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(Post)Modern Asymmetry:
Calibrating the Adult Education Philosophy and Practices of Faculty Teaching
Interdisciplinary Studies in the Community College

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partial fulfillment of the requirements for the degree
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Abstract

In adult education, the term *interdisciplinarity* is often treated as an agent for transforming teaching, learning, and research. This appreciation of the concept proliferates despite the fact that its actualization often supports competing interpretations and practices. Many adult educators are unaware of the distinctions made among instrumental, conceptual, and critical interdisciplinarity and the philosophical traditions employed to legitimate their different trajectories. To address these concerns and others, scholars such as Lattuca (2001) have advanced a postmodern conceptualization of interdisciplinarity and introduced a supporting theoretical framework to clarify its character and modes of operation. However, she omitted community college faculty from her study. She also undervalued the asymmetry of power in the postmodern logic used to substantiate the study's theoretical underpinnings. To address these concerns in Lattuca's innovation, this case study used a mixed methods approach to reveal the ways that faculty members at a large community college in the Midwest contribute to interdisciplinary education and enrich postmodern interdisciplinarity. The findings revealed the following themes and subthemes: philosophy as framework and continuum, alignment of philosophy and practices, purposes of interdisciplinary education, postmodern epistemological sentiments, modern epistemological sentiments, teacher-centered approaches, and student-centered approaches. They also revealed how the participants' philosophy of adult education and practices interrelated and how they supported instrumental, conceptual, or critical interdisciplinarity and their interstices. Furthermore, the significant ways in which the participants' praxis signaled the asymmetry of power and value in higher education and beyond were examined. For future consideration, the author introduced *Foucauldian architectonics*, a postulation on the simultaneity of differences

and power, as the kind of postmodern interdisciplinary additive that novice and seasoned adult educators can use to (re)develop their philosophies of education and (re)calibrate their practices as subjects and agents of disciplinarity.

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CHAPTER ONE

Introduction

In the introduction to the *Oxford Handbook of Interdisciplinarity*, Frodeman (2017) considered the question: Does interdisciplinarity have a future? He indicated that it does. However, the author also noted that its future may be a troubled one. For Frodeman, the fraught nature of the theories, practices, and discourses that permeate the conceptualization and operationalization of the term *interdisciplinarity* present challenges that even its champions struggle to dismiss and deflate. In popular thinking, the term is often characterized as the integration of two or more disciplines for a research project, educational program, or experience. Students of interdisciplinarity consider it a way to reimagine and reorganize the disciplines in order to integrate and synthesize knowledge for teaching, learning, and research that could not be achieved with a single discipline (Boix Mansilla, 2010; Frodeman, 2014). According to Klein (2010), “Interdisciplinarity is associated with bold advances in knowledge, solutions to urgent societal problems, an edge in technological innovation, and a more integrative educational experience” (p. 2). Across the disciplines, scholars and practitioners have defined interdisciplinarity as “a methodology, a concept, a process, a way of thinking, a philosophy, and a reflexive ideology” (Klein, 1990, p. 196).

As an alternative orientation to traditional or *discipline-based* education, interdisciplinary education describes an integrative process that recalibrates one’s thinking about the organization of knowledge by merging features of two or more disciplines into a single program of instruction (Boix Mansilla, 2010; Davis, 1995; Klein, 2018; Nissani, 1997). In practice, Frodeman (2014, 2017) suggested that something

different often occurs in the classroom. For him, the greatest tension and confusion reside in the competing elaborations of the term used by scholars and practitioners across the disciplines, especially in interdisciplinary studies (see Aram, 2004; Chettiparamb, 2007; Klein, 2017; Lattuca, 2001; Nissani, 1997; Schmidt, 2021; Szostak, 2015). For example, *disciplinarity* is the term that is generally accepted to describe the means by which the various domains of knowledge are organized, reproduced, and monopolized in education through the power of specialization and credentialing (Frodeman, 2017; Menand, 2010). According to Frodeman (2014), interdisciplinarity is defined and classified in more complex and confusing ways, usually depending on the level of integration among disciplines. He discovered, “In scholarly parlance ‘interdisciplinarity’ refers to the integration of knowledge across the disciplines” (p. 3). *Integration* is the process of exchange that makes knowledge and disciplinary reconfigurations possible. Frodeman went on to report, “This contrasts with the side-by-side juxtaposition of different types of knowledge, what is known as multidisciplinary, and the coordination of knowledge production with parties beyond the ivy walls of the academy, which goes by the name of transdisciplinarity” (p. 3). However, Fairclough’s (2005, 2018) understanding of the cross-disciplinary nature of knowledge and texts is actually labeled *transdisciplinarity*. More importantly, he and his acolytes have assigned the term a more democratic meaning and orientation than most interdisciplinarians allow. For them, transdisciplinarity brings together disciplines to transform the political, social, and economic status quo in society using semiotic tools and paradigms found in linguistics, critical theory, and philosophy (Fairclough, 2005, 2018; Wodak & Myer, 2016).

So, theoretically, one can use varying formulations of interdisciplinarity to integrate information, techniques, tools, and/or concepts from various disciplines in order to address complex problems in a variety of contexts (Boix Mansilla, 2010; Klein, 2017). Despite the challenges associated with the competing appreciations and applications of interdisciplinarity in higher education, Menand (2010) reported that few academics critique interdisciplinarity, as it is evoked with enthusiasm by deans as well as many professors in different fields. According to Becerra (2021) and Hongladarom (2022), the popularity of the concept has gained momentum in academic as well as policy circles, especially after the global pandemic of 2020. Its popularity is likely to endure as many of its most ardent fans ignore or fail to recognize the *fault lines* in the epistemologies of interdisciplinarity that have been highlighted by influential authorities such as Newell (2001b, 2013), Klein (2017, 2021), and Fish (1989, 2015). The gaps recognized by these prominent scholars and others might explain why Graff (2015), one of the more vocal critics in interdisciplinary studies, suggested that efforts to explain interdisciplinarity are entwined in the contradictions and conflicts associated with it. The various formulations of interdisciplinarity tend to reinforce the confusion and criticism that have come to be associated with it in higher education (Bradshaw, 2021; Schroeder, 2022).

As a result, the conflicts that Graff (2015) and others view as inherent in the idea of *interdisciplinarity* suggest that the academic experiences of millions of college students may be unrealized or unexplained because educators cannot provide a better account of what interdisciplinarity is, what it does, and what it actually achieves (Gibbs, 2021; Jacobs, 2013; Klein, 1995). The difficulty scholars and practitioners have with this quandary might explain why Graff (2015) concluded that “the cause of interdisciplinarity

is simultaneously advanced and retarded by the cultural and political associations of interdisciplinarity” (p. 6). He signaled the need for more inquiries and academic scholarship that investigate the *asymmetries* or contradictions rooted in the philosophy and practices associated with interdisciplinarity in higher education.

In this chapter, the author of this study will highlight the pattern of political and philosophical tension in the *contradictions* and *contingencies* that have led to a widening of the gap between theory and practice in interdisciplinary studies in higher education. He will provide a brief account of the relations between disciplinarity and interdisciplinarity. Within this context, the author will offer an illustration of the conflicting worldviews that scholars associate with *conservative*, *liberal*, and *radical* interdisciplinarity in higher education. Next, he will reveal how these three elaborations of interdisciplinarity serve as an imprint for understanding the three epistemologies of interdisciplinarity as they are distinguished by Salter and Hearn (1996) and assessed by Lattuca (2001, 2003) and Klein (2017, 2021). For these scholars, the three key conceptualizations in the field are *instrumental* interdisciplinarity (conservative), *conceptual* interdisciplinarity (liberal), and *critical* interdisciplinarity (radical).

More significantly, the author will review how Lattuca (2001) has challenged these domains by introducing an *unorthodox* philosophical framework for understanding interdisciplinary teaching and research in higher education that is grounded in postmodern philosophy (also see Lattuca et al., 2017). Her paradigm emphasizes interdisciplinarity as an *interactive* more than an *integrative* process, which is considered the distinguishing feature or hallmark in the more traditional definitions of interdisciplinarity (Tessaro, 2022). While postmodern philosophy supports Lattuca’s

claims about interdisciplinary processes as interactions among different elements, the author of this study will reveal a more concerning problem that this philosophical view registers in terms of Lattuca's omission of community college faculty in her empirical study.

Background of the Problem

In one of her earliest studies on the history, theory, and practice of interdisciplinarity, Klein (1990) claimed that understanding *disciplinarity* was a necessary step in understanding *interdisciplinarity*. Klein (1990) wrote, "the term *discipline* signifies the tools, methods, procedures, exempla, concepts, and theories that account coherently for a set of objects or subjects" (p. 104). According to Tessaro (2022), disciplines can also refer to "a body of literature or a grouping of information around a particular or centralized topic" (p. 49). He claimed that the meaning of the term is essential to one's definition of interdisciplinarity because they are entwined concepts. He went on to report, "The word originates in *inter*, meaning 'between,' and *discipline*, referring to an organizational group of knowledge; thus *interdiscipline*, or an organizational group of knowledge that exists 'between' traditional groupings" (2022, p. 53). For Lattuca (2001), disciplinarity is more than just the organization of knowledge. It is also a way of arranging social groups and people who share similar worldviews and attitudes toward knowledge and scholarship. The barriers that resist interdisciplinarity are largely maintained by disciplinarians who want to maintain the familiarity and comfort of their own disciplines (Frodeman, 2014; Lattuca, 2001). This point might explain why Keestra (2019) and Klein (2015) claimed that the earliest documented use of the term *interdisciplinarity* emerges in the mid-1920s, largely at the margins of the academy

and mostly in response to social problems, scientific advancement, and educational reform.

