven* to promote PCRU's mission and HECP6 also likes to update courses based on teaching theory and new research.

The HECPs in this study all seem to have a good rapport with their students. Much of the student feedback has been complimentary such as HECP2 receiving student feedback indicating *I have encouraged them* and HECP4 was told the level of *care for students and availability* was

appreciated by students. However, as HECP5 insinuated sometimes *I don't think that you always get the most robust, accurate, and meaningful feedback from students*. Student feedback should be evaluated just like instructional effectiveness. From my experience, students sometimes provide negative feedback as a result of not receiving the grade they wanted even if they did not earn said grade. When examining the evaluations, the assessment process should consider the motives behind the specific student and peer comments. Advancing teaching effectiveness involves a dedication to instructor reflection and evaluation, innovation, flexibility, and student-centered methodology, ultimately designing a supportive and dynamic learning atmosphere.

Discussion of Theme 6: Reflections on the Future of the HECP and the Profession

As PCRU continues the transformation to a fully R2 research institution establishing a shift in increasing research priorities, a growing concern exists among the study participants about the long-range implications for all professors and students. Burnout is becoming progressively more widespread among those managing high teaching loads and increasing research and administrative requirements. Morrish (2019) highlights in a recent report that academics are at a higher risk of suicide compared to both students and professionals in other fields, raising urgent concerns about the toll of institutional demands on the physical and mental well-being of faculty members.

HECPs reflected on the new challenges of sustaining a balance and concern that student achievement, a foundational element of higher education, could be jeopardized as support, resources, infrastructure, and focus are redirected toward research output and grant attainment. Li and Yan (2023) indicate innovative strategies such as problem-based learning and community-engaged learning, aimed at fostering deeper learning and improving student outcomes, have gained significant traction in recent years. Traditional classroom instruction has

often fallen short in preparing students for the complexities of modern society and the demands of the workforce, highlighting the growing need for interactive, application-based approaches that equip graduates with essential skills and competencies (Li and Yan, 2023). These new learning models take extensive time in preparation and planning. HECP1 stated it will be necessary to *make a choice* between being student-focused and research-focused. HECP2 indicated that *something is going to suffer* while HECP3 concluded that if research becomes the priority *we're not thinking about our student needs first*. HECP5 indicated some professors have left PCRU due to the stress of research expectations. HECP6 declared *we won't make it* and *I perceive a burnout on me*. This misalignment of priorities could propel the profession into an atmosphere of dehumanization, where HECPs feel disconnected and separated from the significant features of education and mentorship that originally attracted them to education.

Regardless of these difficulties, opportunities exist to advance and redefine the higher education profession. As HECP2 suggested the emphasis on *it* (research) *can be a good thing* and *I am a better professor because of the research that I do*. The resolution of how this transformation impacts students, whether beneficial or detrimental, will be determined by leadership. As HECP4 responds, it will be *about the leadership … how they either support you or don't*. If the university administration and faculty work collaboratively to find an appropriate balance between instruction, service, and research, create an integration strategy for the triad, provide implementation training, and address systemic inequalities among faculty, the profession can adjust to changes and new requirements while safeguarding the heart of its mission – supporting student growth and achievement. The study participants are committed to student-focused instruction but are concerned about how PCRU will modify research requirements and what the future holds. HECP3 suggests we will be failing students in learning if we don't

support the individual learner. Finally, the future of the HECP hinges on institutions balancing, valuing, and respecting all components of faculty responsibilities, ensuring that professors can maintain their commitment to learner-centered education.

Reflections about Findings

The exceptional contributions of this analysis rest with the perceptions acquired from the participants during the interviews and weekly journal entries. Participants provided wonderful insights into the perspectives and concerns of HECPs' roles and responsibilities as faculty members employed by PCRU, an R2 research university. Based on the workload breakdown, instruction (12 hours or 80% of their time) should be the main emphasis of their job duties as currently assigned in the COE. However, the interview process and journal entry reflections suggest that PCRU has increased research productivity and grant procurement requirements on HECPs in the COE without modification of the hours dedicated within the “Golden Triangle”. This has created considerable frustration, undue stress, and an atmosphere of trepidation.