Today, one often encounters an array of typologies and applications of interdisciplinarity that excite confusion more than clarity (Lawson, 2015). For instance, Chettiparamb (2007) identified several classification systems, but she claimed that the most commonly appropriated typology for interdisciplinarity has been provided by the Organization of Economic Cooperation and Development (OECD). In 1972, the OECD defined interdisciplinarity as the *interaction* among two or more different disciplines. These interactions include the communication of ideas as well as the integration of concepts, terms, methods, and epistemology. The organization claimed that interdisciplinarity emerges from demands related to science, students, academic institutions, vocational and professional training, and social concerns. According to the OECD, these demands and their constituents often reflect the different ways in which interdisciplinarity is defined and classified. For example, it distinguished between a synoptic or *conceptual* consideration of interdisciplinarity and an instrumental or *pragmatic* consideration of interdisciplinarity (Klein, 1990, 2017). Though the OECD appeared to accommodate multiple views of interdisciplinarity, there has been an escalation in the value associated with *instrumental* interdisciplinarity and its orientation towards scientism and practical solutions to problems. This rise has come at the expense of those who appreciate a more philosophical, theoretical, or *conceptual* approach to interdisciplinarity. The tension between the two approaches has been exacerbated by further elaborations of interdisciplinarity, thus adding to its philosophical complexities and political contestations (Klein, 2017; Lattuca, 2001).

In an earlier study, Kann (1979) associated interdisciplinarity with three political positions in education. They are *conservative*, *liberal*, and *radical* interdisciplinarity. For conservatives, interdisciplinarity is a way to address social and economic problems in an effort to reach practical solutions. Kann (1979) viewed (academic) liberals as those who value the philosophical dimensions of interdisciplinarity and the implications of its processes on research, teaching, and innovation. Unlike radical interdisciplinarians, liberals do not seek to use interdisciplinarity to inspire substantial changes in the social, economic, and political status quo. According to Kann (1979), radical interdisciplinarians are more inclined to view interdisciplinarity as a tool for substantial change in education and society. They seek changes in the status quo and a transfiguration of the organization of knowledge and power and the structures that maintain them inside and outside of education.

To further clarify Kann's point, Klein (2017) claimed that those who support radical interdisciplinarity challenge the contemporary structure of knowledge, demanding that interdisciplinarity address the needs of oppressed and marginalized communities. She also noted that it was the conservative position that was prioritized and enabled by research and innovation in the physical and natural sciences and technology. The conservative view of interdisciplinarity has come to share many of the concerns associated with instrumental interdisciplinarity. In this case, Klein's (1996) assessment of instrumental interdisciplinarity appears to mirror the views of scholars such as Salter and Hearn (1996). The two scholars were among the earliest writers to address the social, political, and epistemological considerations that shape the character of *instrumental*

(conservative), *conceptual* (liberal), and *critical* (radical) interdisciplinarity in the academic literature (Klein, 2017; Lattuca, 2001).

Building on the prototype and terminology provided by the OECD, Salter and Hearn (1996) claimed that instrumentalists are pragmatic and they value problem-centered approaches to interdisciplinarity. They do not challenge disciplinarity as an organizing principle or ethos because interdisciplinary integration is impossible without them. On the other hand, conceptualists are more theoretical, appreciating the innovation and sense of holism that derives from the integration of disciplinary elements. While critical interdisciplinarity is a subset of conceptual interdisciplinarity, Salter and Hearn (1996) noted that the distinguishing feature is that critical interdisciplinarians are more radical in the sense that they call for a dismantling and reorganization of the disciplinary structures that instrumentalists and conceptualists rely on. In other words, critical interdisciplinarians advocate change in the social, political, and economic status quo that disciplinarity tends to service and reproduce in education. In many respects, leading figures such as William H. Newell, Julie Thompson Klein, and Stanley Fish have helped to illuminate Salter and Hearn's (1996) appreciations of interdisciplinarity in higher education. More specifically, Newell (2001b, 2013) has elaborated his understanding of instrumental interdisciplinarity. Klein (2021) has done the same for conceptual interdisciplinarity, and Fish (1989, 2015), though controversial, (re)framed critical or radical interdisciplinarity.

However, Lattuca (2001) has challenged one's thinking about many aspects of these conceptualizations by introducing an alternative view of interdisciplinarity based on postmodern philosophy and the idea that interdisciplinarity is an interactive process (see

OECD, 1972). In fact, Klein (2021) described Lattuca's view of interdisciplinarity as a *radical stance* that challenges the role and primacy of integration in the character of interdisciplinarity. According to Lattuca (2001), *postmodernism* opposes any kind of foundational or positivist thinking that claims to be permanent, universal, and objective. Postmodernists appreciate a pluralistic and heterogeneous understanding of phenomena. This is the perspective that informs Lattuca's view of interdisciplinarity. She determined, "We might conceivably map more recent critical interdisciplinary work on a continuum from modern, or discipline-based, interdisciplinarity, to postmodern, or adisciplinarity, interdisciplinarity" (p. 18). Lattuca (2001) indicated, while this elaboration presumes a disciplinary foundation for interdisciplinarity, "it does not exclude postmodern interdisciplinarity in which the disciplines are not central to modes of inquiry since a critique of knowledge implies an interaction with the knowledge of the disciplines" (p. 18).

Lattuca (2001) reported that she used this alternative conceptualization of interdisciplinarity to guide the selection of faculty members or *informants* for her study (p. 270). For her project, she selected and interviewed 38 faculty members in order to understand their attitudes toward interdisciplinarity as a philosophy and practice in teaching and research in higher education. The institutions represented in the study included one research university, one doctoral university, and two selective liberal arts colleges. When this author asked Lattuca about the omission of community college faculty in her study, Lattuca (personal communication, June 6, 2022) replied, "I limited the study to tenure track faculty who were in research universities and selective liberal arts colleges because they could be assumed to be research-active." However, Lattuca's

inclusion of community college faculty in her preliminary study and later exclusion of them in her main study appear to undermine the postmodern ethos that she evoked and operationalized to advance a more inclusive appreciation of interdisciplinarity and a more interactive approach to teaching and research in higher education (Burbules, 2009; Callard & Fitzgerald, 2015; Dilley, 2002).

Ordinarily, this delimitation in Lattuca's research design for her study would not appear problematic for most scholars. What might raise concern for students of postmodern philosophy, particularly those with a strong Derridean persuasion, is the binarity signaled by the presence and absence of community college faculty in a study that relies heavily on heterogeneity and the inclusive logic of postmodernism (Burbules, 2009; Derrida, 1997; Peters et al., 2020). This moment of *asymmetry* or contradiction in Lattuca's study is noteworthy because it appears at odds with the democratic ethos valued by most postmodernists. For example, in their study of adult education philosophy, Elias and Merriam (2005) clearly noted, "Postmodernism makes a deliberate attempt to unsettle assumptions and presuppositions. It refuses to accept boundaries or hierarchies in ways or things" (p. 229). It is in this context that the exclusion of community college faculty in Lattuca's study appears to aid the reproduction of the kind of disciplinary or positivist thinking that many conceptual and critical interdisciplinarians might contest and challenge (Burbules, 2009; Foucault, 1995; Klein, 2021).

Purpose of the Study

The purpose of this study is to explore the diverse ways in which community college faculty contribute to an understanding of interdisciplinary theory and practice in higher education. As such, this discussion will address the gap in Lattuca's study by

enriching it with the kind of inclusiveness that reflects the democratic discourse and interdisciplinary imperative signified in many schools of adult education philosophy, particularly *postmodernism*, and the missions of many community colleges across the United States.

Research Questions

To advance the goal of this study, the following primary questions will be explored:

1. What are the characteristics of the adult education philosophy and associated practices of faculty teaching courses in interdisciplinary studies in the community college?
2. What are the ways in which the adult education philosophy and practices of faculty support or contradict one another?
3. What are the ways in which the adult education philosophy and practices of faculty support instrumental, conceptual, or critical interdisciplinarity?

Significance of the Study

According to Welch (2018), the need for a unified understanding of interdisciplinarity is greater than ever. The post-pandemic world is beset by social inequality, job insecurity, and disruptive technological changes (Becerra, 2021). As academic agents in adult education, community college faculty members play a significant role in helping diverse learners negotiate these challenges and many others. According to scholars such as Beaumont (2020) and Bailey et al. (2015), community college faculty members educate nearly half of the undergraduate students in higher education in the United States. The research completed by writers such as Altbach (2016), Miller et al. (2016), and Ockerman (2012) reveals that the experiences of these educators as well as their voices matter much more than Lattuca (2001) assumed in her study. In his empirical study on cross-disciplinary professional development for

community college faculty, Beaumont (2020) recommended one important way in which researchers might challenge some of the assumptions made about interdisciplinarity and community college faculty. He identified a need for a line of inquiry that investigates the extent to which the teaching philosophies and methods of the faculty are based on disciplinary cultures or the choices of the individual professor. The following study is an attempt to address Beaumont's charge and underscore his indication that the perspectives of community college faculty are enriching, and they help to calibrate and complete one's understanding of the contributions that all faculty make to interdisciplinary education. In doing so, this study may help to advance the idea that a *postmodern theory of interdisciplinarity* should include a postulation on *asymmetrical power*, thus reflecting the (anti)democratic imperatives and other contradictions evident in the conceptualization of interdisciplinarity and its operationalization in a system of higher education in the United States that is equally paradoxical and troubled (Altbach, 2016; Foucault, 1995; Graff, 2015). More significantly, it adds to the growing body of literature on the role of power in interdisciplinary studies that novice and seasoned adult educators can use to (re)develop their philosophy of interdisciplinarity and (re)calibrate their practices accordingly (see Barry et al., 2008; Barthes, 1989; Callard & Fitzgerald, 2015; Gunn, 1998; MacMynowski, 2007; Orr, 2003; Tessaro, 2022; Wellmon, 2016; Zuboff, 1984, 2019).

Delimitation

The major delimitation of this study is that only community college faculty members from the four campuses in the St. Louis Community College system were asked to participate. While the history, cultures, and faculty and student populations on each

campus differ in many respects, they serve as a general representation of community colleges in higher education in the United States (see Chapter Three).

Definition of Key Terms

Generally, *interdisciplinarity* is defined as the integration of two or more disciplines for an educational initiative, experience, or research project that could not be achieved with a single discipline (Boix Mansilla, 2010; Klein, 1990). In short, interdisciplinarity is a contested term that is generally used to describe the integration or synthesis of knowledge, various worldviews, and practices for teaching, learning, and research (Boix Mansilla, 2010; Klein, 1990). It is an alternative way to reimagine and/or reorganize the disciplines in order to integrate and synthesize knowledge. While interdisciplinarity tends to emanate from the disciplines, *integration* can emanate from almost anywhere. Integration is a strategy for presenting and relating knowledge. According to Klein (1996, 2015), *interdisciplinary courses* are considered those courses that integrate two or more disciplines to facilitate teaching and learning. *Interdisciplinary studies* is the term used by many scholars and practitioners to describe two kinds of programs in higher education: “multi-and interdisciplinary approaches to general and liberal education, ranging from a single course to a four-year degree and masters of liberal studies; and multi-and interdisciplinary programs connected with a specific field of knowledge” (Klein, 1996, p. 33).

Since interdisciplinarity is considered a philosophical approach to knowledge (Klein, 1990; Frodeman, 2017), the term *philosophy* plays a key role in the discourse of interdisciplinary studies. The term is defined as the study of the ideas and general principles that have been used over time to probe “the nature of human beings, the mind,

the physical universe, truth, and moral reasoning” (Merriam & Brockett, 2007, p. 28). Generally, the major branches or subareas of philosophy are *metaphysics*, *epistemology*, *phenomenology*, *logic*, and *axiology* (Moran, 2010). Metaphysics examines the nature of reality. Epistemology is the branch of philosophy that explores how meaning and knowledge are constructed. Phenomenology explores the nature and structure of consciousness and experience. Logic focuses on the validity of ideas and the rules of reasoning. Axiology is the branch of philosophy that assesses the relationship between values, ethics, and conduct (Moran, 2010). The *philosophy of education* is just one the many domains of study in which these branches are expressed. Generally, the philosophy of education describes the principles and rationalizations that underpin the values, beliefs, objectives, methods, and theories one uses in education to facilitate teaching and learning. Derived from the Latin term *theoria*, the term *theory* is used in philosophy to analyze and speculate about phenomena, particularly the relationship between concepts and practices in education (Elias & Merriam, 2005). It is generally used to describe a paradigm or body of ideas with correlating principles or rules (Klein, 2001).

The term *postmodernism* brings many theoretical perspectives together under one umbrella. Postmodernism suggests a break or disruption in *modernism*. It is skeptical of the faith that modernism places in science, rationality, and objectivity. In other words, postmodernism is a disruptive philosophy, challenging systems and worldviews that invest in “absolute values, metaphysical foundations and self-identical subjects; against these it mobilizes multiplicity, non-identity, transgression, anti-foundationalism, cultural relativism” (Eagleton, 1996, p. 132). More importantly, this discussion also values postmodernism as a theory of *asymmetrical power* (Burbules, 2009; Foucault, 1978).

This dimension of postmodernism recognizes the ways in which contradictions, contingencies, and hierarchies condition one's understanding of social structures, worldviews, and other phenomena. In other words, asymmetry describes the imbalances in relations that condition the exercise of power. Zuboff (1984, 2019) also reported that asymmetries in power are often difficult to combat. In challenging this dynamic, postmodernism seeks to disrupt asymmetrical relations of power in order to reveal the simultaneity of differences or *architectonic relations* at the core of interdisciplinary theory and reality (Bakhtin, 1990; Derrida, 1997; Foucault, 2010; Kant, 2007; Pierce, 1955). In interdisciplinary studies, Callard & Fitzgerald (2015) characterize the asymmetry of power as a recognition of the various ways in which differences in knowledge claims and authority among individuals from different academic communities or fields often condition the interactions and innovations of those who are brought together in interdisciplinary collaborations.

Scholars such as Merriam and Brockett (2007) have made note of the importance of postmodernism and many other philosophies in adult education. They used the term *adult education* to characterize “activities intentionally designed for the purpose of bringing about learning among those whose age, social role, or self-perception defined them as adults” (p. 8). The strategies and activities that one uses to facilitate the education of adult learners will be referred to as *practices*. The term is often used to describe methods and techniques for teaching adults (andragogy) as well as children (pedagogy). In this study, the term will be used generally to refer to the application of a particular philosophical approach using methods, devices, materials, and/or conceptual

tools designed to initiate, sustain, and enrich teaching and learning in education (Knowles, 1984; Noddings, 2016).

Summary

This chapter has explored why interdisciplinarity continues to be celebrated inside higher education and beyond, despite the competing and confusing ways scholars and practitioners define, characterize, and operationalize the term. Readers find that there are even conflicts in the definitions and typologies that have been introduced to make interdisciplinarity more accessible. Scholars such as Lattuca (2001) provide readers with examples of the ways in which these variations are substantiated by different schools of thought in philosophy. In her attempt to reimagine interdisciplinarity as a postmodern epistemology with implications for teaching and research, Lattuca (2001) inadvertently drew attention to the ways in which the contributions of community colleges and its faculty are often overlooked and underappreciated in the hierarchy of American higher education. This study is an attempt to use philosophy to challenge this practice and reveal how adult educators in the community college can help to advance one's understanding of interdisciplinarity as a form of teaching, learning, and social transformation. To advance this effort, the proceeding chapters will provide a review of the literature, introduce the methodology and data collection procedures, discuss the findings, and present recommendations for future research.

CHAPTER TWO

Literature Review

As the study of interdisciplinarity increases in popularity in higher education, scholars have noted that its various epistemologies and practices are often contested and unclearly articulated across the disciplines and in the academic literature (Baptista & Klein, 2022; Falcus et al., 2019; Graff, 2016). Generally, scholars assess the academic scholarship on a particular topic or phenomenon by reviewing the literature on the subject. A *literature review* is a method and a process for organizing and evaluating relevant research on a subject or problem. Depending on the purpose of the study, a researcher may decide to organize the literature chronologically using a *systematic* approach. Also, a researcher might consider a more integrative or *synthetic* approach and organize the literature according to a particular theoretical model or conceptual framework (Torraco, 2005). According to Lyall et al. (2015), reviewing the literature on interdisciplinarity often reveals a need for a more integrative understanding of the principles and epistemologies that sustain teaching, learning, and research in interdisciplinary education. Moreover, Clark and Wallace (2015) discovered that the literature on interdisciplinarity is unorganized and incoherent. For them, the problem is not the gaps that one finds in the existing literature. It is the fact that so much of it is overwhelming and fragmented. As a result, a search for information on interdisciplinarity using Google Scholar and academic databases such as ERIC, EBSCO, and ProQuest will yield a wide array of competing information in peer-reviewed journals, books, edited collections, and policy papers from scholars, professional organizations, and government groups (Clark & Wallace, 2015; Falcus et al., 2019).

Chettiparamb (2007) and Salter and Hearn (1996) observed that no one can hope to achieve competency in all of the areas of interdisciplinary thought that are found in the vast scholarly resources now available on the topic in almost every discipline. Their evaluations raise the question, How does one approach an investigation of interdisciplinarity? For Salter and Hearn (1996), this question presents a problem for interdisciplinarians and their advocates. First, there is a lack of conceptual clarity in the scholarship, which is influenced by professional, political, economic, and epistemological concerns. Second, these factors often make it more difficult to create a more synthetic view of the complex interrelations that drive interdisciplinarity as a theory and a practice for teaching, learning, and research in academe. Some of the ways that researchers have dealt with this dilemma is by focusing on key themes related to interdisciplinarity (Chettiparamb, 2007; Lawson, 2015) or explicating its complex history in the shadows of disciplinarity (Graff, 2015; Klein, 1990; Weingart, 2010). However, Kockelmans (1979, 1986) might be considered one of the few historians of interdisciplinarity to recognize the limitations in a historical (chronological) approach. This approach tends to assume that there is agreement on the origins of interdisciplinarity. It also implies that those who support and practice interdisciplinarity will gain a deeper insight into its essence and agency if they have a clearer idea of its historical origins and development in higher education and elsewhere. For Graff (2015), this is far from the case because “the history of interdisciplinarity is a story of many misses, myths, and misconceptions” (p. 65).

To acquire a more unified picture of interdisciplinarity and the integrative nature of all knowledge, a number of scholars in interdisciplinary studies have turned to philosophy and its major schools and branches (Frodeman, 2017; Schmidt, 2021; Welch,

2009, 2011). According to Newell (2010), interdisciplinarity is understood as a response to the dichotomous thinking that he associated with *rationalism* and *reductionism* in the Western intellectual tradition. He wrote, “As such, interdisciplinarity can be understood as an attempt to right the balance of Western thought” (p. 360). For Frodeman (2014), the philosophy that has shaped Western thought for centuries must play a greater role in helping educators to improve their understanding of interdisciplinarity and its practices. Frodeman (2014) argued that philosophy allows one to act as an interdisciplinary translator (p. 92). For him and many other scholars, interdisciplinarity raises questions and concerns about the formulation and organization of knowledge that are key prerogatives throughout the history of philosophical thought in the West (Frodeman, 2017; Klein & Frodeman, 2017). This might explain why Benson (1988) has argued that any *general framework* for understanding interdisciplinarity and its various discourses must be inherently philosophical (pp. 170-171). In fact, Welch (2011) has argued that interdisciplinarity is a philosophical enterprise that invites one to reconsider one’s ways of knowing and deciding, thus transcending orthodoxy. Based on his extensive overview of the domains of interdisciplinarity, Welch found that the concept emerges from the various schools of thought in philosophy and they are essential to understanding the contrasting origins and conceptualizations of the term. For him, the major traditions in philosophy are not mutually exclusive. With Welch’s view in mind, the various schools of philosophy may very well provide the kind of framework that is needed to organize and synthesize the fragmentation that Clark and Wallace (2015) and Falcus et al. (2019) noted above in their assessment of the academic literature on interdisciplinarity.