Part of the frustration and stress resides in the lack of guidance about the tenure and promotion policy assessment procedures. Some HECPs mentioned the vague and murky parameters by which they are evaluated. In addition, it was discussed by more than one participant that HECPs need a more definitive understanding of what qualifies as quality and high-quality. Other participants revealed they had to figure out how the process worked on their own. An explanation about the requirements for tenure and promotion was not provided to new HECPs when they were hired. PCRU’s Department of Human Resources should go over the procedures for tenure and promotion thoroughly with all new faculty members. In addition, PCRU should consider implementing a mentorship program to assist recently employed professors by pairing them with a seasoned professor. This would provide new professors with

the support they need and supply a go-to person for vital communication about university processes and expectations. Furnishing a mentor would help new HECPs navigate research obligations, balance instructional requirements, and assimilate into the academic community more effortlessly. Likewise, it would cultivate professional growth, foster collaboration, and enhance overall job satisfaction, ultimately benefiting both faculty and students.

The HECPs believe that research is fundamental to the advancement of instruction, learning, and student success within the education field. Growth and development does not happen on its own. It must be cultivated and the way to do that is through the research component of the triumvirate. However, research involves planning, preparation, oftentimes collaboration, and investigation. All segments of the research process require a sufficient amount of time to complete and currently, the HECPs feel that they are not allotted the appropriate amount of time (only 3 hours per week) in their schedule. No participant in this study indicated they did not want to plan, prepare, implement, or complete research, they only want enough time and resources allocated for the research process. The study HECPs feel swamped and exhausted with the instructional caseload, service, and managerial obligations on top of the newly increased research requirements. Resolution to this problem would require a reduction in the instructional workload and an increase in the research caseload assigned to HECPs.

Implications for Practice

The outcomes of this investigation underscore the necessity for HEIs to balance instructional requirements with research responsibilities to preserve high-quality teaching and student achievement. HECPs are challenged by compounding pressure to generate research, which can diminish their capacity to prepare for meaningful student instruction, active

engagement, and advisement. HEIs should consider practices that advocate for faculty members in handling these multiple expectations such as moderating excessive instructional workloads, providing an appropriate amount of dedicated time for research production, and developing professional development experiences such as a mentorship program that incorporates all elements of the "Golden Triangle". Without such HEI support, HECPs may encounter intensified levels of stress, fatigue, and ultimate burnout, which can adversely affect the HECP's well-being and effectiveness as an educator. Persistent burnout not only leads to faculty attrition but also compromises the overall quality of education, ultimately diminishing student success and institutional reputation (Bridge et al, 2021; Miller et al 2011; Morrish, 2019; Roos & Borkoski, 2021).

Furthermore, the university administration should realize the influence research productivity pressure has on the quality of not only instruction but all the elements of the HECPs job responsibilities and consider practical measures to ensure HECPs are supported and can thrive in all their roles successfully without facing burnout. One concrete option would be to create a coordinated faculty support network and mentorship program. This program can be employed to assist new faculty members in traversing research requirements while preserving high-quality instructional strategies. Connecting newly employed faculty members with knowledgeable advisory faculty can offer critical expertise in balancing the "Golden Triangle" requirements while cultivating a cooperative academic environment. In addition, GRAs could be utilized in the COE at PCRU to provide support for the HECPs to implement their research portfolio. PCRU administration must do what is necessary to plan, design, and institute strategies, guidelines, and practices that will create a balanced working environment for all faculty members.