In this chapter, the author of this study will explain how Elias and Merriam's (1995, 2005) articulation of the schools of adult education philosophy can serve as a valuable conceptual framework for organizing and synthesizing the academic literature on interdisciplinarity and further illuminating the connection between interdisciplinarity and adult education. The term *adult education* describes those activities that are geared toward the purpose of advancing learning among those whose age, social responsibilities, or self-perception signify them as adults (Elias & Merriam, 2005). Even today, Elias and Merriam's (2005) work in philosophy for adult educators is considered one of the more authoritative accounts in the field (Rose, 2000, 2020). Using the various schools of philosophical thought as they were initially expressed by Ozmon and Craver (2008), Elias and Merriam (2005) developed a framework in which they describe the ideas and characterize the practices that are associated with *Liberal Arts*, *Behaviorist*, *Progressive*, *Analytic*, *Humanistic*, *Radical/Critical*, and *Postmodern* philosophies of adult education (detailed below). Elias and Merriam and many other scholars have indicated that the values and worldviews associated with these schools of thought tend to underpin the traditional and nontraditional practices that adult educators implement in the classroom (McKenzie, 2018; Scott et al., 2020; Zinn, 2004). As such, one's philosophy of education signifies the ideas and principles that make the educational process meaningful for educators and students. It also includes considerations of the aims, objectives, curricula, methods, and tools for teaching and learning as well as the social, economic, and political implications (Merriam & Brockett, 2007; Zinn, 2004). In other words, *philosophy* helps educators to make sense of the world, explain the grounds for their actions, and bridge the gap between reflection and action or what scholars often call *praxis*. Praxis is a term

with a long history in the field of philosophy. It is often used among progressive educators to refer to the process or act of putting ideas into practice for social and personal transformation (Freire, 1990a, 1990b; Giroux, 1992, 2015).

According to Merriam and Brockett (2007), the idea of praxis describes the dialectic relationship between reflection and action. For them, one is defined and changed by the other. For Elias and Merriam (1995, 2005), the ability to meditate on the relationship between reflection and action—that is, theory and practice—is an inherently philosophical enterprise. It is important because it helps educators to be more critical and creative in their thinking and actions, and it distinguishes the professional from the novice adult educator. While adult education can occur in informal settings such as religious institutions and community centers, the author of this study will focus on adult education as it is perceived and actualized in formal settings in higher education, which includes research universities, four-year colleges and universities, community colleges, and vocational and technical institutions. Unlike many informal organizations, formal adult education organizations are usually a part of existing academic systems that are expected to fulfill the goals and prerogatives of the state. As such, adult education has always been expansive, interdisciplinary, and woven into the social, economic, and political fabric of many industrialized countries in the West (Collins, 2020; Klein, 1995; Merriam & Brockett, 2007). Furthermore, adult education is entwined with many academic disciplines, thus reflecting the various postulates and principles that Elias and Merriam (2005) have classified and explained using their seven schools of adult education philosophy.

To illustrate the significance of Elias and Merriam's contributions in adult education and interdisciplinary thought, the author will describe how their interpretations of *Liberal Arts, Behaviorist, Progressive, Analytic, Humanistic, Radical/Critical, and Postmodern* schools of adult education philosophy function as a conceptual framework and why it is a valuable resource for those who teach interdisciplinary studies in higher education. For example, he will reveal how scholars such as Zinn (2004) and Conti (2007) have operationalized this framework and demonstrated what it looks like as a practical tool that helps adult educators understand the significance of having a philosophy of education and how it conditions the various teaching methods, choices, and activities in the field of adult education, including interdisciplinary practices. Then the author uses the seven schools of philosophy identified by Elias and Merriam (1995, 2005) to frame, organize, and contextualize the relevant research sources found in Google Scholar and more traditional academic databases such as ERIC, EBSCO, and ProQuest. More specifically, the author limited the search by focusing on research sources that are related to the theories of interdisciplinarity that express a particular school of educational philosophy in adult education. By using the philosophical framework developed by Elias and Merriam (1995, 2005) to organize and contextualize the literature within this range of inquiry, the author is able to illustrate how the various conceptualizations of interdisciplinarity are underwritten by philosophy. He is also able to demonstrate how these competing understandings inform the way interdisciplinarity is conceived and practiced in higher education, particularly the community college—which tends to be more closely associated with the imperatives of adult education (Miller et al., 2016).

More importantly, this literature review will provide the kind of clarification and contextualization that one needs to understand the overlapping philosophical roots of instrumental (conservative), conceptual (liberal), and critical (radical) interdisciplinarity and their reconsideration by scholars such as Lattuca (2001). In completing this review, the author will revisit Lattuca's (2001, 2003) study and show how postmodernism supports her rationale for advancing an alternative theory of interdisciplinarity that focuses on interaction instead of integration. Also, the author will focus attention on a more concerning problem, which is Lattuca's omission of community college faculty in her project. Lattuca's exclusion of this group in her study, which ultimately inspires her typology and philosophical framework for interdisciplinarity, is significant and illuminating because it appears to be at odds with the scholarship on interdisciplinarity in the community college. It is also incompatible with the democratic discourse associated with conceptual (liberal) and critical (radical) interdisciplinarity and the *postmodern* school of thought that will be discussed below using Elias and Merriam's framework for adult education philosophy.

Elias and Merriam's Conceptual Framework

According to influential framing theorists such as Goffman (1986), a frame or paradigm allows its users to identify, perceive, and label concrete occurrences that explain complex realities. It is a method for interpreting phenomena. A frame conditions the discourse that structures the assumptions within which one produces and interprets meaning. In short, a frame is "a coherent set of ideas or beliefs forming a prism or lens that enables you to see and understand more clearly what's going on in the world around you" (Bolman & Deal, 2017, p. 43). In educational research, a *conceptual framework* is

considered a tool or lens for interpreting a particular phenomenon using an integrative literature review. It typically defines a set of key concepts and identifies a sequence or *schemata* for studying the phenomenon in question (L. Cohen et al., 2018). Using a conceptual framework also encourages the kind of philosophical reflection and creativity that Hiemstra (1988, 2013) found indispensable in articulating one's educational philosophy as an adult educator. Philosophy's value rests in its ability to help scholars and practitioners to articulate what they do and why they do it (Conti, 1990; McKenzie, 2018). Hiemstra claimed that there is an explicit connection between one's personal belief system and one's philosophy of education. A *philosophy of education* is a statement that describes the set of beliefs and values that an educator uses to inform *their* professional practices in education. Merriam and Brockett (2007) claimed that a philosophy of education acts as a conceptual framework that embodies the values and principles that make the educational process meaningful. It generally encompasses mediations and discussions on the aims, objectives, practices, and roles of the student and teacher in the learning process. It promotes empathy, flexibility, and self-reflection. In adult education, one's philosophy of education is considered an interpretive theory, not an applicatory theory, for understanding the relationship between theory and practice (Elias & Merriam, 2005; McKenzie, 2018).

For Hiemstra (2013), the various philosophies of adult education can help practitioners to appreciate the values and practices that substantiate the field and shape their own philosophy of education. Hiemstra echoed the ideas of Elias and Merriam (2005) when he noted that a philosophical framework also provides the imprint that distinguishes professionals from novices in the field. Using the pioneering work of

Ozmon and Craver (2008), Elias and Merriam (1995, 2005) developed a typology and philosophical framework for use in adult education. According to McKenzie (2018), the framework or *schema* developed by Elias and Merriam helps adult educators to understand the similarities and differences between the major schools of philosophical thought in a systemic way. He described it as a valuable tool for connecting theory and practice in the field. It also helps educators to become more reflective professionals in the areas of teaching and learning. In many ways, the schools and branches of philosophy function as modes on a continuum in which the various practices and activities serve as correlates as well as artefacts (Szostak, 2015; Welch, 2011). For example, philosophy has a number of subdisciplines or *branches* that often include logic, epistemology, metaphysics, axiology, aesthetics, ethics, and political philosophy (see Chapter One). Currently, the widely accepted *schools* of philosophy in Elias and Merriam's (2005) framework include *Liberal Arts, Behaviorist, Progressive, Analytic, Humanistic, Radical/Critical, and Postmodern* philosophies of adult education (Rose, 2020).

While each school of thought is detailed in individual sections below, a brief account of their basic values and positions will help readers to see how they form a prism or set of lenses through which one can interpret complex theories and approaches, particularly in interdisciplinary studies. As the oldest philosophy of education, liberal adult education philosophy has its roots in the work of the early Greek philosophers such as Socrates, Plato, and Aristotle and many of their responses to the values and methods of the Sophists, who some scholars describe as the first professional teachers. Unlike the Sophists, Plato and those who shared his philosophical purview imagined education as more than just a political tool. Elias and Merriam (2005) reported that it was a means for

developing the potentiality of the human intellect and character with knowledge from diverse subject areas. These areas provide enlightenment, literacy, and a sense of justice. In this context, the focus is on the transmission of knowledge from the teacher or expert to the learner or neophyte in ways that inspire the pursuit of knowledge and intellectual growth over the course of a lifetime (Cox, 2015). Mortimer Adler, Robert Hutchins, Allan Bloom, and E. H. Hirsch are just some of the contemporary thinkers who Elias and Merriam associated with this school of philosophy in adult education.

In the progressive school of philosophical thought, the focus is on cultural and social awareness and also the use of knowledge for practical needs and outcomes. In some respects, it advances some of the themes explored in liberal adult education philosophy. According to Elias and Merriam (2005), the development of critical thinking skills and problem-solving skills are key goals in the learning process. The role of the teacher is that of a guide, but the learner develops practical skills and experiences through collaboration, experiential learning, and interdisciplinary activities (Cox, 2015; Tan, 2017). Charles S. Peirce, William James, and John Dewey are key figures in the progressive or *pragmatic* school of philosophy. In adult education, Elias and Merriam (2005) discovered that elements of progressivism can also be found in the writings of Edward Lindeman, Malcolm Knowles, Carl Rogers, and Paulo Freire. According to the authors, many of the basic principles associated with behaviorist adult education are also indebted to progressivism. Here, the scientific method and experimentation are emphasized in attempts to discover truth. However, unlike progressivists, behaviorists tend to place more value on understanding and controlling human behavior using these approaches. Their focus is on the actions and behaviors of humans and the role that

knowledge, environment, and other factors can play in conditioning their behavior through incentives or other mechanisms that induce an intended change or outcome (Elias & Merriam, 2005). The teacher may use a system of rewards to inspire students to exhibit or demonstrate certain behaviors. In this case, the teacher is an authority figure, controlling and managing the activities and goals for the learner in the learning process (Cox, 2015; Foucault, 1995). Noted contributors to this school of philosophical thought include John B. Watson, Ivan Pavlov, E. L. Thorndike, and B. F. Skinner.

As with liberal adult education philosophy, humanism has roots in the thinking of the ancient philosophers mentioned earlier. Elias and Merriam (2005) also reported that it is related to the early phase of progressive education, which tended to focus on the experiences and growth of learners. Humanists encourage the cultivation of personal and cognitive growth and development by focusing on the importance of knowledge of the self. Elias and Merriam (2005) noted that these values help to facilitate self-actualization as well as self-directed learning that occurs over the course of one's life. In this case, the learner helps to direct the learning process through the kind of self-discovery and dialogue that builds character and stimulates greater self-awareness (Noddings, 2016). The teacher sets the stage for learning by creating a fluid and flexible learning environment that supports creativity, individuality, and self-expression. Elias and Merriam (2005) claimed that humanistic values underpin the ideas of Desiderius Erasmus, Jean Jacques Rousseau, Abraham Maslow, Carl Rogers, Leon McKenzie, and Malcolm Knowles.

However, those in the radical/critical tradition or *reconstructionism* might take issue with many of the positions taken by humanists. As with humanism, Elias and

Merriam claimed that the emphasis placed on social change in this school of philosophy can be traced back to progressivism. The two schools differ in terms of how one goes about achieving the transformation of society. In the radical/critical tradition of adult education philosophy, its proponents value knowledge as a tool or agent in the pursuit of fundamental social, political, and economic changes in the society and its supporting institutions, particularly the system of education (Elias & Merriam, 2005). Based in part on the ideas of philosophers associated with the Frankfurt School of social and critical theory in Germany, radicalists support the complete overhaul of the academic system and the transfiguration of the classroom into a site of learning as well as the development of a political and social consciousness (Noddings, 2016). The leader and the teacher work together to construct goals for learning that are transformative and empowering for both parties. Those writers who have had the most influence in this area include Karl Marx, Paulo Freire, George Counts, Theodore Brameld, Ivan Illich, and Michael Katz (Elias & Merriam, 2005; Ozmon & Craver, 2008).

The conclusions that many analytic philosophers arrive at often misalign with those who have a more liberal or radical disposition. The analytic philosophy of adult education is considered an instrument for helping one to recognize and communicate concepts (Elias & Merriam, 2005). In this respect, understanding logical reasoning and the nature of language is paramount in the process of teaching and learning. The subjective and objective properties associated with language make knowledge, at least for proponents, constantly in need of clarification so that its character and logic can be revealed and properly framed in order to be understood (Elias & Merriam, 2005). In this way, the teacher creates learning contexts that reinforce logical reasoning and the

importance of clear language in analytical thought. Elias and Merriam (2005) noted George Moore, Bertrand Russell, John Wisdom, Ludwig Wittgenstein, and Kenneth Lawson as some of the scholars who have contributed to analytic philosophy.

Postmodern philosophy builds on the ideas of analytic philosophers such as Wittgenstein and his ideas about language as a game or form of play between meanings and contexts. Postmodernists claim that the human experience is so complex that language, metanarratives, traditions, and modes of thought are incapable of categorizing or rationalizing it. In turn, the *semiotic* or dialogic properties of language, texts, and knowledge reflect the uncertainty, constructivism, and plurality at the core of all experiences, especially in the learning process. Therefore, the structure and organization of knowledge through disciplinarity is seen as an artificial and problematic way of managing teaching and learning (Noddings, 2016; Ozmon & Craver, 2008). The unruly logic that postmodernists associate with the operation of thought, language, and knowledge are at odds with the systems of education that must organize it. The teacher is tasked with helping the learner to realize that one is always a subject and an agent in the educational system and the larger society (Ozmon & Craver, 2008). Therefore, learning is a continuous negotiation of the contingent and constructivist nature of knowledge in various social, political, and economic contexts that are always permeated by networks of differences and power.

As such, Elias and Merriam (2005) reported that postmodern educators reject many of the tenets of the schools of educational philosophy mentioned above. The authors stated that postmodern education extends its critique to all philosophies of adult education, particularly those that advance science, the scientific method, and notions of

an autonomous self. Although it echoes many of the themes, concerns, and values expressed by radical/critical adult education philosophy, postmodernism rejects the discourse of Marxism and socialism and the support it receives from many radical and/or critical adult educators. Key thinkers associated with postmodernism in education include Henry Giroux, Cleo Cherryholmes, Stanley Aronowitz, and those scholars who think with the ideas of theorists often associated with this movement such as Jacques Derrida, Michel Foucault, Jean-François Lyotard, and Jean Baudrillard. In adult education, this would include scholars such as Robin Usher, Richard Edwards, Ian Bryant, and Rennie Johnston.

However, Colgan and Maxwell (2020) argued that educators and students have grown less enthusiastic about the great thinkers in philosophy and the legacy that they have created across the landscape of Western intellectual thought. In their work, the authors found that the study of philosophy in many teacher-education programs has been in decline for many years. For several educators, the word *philosophy* translates as something too dense and rarefied for the average person and, ultimately, a waste of time (Elias & Merriam, 2005, p. 5). Once widely recognized as essential to the craft of teaching and the professionalization of educators, philosophy is now considered too abstract and impractical to address the concerns of many educators (Noddings, 2016). The study completed by Bolat and Bas (2018) signals the declining role of philosophy in education. The authors wanted to learn the perceptions that future teachers had of the philosophy of education. They surveyed a total of 111 teacher candidates who were enrolled in a course in educational philosophy. When the authors asked the candidates to assess the relationship that they perceived between education and philosophy, they

discovered that the views of the respondents varied: 19.81% stated that they saw philosophy as a guide for educators, 14.41% reported that it could help them to discover answers to educational problems, and only 3.6% imagined philosophy as a way to promote development in education.

Colgan and Maxwell (2020) went on to claim that less than 10% of educator-preparation programs involve a course in philosophical thought for its students. They argued that this deficit has created an anti-philosophical bent in education studies as corporatism and quantitative worldviews dominate the field. Thompson (2018) associated this hesitancy with the focus placed on practicality and outcomes in order to signify action and credibility in education. Some critics see this anti-philosophical mood as symptomatic of the further intellectual degradation and marginalization of teaching, especially in higher education. For instance, Beaumont (2020) reported that many community college faculty have not had formal training in teaching. Bernauer and Tomei (2015) found this feature to be a characteristic that many faculty also shared in the upper tiers of higher education, particularly at research universities. In fact, they added that college faculty often develop their beliefs and expectations about teaching based on how they were instructed when they were students in the classroom. Alexander et al. (2021) argued that building one's teaching approaches and practices based on how one was taught or relying on the latest fad in education rather than grounding one's practices in a core philosophy can lead to strategies that are inconsistent and possibly completely misaligned with intended outcomes. Scholars such as Klein (1995) have warned those in adult education and interdisciplinary studies about the impact of the misalignment between theory and practice and its deleterious impact on teaching and learning. Klein

claimed that it will be important to have a better understanding of the relationship between the nature of adult learning and interdisciplinary learning, particularly as they relate to the preparation of future teachers and the professional development of faculty. Schindler (2002) and Ntiri et al. (2004) recognized Klein (1995, 1996) and Halliburton (1981) as some of the first scholars to study the connection between interdisciplinarity as an innovative form of learning in adult education. Using the pioneering work of these scholars in this area, Ntiri et al. (2004) concluded that the best theories and practices for enriching interdisciplinary learning tend to align with the best theories and practices for understanding adult education (also see Foley, 2020).

Philosophy as a Critical and Practical Tool

In many respects, Zinn (2004) would agree with this assessment. She might also include the fact that adult educators often have difficulties bridging the gap between theory and practice (Foley, 2020). Because adult educators include people from diverse backgrounds, disciplines, and professions, Zinn found that they often hold very different beliefs about how they teach, what they teach, and why they teach. In adult education, there are endless possibilities for facilitating learning in formal and informal settings. Today, educators can transmit information through simulations, lecture, discussion, digital conferencing, and planned activities embedded in learning management systems such as Banner and Canvas (Alexander et al., 2021; Frodeman, 2017). What is apparent in all of these learning scenarios is that adult educators encounter minimal regulation in terms of what they teach and what methods they apply (Zinn, 2004). They select the strategies and methods. They determine the intellectual integrity and scope of the content and instructional activities that they believe will help adult students to gain new

knowledge, new skill sets, and new worldviews and behaviors. However, Zinn wondered how adult educators arrived at their decisions about their educational choices. For many adult educators, their decisions are influenced by the availability, affordability, and popularity of a particular teaching strategy or device. Zinn (2004) pointed out that the mandates and objectives of a particular funding agency may also play a role in an educator's decision-making process. Nonetheless, she concluded that the beliefs that underpin many of the choices that adult educators make about teaching and learning are rooted in their *philosophy* of education. Zinn (2004) also noted that there is often a gap between what adult educators say and do in this area. This contradiction is usually a symptom of the difficulty that educators often have operationalizing their espoused theories of education. The dissonance that this can cause tends to force many educators to seek a sense of congruence between their philosophy of education and their practices.