Implications for Policy

Well-defined communication from the administration about university requirements, priorities, and expectations can assist faculty in making educated decisions about their work assignments. Research productivity, community service, and student learning are of equal importance to institutional success and must be treated as such. HEIs should regularly assess the HECP job requirements, tenure and promotion guidelines, and evaluation processes to ensure that the obligations are reasonable and easily understandable. Institutions have options to alleviate some of HECPs' stress. For instance, PCRU administration could consider reducing the instructional workload and increasing research capacity allocated to HECPs in the COE. Fairweather and Rhoads (1995) explain that allocating fewer hours to classroom instruction allows more opportunities for professors to focus on research and other duties.

As Robert and Carlsen (2017) point out, HEIs often favor faculty members with research experience over instructional capabilities. To alleviate this imbalance, HEIs may want to ponder a policy change and employ two different groups of faculty members. One group would focus primarily on teaching and student success while the other faculty group would concentrate on research. This would require a review and possible modification in the faculty hiring procedures and guidelines for the tenure and promotion process. Although this would involve planning and preparation for implementation, the process could be highly advantageous to provide the most talented personnel with the most experience for each role. According to Arabit and colleagues (2023), student achievement in the HEIs should be the vision of all faculty, staff, and administrators. Granted that faculty members are so crucial to the achievement of student learning and success, university administration must align its purpose and goals to support faculty members to become the best practitioners possible.

Recommendations for Future Research

This qualitative study has explored only the tip of the iceberg when it comes to research productivity pressure and how it affects the HECP's instructional ability. It is hoped that these findings will inspire additional discussions among other researchers about the fundamental issue of instructional effectiveness while under immense research productivity pressure. Further study and reflection with additional universities, colleges, and departments could yield how diverse categories of HEIs regulate the balance of responsibilities between instruction and research. Moreover, future research could examine HECPs' rates of retention in reaction to mounting research requirements and how HEI support systems impact faculty job satisfaction. Additionally, a commensurate analysis between HEIs that have adopted supportive practices and those institutions that have not could supply beneficial perspectives into best practices for improving and preserving high-quality instruction and research productivity. Likewise, other qualitative studies could focus on student insights concerning faculty accessibility and instructional effectiveness amidst research pressure. Finally, future investigations should examine the long-lasting effects of research productivity pressure on HECPs' physical and mental health, student outcomes, and institutional performance.

Limitations and Delimitations

In pursuing solutions to queries for this study certain delimitations were evident in the construction of the investigation. This study was conducted within the COE at PCRU, a public comprehensive research university, which was recently elevated to the rank of R2 in research production. Faculty members within the COE are usually teachers at heart and are generally dedicated to student learning, often emphasizing instructional quality regardless of the increasing pressures to produce research. This may have predisposed the participants' perceptions. This

investigation progressed with the knowledge of these limitations. The sample size contained only six participating assistant and associate professors. Preferably, there would have been more participants to develop a wider scope of insights. However, many faculty members in the COE are overworked and overwhelmed, so it was difficult to find HECPs that were available to dedicate time to this study.

Another concern that could be considered a shortcoming is that all participants were veteran educators from the COE at PCRU. All participants had over twenty years of experience within the field of education. A broader sample size from other fields of study with more diverse levels of experience could have yielded different results. In addition, providing the opportunity for other institutions with different research designations to participate could furnish further dissimilar results. The study also ignored any differences between male and female faculty members which could provide valuable insights as well. These delimitations could make the outcome of this study less able to be generalized to HEIs that do not exhibit similar criteria.

Conclusion

The purpose of this qualitative research case study was to determine if pressure exerted on HECPs, in the COE at PCRU, a university that was advanced recently on the CCS to the rank of R2, to create, design, fund, investigate, and publish research projects influences their ability to provide high-quality instruction for their students to be successful. The findings revealed that HECPs are experiencing significant pressure and anxiety about the "Golden Triangle" job responsibilities. There is considerable tension that has developed about trying to balance research requirements and their dedication to instructional effectiveness. Several HECPs expressed concerns about the escalating research productivity pressure and new undercurrents regarding the procurement of grant funding could interfere with their ability to create and apply

engaging, learner-focused instruction. Although many study participants acknowledged that their research could advance their teaching, most HECPs underscored that institutional requirements and time constraints are making it more difficult to prioritize student learning and needs over research productivity.