To help adult educators as well as critics of philosophy to better understand the significance of Elias and Merriam's (1995, 2005) work, Zinn (2004) has demonstrated what philosophy looks like as a *practical* tool that helps adult educators and others to understand the importance of developing a philosophy of education and how it conditions the various teaching methods, choices, and activities advanced in the field of adult education, including interdisciplinary practices (Alexander et al., 2021; Cox, 2015). For example, Zinn (2004) created the Philosophy of Adult Education Inventory (PAEI) as a way to help adult educators determine their educational philosophy and associated practices (also see Conti, 2007). Zinn claimed that her inventory or *survey* is a practical and effective way to help educators to discover their philosophical orientation as it relates to adult education. In her framework for adult education philosophy based on Elias and

Merriam's (2005) model, Zinn presented five schools of adult education philosophy in her inventory. They include *Liberal*, *Progressive*, *Behaviorist*, *Humanist*, and *Radical* philosophies of education. Each school represents a particular orientation to adult education. For example, liberal adult education reflects education for intellectual development. Behavioral adult education reflects education for competence and compliance. Progressive adult education reflects education for practical problem solving. Humanistic adult education reflects education for self-actualization, and radical adult education reflects education for major social change (Zinn, 2004, p. 71).

Zinn claimed that these categories frame many of the values and beliefs that adult educators apply to practice. In the survey, Zinn (2004) listed 15 incomplete statements and each one is preceded by a list of five statements or options that participants can select in order to complete the incomplete statements. Each of the five statements or options expresses an orientation to one of the five philosophical schools identified above and as they relate to various worldviews about teaching and learning in adult education (Strout, 2015; Zinn, 2004). There is a total of 75 potential responses that one can select and they are rated on a seven-point Likert-type scale. The PAEI then goes from 1 (strongly disagree) to 7 (strongly agree), with 4 being a neutral point, if one is unsure or does not have an opinion about the statement or options presented. For each of the five schools of adult education philosophy in the inventory, the total scores can range from 15 to 105 for each of the five philosophies. Zinn noted that the highest score signifies the philosophical school most likely to support the respondent's selections. On the other hand, the lowest scores signify the philosophical school least likely to support the respondent's selections. Zinn claimed, "Most educators have a clear primary philosophical orientation, or share

two that are stronger than others” (2004, p. 74). If score combinations are close, then Zinn (2004) suggested that respondents might need to reflect on the potential contradictions in their philosophical beliefs (Alexander et al., 2021; Fries, 2012).

Sometimes, critics point out the discrepancies between Zinn’s framework and that of Elias and Merriam (McKenzie, 2018). This is not unusual, as there have always been differences in the way scholars determine and organize the various schools of philosophy and the philosophy of education (Conti, 2007; Gutek, 2011; Noddings, 2016; Ozmon & Craver, 2008; Welch, 2011). Also, it is important to point out that scholars in adult education recognize that Zinn’s model is based on Elias and Merriam’s work, which in turn is based on the writings of Ozmon and Craver (2008). For example, Conti (2007) associated Idealism with *Liberal Adult Education*, Realism with *Behaviorist Adult Education*, Pragmatism with *Progressive Adult Education*, Existentialism with *Humanistic Adult Education*, and Reconstructionism with *Radical/Critical Adult Education*. For Conti, these differences are extensions rather than rival contributions in adult education, further illustrating their interdisciplinary appeal and limitless potential for improving teaching, learning, and research across the disciplines (see more details on Conti’s model in Appendix H).

However, McKenzie (2018) recognized that Elias and Merriam’s paradigm is a valuable tool for helping one think and learn about adult education and philosophy. As its coextension, Zinn’s PAEI is the tool that one can use to measure the extent to which one values one school of adult education philosophy over others. In many ways, Zinn (2004) and Conti (2007) have advanced Elias and Merriam’s framework by operationalizing it as tool for research and professional development in formal and informal settings for adult

education (Alexander et al., 2021; McKenzie, 2018; Rose, 2020). Therefore, Elias and Merriam's paradigm is employed as the conceptual framework for this literature review because the authors, like most other scholars, have had to acknowledge the emergence and significance of postmodern thought in education. As with Elias and Merriam, scholars such as Noddings (2016) and Ozmon and Craver (2008) made adjustments in their writings to accommodate the rise of postmodernism. Unfortunately, Zinn (2004) did not. In this case, Elias and Merriam provided a more updated framework that is positioned to help organize and synthesize the academic literature in order to help adult educators to understand the various epistemologies used to support interdisciplinary practices (McKenzie, 2018). Not only would this kind of approach offer significant explanatory value for readers, but it would also prove to be the kind of historical and philosophical synthesis that helps to contextualize and improve one's understanding of the origins of the approaches and practices associated with interdisciplinary education. For example, in his study, Ralston (2011) reported that the relationship between philosophy, interdisciplinarity, and education can be traced back to the Pre-Socratic philosophers. They are considered the first professional educators in ancient Greece. For Ralston, this lineage runs through the writings of John Dewey, a key figure in the philosophy of education. Noddings (2016) reported that scholars consider Dewey's influence on education to be considerable and essential in completing one's understanding of the intersection of education and philosophy. In some of his writings, Dewey (1993) argued in favor of interdisciplinary education, claiming that there should be cross-fertilization among the sciences and recognition of what many scholars agree is

the identical beginnings of philosophy, interdisciplinarity, and education (Dinmore, 1997; Flexner, 1994; Ralston, 2011).

Halliburton (1981) suggested that these are the kinds of connections that students of interdisciplinarity and adult education have often been unable to make or process due to fragmentation in the academy and elsewhere. He might agree that the problems that he associated with the competing and confusing conceptualizations of interdisciplinarity in the academic literature mirror many of the concerns that scholars have raised about the various conceptualizations and practices that constitute adult education (see Dinmore, 1997; Rose, 2020; Zacharakis, 2014). In his early assessment of scholarly works in both areas, Halliburton (1981) found that the links between interdisciplinarity and adult education are seldom explored or systematically investigated. In his prescience, he indicated that educators who attempt to illuminate this connection would go far in helping to fill this gap in the academic literature. Halliburton suggested that most scholars can only speculate about the significance of interdisciplinary studies in adult education. As such, he claimed that more research is needed to understand the interrelationship between these areas. Even though scholars such as Collins (2020) and Zacharakis (2014) consider interdisciplinarity to be critical in fostering a deeper understanding of adult education, one finds that it is still largely ignored in the academic literature on teaching, learning, and research in interdisciplinary studies (Augsburg & Henry, 2009; Haynes, 2002; Lattuca, 2001; Newell, 2006; Schmidt, 2021). In her study, Klein (1995) also concluded that the connection between interdisciplinarity and adult learning is seldom examined. However, scholars such as Kawalilak and Groen (2020) would agree that introducing a paradigm to map the philosophical interconnections between

interdisciplinary studies and adult education is imperative, as their research has shown that relational learning is essential to the success of adult students in higher education. For scholars such as Dinmore (1997), this relationship emerges in the liberal traditions first developed by prominent philosophers in ancient Greece (also see Klein, 1990; Welch, 2011).

Liberal Adult Education Philosophy

In liberal adult education philosophy, the attainment of knowledge for wisdom, speculation, and virtue are key values. According to Elias and Merriam (2005), *knowledge* is “the systematic grasp of a subject matter, a discipline, or an area of study” (p. 28). It is different from information in the sense that it allows one to grasp deeper principles and synthesize them. Educators who embrace idealism emphasize the transmission of universal ideas. For them, collaborative discussions and lectures would be used as a way to deepen students’ understanding of the relationship among these universal ideas and various knowledge communities. In this sense, the classroom or other sites for teaching and learning become spaces where students explore and discover truths and an understanding of contemporary realities in relation to those of the past.

However, one finds that, historically, many of the philosophers and educators who support this view of education do not necessarily endorse this kind of *intellectual* training for all students. Elias and Merriam (2005) noted that this was of particular concern when it came to those who advocated vocational or technical training for many adult learners. These notions are still evident among politicians, administrators, and faculty who support differentiation in the curricula in contemporary academic systems, especially for community colleges and technical schools (Douglass, 2000; Hanson, 2013; Markovits,

2019; Marks, 1980; Spencer, 1966; Thorburn, 2017; Veblen, 2015). However, critics in organizations such as the Center for the Study of Liberal Education for Adults (CSLEA) have called this worldview elitist and anti-democratic. They argue that liberal education is needed to maintain a truly democratic society in which citizens can develop their capacities. Ironically, many of the philosophical communities out of which liberal philosophy developed and advanced were not democratic at all (Jarratt, 1991; Kant, 1979, 2007)).

For most scholars, the story of philosophy starts in ancient Greece (Scott et al., 2020). For others, the story of philosophy existed long before this period. However, this history tends to be marginalized in academe (Bernal, 1987). Philosophers in China such as Confucius made significant contributions to educational philosophy. Under Confucian logic, high achievement, self-reflection, and social justice are all effectuations of the transformative power of education in schools and the public commons (Tan, 2017). According to Bernal (1987), Massey (2014), and Rutherford (2016), the ancient cultures that developed in Egypt and other territories in the Middle East were regarded as major centers of learning and advanced education long before the Greek and Roman traditions emerged. Though controversial, Rutherford and Bernal claimed that the foundation for early Greek philosophy is based on what many of Greece's earliest philosophers such as Pythagoras and Plato actually learned in Egypt. Bernal (1987) noted that the Greeks admitted that this is where they went to learn what they would later call *philosophy* or the love of wisdom. Philosophy became the preoccupation of the Ancient Greek intellectual class and the bedrock on which the Western intellectual tradition is formulated. For example, ancient Greek philosophers such as the Sophists, Socrates, Plato, and Aristotle

were the key progenitors of liberal arts education and they were essentially interdisciplinary thinkers (for more on the Sophists as forerunners of postmodernism, see Jarratt, 1991). Klein (1990) argued that the term *interdisciplinarity* did not emerge until the twentieth century, but the idea of it is rooted in the beliefs and practices of many early Greek philosophers. In fact, Plato considered philosophers to be synthesizers of knowledge. His pupil Aristotle created one of the first typologies for knowledge (Klein, 1990). Elias and Merriam (2005) claimed that both philosophers agreed that an intellectual education was preferable to a utilitarian education, especially for rulers and politicians who were virtuous, rational, wise, and equipped with a rigorous education that crossed the subject areas. For example, Plato (1974) was first and foremost concerned with establishing a stable social order. He determined that knowledge could contribute to this effectuation. For him, knowledge concerns itself with reality and it can be obtained with education in philosophy and reflection. For Plato, true knowledge is universal and not infallible. True knowledge rests in Forms or the unchanging universals that can be understood by exercising reason. The Forms of the Good and the True are the most noble pursuits, particularly for the philosopher king, a leader with an extensive higher education and philosophical training (Plato, 1974).

Roman rhetoricians such as Cicero and Quintilian built on the educational philosophies of these early Greek philosophers, particularly Plato and Aristotle (Elias & Merriam, 2005). The Roman philosophers further meditated on the purposes and virtues of cultivating the habit of learning as a way to advance the ideals and prerogatives of the state. Scott et al. (2020) reported that the Greek and Roman philosophers considered knowledge of philosophy to be essential for teaching public service, law, engineering,

and civil administration. More significantly, their understanding of education was not bound by disciplinarity as it is conceived today. The antecedents of our current arrangement of knowledge in higher education would take shape during the medieval period (Klein, 1990; Weingart, 2010). During this period, philosophers such as Saint Augustine and Thomas Aquinas would integrate Christian teachings with classical Greek and Roman philosophy to inform their views of education and spiritual development. It is also during this period that one finds the emergence of the seven liberal arts being used to organize knowledge and the curriculum in the early universities in Europe (Wellmon, 2016). The subject areas that form the *trivium* include logic, grammar, and rhetoric. Arithmetic, geometry, astronomy, and music are the subject areas that constitute the *quadrivium* (discussed below).

This schema played a role in setting the stage for the revitalization of learning during the Renaissance period (Scott et al., 2020). It also revived interest in the classical works of the ancient philosophers. Innovations in printing and exploration renewed interest in the benefits of knowledge and art in promoting a more humane society. Nurtured by the writings of philosophers such as Descartes, Locke, Rousseau, and Kant, the Enlightenment period in history ushered in even more advancements in education. Elias and Merriam (2005) pointed out that the influence of liberal arts education on these Enlightenment thinkers is important. The authors reported that the intellectual focus associated with the liberal tradition is reflected in the use of mathematics and philosophy to cultivate and develop the rational powers of humans. These philosophers also advanced the idea that science and reason transformed society's understanding of mankind, knowledge, and the role that the scientific method played in generating the

kinds of insights that helped to explain the mysterious workings of the world. As such, Olssen (2003) would agree that the Enlightenment is the footnote to the modernist and postmodernist thinking that continues to impact the discourse and values in adult education today (more on this point below).

For scholars such as Wellmon (2016), *disciplinarity* is one of the Enlightenment's last technologies. Wellmon has argued that the Enlightenment is associated with a variety of concepts and technologies such as taxonomies and systems of differentiation designed to manage knowledge. The systems of differentiation and their legitimation through taxonomic elaboration are dividing practices operationalized by those in positions of authority (Foucault, 1984, 1995). However, these Enlightenment technologies were more than tools or extensions of the authority of those who sanctioned their use. For Wellmon, they were also *value-laden metaphors* for a particular view about the order of knowledge and society and the means by which they should be controlled and advanced. He argued that disciplinarity is a significant technology of the Enlightenment, as it provided a way for philosophers and many (re)emerging academic institutions to organize and articulate specialized knowledge in ways that kept it from becoming unmanageable and too abstract. As a result, a discipline-based understanding of knowledge became one of the cornerstones of academic life and that legacy is still evident in the work of scholars who maintain the importance of splintering and differentiating knowledge and people, even in liberal arts institutions (Douglass, 2000; Wellmon, 2016).

Liberalism and (Pre)Disciplinarity

According to Weingart (2010), the preoccupation with the categorization of knowledge emerges in the *predisciplinary* world of ancient Greece and its philosophers,

most notably Aristotle (1999). Aristotle considered philosophy to be a natural activity that humans use to make sense of their realities. One of the starting points for understanding this relationship as a philosophical phenomenon can be found in his work (Weingart, 2010). While Klein and Frodeman (2017) considered Plato to be one of the first thinkers to advocate philosophy as a unified science, they would agree that Aristotle, Plato's pupil, went further in exacting what this role entails. They reported that it is Aristotle who insisted that philosophers have the ability to collect various forms of knowledge, organize it, and study it. For Aristotle, philosophy is foundational to one's ability to understand and relate the complexities of life and knowledge. He recognized three areas of philosophy: *natural* philosophy (physics), *moral* philosophy (ethics), and *mental* philosophy (metaphysics) (Lattuca, 2001). These areas of philosophy play a major part in helping the philosopher to understand the realities of the world and how the knowledge it manifests is able to be categorized (Aristotle, 1999). Aristotle set out to provide a taxonomy of knowledge as an essential matrix for ordering and understanding its character and significance. In *Nicomachean Ethics*, Aristotle presented readers with an illustration of his categories for organizing knowledge.

First, Aristotle (1999) wanted to make a distinction between contingent reality and necessary reality and truth sought by theoretical thought or practical thought. To achieve this goal, he identified the five virtues of thought or *intellectual virtues* that make differentiation possible. Aristotle's five virtues of thought are *episteme* (scientific knowledge), *techne* (artistic or technical knowledge), *phronesis* (practical wisdom), *nous* (intuitive reason), and *sophia* (philosophic wisdom). In this context, scientific knowledge is considered knowledge that is necessary, demonstrable, and universally valid. However,

artistic or technical knowledge focuses on how things are made or constructed (*poiesis*). This is the form of knowledge that Aristotle associated with craftwork or the invention of things that had not existed, thus making them contingent. He also considered practical wisdom to be contingent because it conditions the formulation of opinion (*doxa*) in varying contexts. However, there is no object or product created under the category of practical wisdom per se. In this case, the focus is on activity or action (*praxis*). According to Aristotle (1999), the action is the product. The opinions that one has are implicated in *phronesis* and help one to cultivate the experiences required to live a good and virtuous life, which results from the integration of intuitive reason, philosophic wisdom, and scientific knowledge. Of all of the forms of knowledge, Weingart (2010) pointed out that Aristotle privileged scientific knowledge in his classification system. Thousands of years later, Aristotle's hierarchical schemata not only anticipates the work of writers such as Snow (1959) and Kagan (2009), but it also serves as a foundation and template for the formulation of the trivium and quadrivium, the major academic areas that are associated with liberal arts education in the Middle Ages (Weingart, 2010).

Both Tessaro (2022) and Chettiparamb (2007) mentioned the Medieval Latin origin of the term *discipline* and its use to denote instruction given to disciples, typically in the areas of the seven *artes liberales* or trivium and quadrivium. With roots in ancient Egypt as well as Greece and Rome, the seven liberal arts that were used to organize knowledge and the curriculum in the early medieval universities in Europe included logic, grammar, and rhetoric (*trivium*). It also included subject areas such as arithmetic, geometry, astronomy, and music (*quadrivium*) (Bernal, 1987; Scott et al., 2020). On the other hand, *mechanical arts* was the term that was used in the Middle Ages to describe

nonacademic fields such as weaving, farming, masonry, warfare, cooking, and metallurgy. Ultimately, the liberal arts came to be associated with the upper class in society and the mechanical arts became associated with the lower class. Unlike the mechanical arts, the liberal arts were not skills that were tied to a particular trade or technology for the purposes of production. Greenberg (2015) suggested that the liberal arts enabled people to gain the kinds of education that would help them to function as free citizens in society.

To clarify this point, Greenberg (2015) noted that the term *liberal* meant *freedom* as it is contrasted with words such as *imprisoned* or *subjugated*. According to Kimball (1995), it is among the ancient Athenians of the fifth and fourth centuries B.C.E. that one begins to see the emergence of the idea of educating the free citizen with leisure to study and use education to advance political, and particularly, democratic thought. The conflation of education with democracy remains an attribute of many progressive educators and interdisciplinarians (Bradshaw, 2021; Stoller, 2020). These themes are often evident in the overlap one finds in key definitions of both terms. For example, Wolin (2008) claimed that democracy is about making power responsive to the needs and hopes of ordinary people, thus making it possible to improve the conditions of their lives. Joullicé and Spillane (2015) reflected the general tenor of Wolin's description in their assessment of education. The authors claimed, "Education is to cultivate the habits, references and skills upon which the democratic ideal rests, notably a general engagement in public affairs, a working knowledge of democratic principles and the critical thinking skills that intellectual freedom requires" (p. 314). And finally, Taylor (2010) illustrated how educators conflate the two when he stated that a viable system of

education is essential for democracy and the ability of individuals to prosper and thrive in a globalized world.

In education, Weingart (2010) would agree that the seven liberal arts have helped educators to mediate and advance democratic aims. However, their transfiguration into disciplines as they are experienced today is often inconsistent with the definitions of democracy and education as scholars such as Wolin (2008) and Joullié and Spillane (2015) have imagined them. In other words, there tends to be a gap between the rhetoric of democracy and its realization through disciplinary or interdisciplinary education (Foucault, 1995; Markovits, 2019; Marks, 1980; Spencer, 1966; Tessaro, 2022).