Furthermore, the study disclosed that the participants sensed a shift in university priorities that assigns greater worth to research productivity than instructional superiority. HECPs described feeling a mounting sense of imbalance and tension between teaching effectiveness and maintaining a more rigorous research agenda. The fear is that it will lead to a deterioration of accessibility to students, a decline in their ability to create innovative instruction, and a diminished emphasis on pedagogical advancement. In addition, this data analysis accentuated apprehensions that this transition to an R2 status could eventually impact student learning and success since sufficient infrastructure has not been provided and fewer HECPs are focused directly on meeting the academic requirements of students. These data results indicate the necessity for university policies that provide a faculty workload schedule that proportionally represents an equitable balance between instructional expectations and research productivity responsibilities as well as supplying the crucial infrastructure for an R2 research institution, guaranteeing that HECPs are supported in all areas without forfeiting the quality of education students experience.

APPENDICES

Appendix A

Interview Protocol

Guidance and organization of qualitative interviews (Krahenbuhl, 2024b).

1. Rapport building – Create an environment that is comfortable and promotes honesty and trust. Restrict judgmental thoughts.
2. Listen actively – Listen carefully throughout the entire interview avoiding interruptions.
3. Exhibit flexibility – Prepare in advance to adapt as necessary.
4. Record the interview – Plan to record interviews to accurately collect the data.
5. Ethical Concerns – Prepare and safeguard participants' anonymity.

Introduction and consent

Intro: I am completing this interview using a protocol created for my dissertation topic. This interview is part of an ongoing study. This particular interview protocol will be looking into the idea of the "impact of research pressure on a professor's teaching effectiveness and their students' success". In particular, I am interested in how faculty perceive the effects of research productivity pressure on their instructional effectiveness, how that view relates to various areas of work and practice, and explore the personal views of participating faculty about the subject. I am going to record today's interview and will ask a demographic question to get us started. You will also be given a pseudonym and I will ensure that your identity is kept confidential in anything written throughout this document.

Participant's consent

Do I have your permission to record the interview?

If No: Thank you for your time, but since I am unable to record your interview, I will have to move on to the next participant.

If Yes: (proceed to the questions)

Thank you for your willingness to participate in this interview. Now, we will begin. As we go throughout the interview, I am going to follow a scripted list of questions but may ask a few follow-up questions, request examples, and so forth, but for the most part I want you to provide as much detail and honesty in your responses as you can and I thank you in advance for doing so. If at any time during this interview, you do not wish to continue let me know and we will stop.

Interview Questions:

1. Please describe your current role and experience at the university, including your responsibilities related to both research and teaching.

2. Please describe any types of pressure the university administration exerts on faculty to produce research.

3. Please describe an example of a time when you felt pressure to produce research and the primary source of the pressure (e.g. administration, peers, self-imposed).

4. How do you define high-quality instruction in your field?

5. How does the requirement to produce research affect your preparation and delivery of classroom instruction and course materials?

6. In what ways does research expectations influence your availability and responsiveness to students outside of class (e.g., office hours, email responses)?

Follow-up Q - How does that make you feel?

7. What types of strategies do you utilize to maintain the quality of your instruction while meeting research expectations? Follow-up Q - How effective are those strategies?

8. Describe feedback you have received from students or other professionals in education regarding student successes in your classes.

Follow-up Q - Do you feel that research pressure has influenced students' or other professionals' perceptions?

9. Do you feel that research pressures have impacted your ability to create an environment that produces successful students?

10. Describe the long-term effects you foresee for professors and student success, if research pressure continues to increase.

11. Is there anything else you would like to share about your experience with research expectations and its impact on your teaching?

Thank you so much for taking the time to share your perspectives on this issue with me. Please do not hesitate to reach out and follow up with any questions at my email address tlr5j@mtmail.mtsu.edu, and thank you again for your time.

Appendix B

Journal Entry Protocol

Introduction and consent

Opening Information:

Intro: I would appreciate you taking the time to complete a weekly journal entry using a protocol created for my dissertation topic. The journal entries will provide valuable insights in addition to your interview for the ongoing study. These particular journal entries will be looking further into your thoughts and perspectives on the "impact of research pressure on a professor's teaching effectiveness and their students' success". In particular, I am interested in how faculty members perceive the effects of research productivity pressure on instructional effectiveness, how that view relates to various areas of work and practice, and explore the personal views of participating faculty. I am using a Microsoft Form to gather information from you every week and will ask that you acknowledge your willingness to participate. You will have the same pseudonym as with the interview protocol and I will ensure that your identity is kept confidential in anything written throughout this document. Thank you for your willingness to participate in these reflective journal entries. If at any time during the journaling process you do not wish to continue, let me know.

Determination of Participation with Journal Entries

If No: Thank you for your time, but since you have chosen not to complete the journal entries, I will have to move on to the next participant.

If Yes: (Read the brief information below and proceed to the reflection questions).

Below are some prompts to assist you in focusing your thoughts about research, instructional effectiveness, and student success. You may write about any one of these, all of these, or

provide your own reflection on the topic of my dissertation. Again, thank you so much for participating in this research study.

Journal Entry Guidelines

Below are some prompts to assist you in focusing your thoughts about research, instructional effectiveness, and student success. You may write about any one of these, all of these, or provide your reflection on the topic of my dissertation. Again, thank you so much for participating in this research study.

1. Please be as honest and detailed as possible in your entries to provide a comprehensive view of your experiences.

2. Please complete a weekly entry to capture a continuous narrative and more accurate depiction of your experiences.

3. Thank you so much for the time and effort required to complete the journal entry process and for your contributions to this research study.

Journal Prompts

1. Describe the research activities you engaged in this week (e.g., writing proposals, conducting experiments, gathering research, attending research meetings) and how they impacted your ability to provide effective instruction to your students.
2. To what extent did you feel the pressure to conduct research and how did it affect your students being successful this week? Provide specific examples where research pressures influenced your ability to create quality instructional lesson plans ensuring student success.
3. If you would like to provide other thoughts or perspectives, please enter them here.

Concluding remarks

Thank you so much for taking the time to share your perspectives on this issue with me. Please do not hesitate to reach out and follow up with any questions at my email address tlr5j@mtmail.mtsu.edu, and thank you again for your time.

Appendix C

Debriefing Protocol

After the participants have completed the interview and the journal entries, I will provide the following letter with information by email to the participants. When the study is complete, I will email the final abstract.

Dear Participating Member,

Thank you for providing your insights on this topic. I appreciate you taking the time out of your busy schedule to support this research study.

If you have questions or concerns about this qualitative research study, please contact Terise' Rhodes at tlr5j@mtmail.mtsu.edu or Dr. Jim Rost at jim.rost@mtsu.edu.

As a reminder, the purpose of this research study is to explore the pressure exerted on academics to produce research and how it impacts the relationship between instructional effectiveness and student success of the Higher Education College Professor (HECP) in the College of Education (COE) at a newly recategorized R2 public comprehensive research university in the American southeast that will be known as PCRU.

I will provide the abstract of the study in an email to all participants when the study has been concluded.

For additional information about giving consent or your rights as a participant in this study, please contact the Middle Tennessee State University (MTSU) Office of Compliance at 615-494-8918 or via email at irb_information@mtsu.edu. (http://www.mtsu.edu/irb)

Sincerely,

Terise' Rhodes

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