According to Weingart (2010), the limitations in the classificatory systems such as the one introduced by Aristotle gave rise to disciplinarity as a new organizational mode for the production and organization of knowledge at the end of the eighteenth century. With few exceptions, the expansion of democracy for the populace as a whole would be a by-product of this new system and not a preamble or major prerogative. In this respect, Scheidel (2017) may be correct when he claimed that greater equality is not necessarily a derivative or product of more voting, regulation, or education. Also, disciplines as they are understood today did not truly exist until the nineteenth century, coinciding with the emergence of scientism, industrialism, and technological advancements (Salter & Hearn, 1996). Up to this point, Weingart (2010) noted that disciplines were viewed as being largely unimportant in education or as pathways to democracy. Also, there was little to no direct relationship in the ways knowledge was ordered, the division of the faculty, and the structure of higher education. For many scholars, Immanuel Kant helped to change this dynamic (Weingart, 2010; Wellmon, 2016).

Kant's Theory of (Inter)disciplinarity

As one of the most influential philosophers in the Western tradition, Kant (2007) was also an influential pedagogue and key architect in the transformation of higher education to meet the demands of the state as well as the industrial age. Kant's philosophy is often associated with liberalism because of the regulations that he put on the state when it comes to one's civil liberties and education (Wellmon, 2016). Taylor (2010) argued that "For Kant, the university was to serve two primary functions: first, to provide educated bureaucrats for the state, and second, to conduct research whose goal was the production of new knowledge" (p. 18). Kant viewed the university system as one that was responsible for producing education for mass consumption. To function effectively and efficiently, he argued that the labor process in academic institutions must be "divided into separate departments and subdepartments, each of which has different expertise, tasks and responsibilities. The educational product is packaged as individual courses that are discrete units with set values" (Taylor, 2010, p. 52). The philosophical framework and academic divisions and roles that he established in order to realize this goal are still evident in academic systems throughout the world today (Taylor, 2010). Derrida (2004) reported that Kant is a central player in any evaluation of the organization and management of knowledge and power in higher education. For Klein and Frodeman (2017), "Before Kant and the development of modern disciplinary culture, the scientist and the philosopher were often one and the same person" (p. 149). In discussions on Kant's contributions to academic discourse, one finds that his philosophy of education is not only insightful, but it is implicated in the divisions among the faculty, the disciplines, and the various institutions in contemporary higher education (Aronowitz, 2000;

Readings, 1997; Schelling, 1966). Taylor (2010) and Moran (2010) claimed that a consideration of Kant's legacy is important because it helps readers to understand the ways in which Kantian philosophy came to play such a significant role in the organization of knowledge, disciplines, and faculty in modern higher education (also see Readings, 1997).

In *The Conflict of the Faculties*, Kant (1799) described the relationship among the disciplines and addressed his concerns about censorship by the government, conflicting academic values among subjects such as religion and philosophy, and their disruptive effect on academic freedom. As a solution to the tensions that he associated with these elements in education, Kant (1799) organized the faculty by academic disciplines and rank based on the three higher faculties and the various lower categories that he used to interpret the structure of the mind. According to Kant (1799), the organization and operation of higher education should reflect the organization and operation of the mind (also see Kant, 2007). In this sense, Kantian thought echoes that of Plato. However, Kant was much more strategic. For Kant (1799), his ideas function as a systems theory of knowledge since the status of knowledge as a science or *techne* depends on its systematicity (Derrida, 2004). This theory serves as the conceptual framework or outline that is needed in order to establish the pursuit of pure reason as a science and an institution. According to Derrida (2004), Kant's academic model is central to one's understanding of academic systems as sites of reason and rational science.

In Kant's academic paradigm, he illustrated his *theory of architectonics*. According to Kant (2007), architectonics is the art of constructing systems, particularly systems of knowledge that have been transformed to the rank of science by reason. For

him, reason must be used to censor, regulate, and order thought and social relations. Kant's system for cognition divides the mind into three higher and several lower faculties or *categories*. He also used this model as the blueprint for his reform plan for higher education. In other words, Kant's architectonic understanding of cognition mirrors his architectonic understanding of the organization and management of knowledge, disciplines, and faculty in higher education (Derrida, 2004; Manchester, 2003). Kant's model reimagines the idea of the seven liberal arts and the influential roles that theology, law, and medicine should play in the academy in the industrial age. For example, the faculty and their roles and duties are distinguished and divided by ranks. The higher ranks are composed of faculty in the professional fields of theology, law, and medicine. In Kantian architectonics, the scientific disciplines are assumed to provide the correct structures of learning for these professions (Manchester, 2003). The two areas that constitute the lower rank are historical knowledge and pure rational knowledge. The faculty in the lower rank are called the *philosophy faculty*, as philosophy is a synthesizing tool and an instrument of reason for Kant. Today, these departments are recognized as the human sciences, social sciences, and natural sciences. According to Kant (1979), the philosophy faculty must be granted the freedom to *judge autonomously* in order to research and discover truth through the sciences. For Kant, the lower faculty members play important roles as regulators and censors for the higher faculty. As censors, the lower faculty are subject only to the laws of reason and peer review. Kant (1979) claimed that, as scholars, the faculty only put their doubts and interrogations to one another, with little interest or disturbance from the people. Freed from government oversight and regulation, the lower faculty can pursue truth through research and scholarship. However,

the higher faculty must serve as the vanguard. Kant (1979) noted that faculty in theology, law, and medicine form the leadership class in the intelligentsia because they are responsible for attending to the eternal well-being, civil well-being, and physical well-being of the general public in order to support a functioning society and labor force. They symbolize the *artful leaders* who people often turn to for comfort and direction. Kant (1979) stated that the public wants to be led, but not by a faculty of scholars. Instead, he claimed that they prefer to be led by “the businessmen of the faculties—clergymen, legal officials, and doctors—who understand a botched job (*savoir faire*) and have the people’s confidence” (p. 51).

Kant (1979) called the higher faculty the *tools of the government* because they have a direct and lasting influence on the citizens. More importantly, they serve the practical needs and political interests of government. To avoid academic conflicts, the higher and lower academic ranks must be compartmentalized. Kant (1979) stated, “The higher faculty must, therefore, take great care not to enter into a misalliance with the lower faculty, but must keep it at a respectful distance, so that the dignity of their statutes will not be damaged by the free play of reason” (p. 35). According to Kant (1979), the government influences the people through the higher faculty. Therefore, the government must have direct authority over the higher faculty through standards, regulations, and sanctions because they have much more authority and leadership over the people than the lower faculty (also see Veblen, 2015). Kant (1979) wrote that the government is most interested in “the means for securing the strongest and most lasting influence on the people, and the subjects which the higher faculties teach are just such means” (p. 27).

Kant's organizational hierarchy for faculty and the disciplines condition and incentivize one group to serve as leaders and the other as followers, which appears at odds with the idea of education as a democratic enterprise (Usher & Edwards, 1994). Consequently, the conflicts that Kant (1797) wished to resolve between faculty and disciplines may not have been resolved at all, but simply contained and made more manageable with the imposition of his philosophical framework based on reason. Derrida (2004) reported that Kant is well aware that conflicts between the lower faculty and higher faculty will never end. Therefore, the faculty in the lower rank must be permanently armed for continuous confrontation, despite Kant's use of fragmentation as a management and disciplinary tool. Wellmon (2016) and Derrida (2004) suggested that Kant's philosophical ideas and their advancement in education have a dual character. They are both progressive in some respects and regressive in others. Yet, in pragmatic or progressive thought, Kantian philosophy often serves as a starting point for understanding the importance of logical reasoning and practicality in education (Foucault, 2011; Peirce, 1955).

Progressive Adult Education Philosophy

The idea of progressive education has its roots in the kind of rationalism, empiricism, and scientism that proliferated during the Enlightenment. According to Elias and Merriam (2005), the scientific method associated with these movements became central for progressive thinkers who valued the importance of experience, practicality of aims, and social responsibility. The philosophical underpinnings of progressivism are to be found in pragmatism, which is rooted in the philosophy of Charles S. Peirce and its elaboration by philosophers such as William James and John Dewey. *Pragmatism* asserts

that the idea of anything is implicated in its aims and effects. To have an idea is to be aware of its effects and not its empirical underpinnings alone (Guttek, 2011; Peirce, 1955). As such, reality will depend on the testing of ideas and contingency. In other words, it encourages a more practical approach and processes for achieving one's intended aims or goals. According to Ozmon and Craver (2008), one's contentions about truth and knowledge are always relative for pragmatists. Trying to locate them in the mind or universal experiences really misses the essence of their constructivist nature. The manifestation of truth and knowledge in any context is best determined by the outcome that one hopes to achieve in a given situation. In clearer terms, pragmatists take both a relativistic and pluralistic view of the world and knowledge. These elements are all shaped by the dimensions of human experience and the consequences of human action.

In terms of instruction, pragmatists adopt or adapt content and assignments that students find relevant to their interests. It is also important that students are able to apply what they learn in order to be able to solve complex problems. Therefore, pragmatic educators seek to empower students by teaching them to use logical reasoning to understand and negotiate the phenomena of the world and its impact on one's life. Materials that inspire students to use logic for problem solving are powerful ways in which teachers can help students to deal with changing realities. Furthermore, Tan (2006) pointed out that interdisciplinary course content and collaborative assignments are two significant ways that pragmatic educators facilitate integrative and action-oriented learning in the classroom. These methods are important because they help students to relate knowledge and address phenomena across different contexts. Furthermore, Douglass (2000) claimed that many reformers such as Dewey actually opposed emphasis

on specialization and academic fragmentation. Pragmatism supports a broad and holistic understanding of progressive education that is integrative, reflective, and student-centered. Of all the philosophical schools described in their writings, Elias and Merriam (2005) reported that progressivism in the guise of pragmatism may have had the most impact on American education. While John Dewey has been the central figure in advancing pragmatism in progressive adult education philosophy, many instrumental interdisciplinarians have grounded their considerations of interdisciplinarity using the ideas of Charles S. Peirce (Welch, 2011).

Progressivism and Interdisciplinarity

In his consideration of the Western philosophical tradition, Welch (2011) determined that instrumental and conceptual interdisciplinarity correspond to *postmodernism* and *pragmatism* in philosophical thought. More specifically, conceptual interdisciplinarity corresponds to the *postmodern* school of thought. Instrumental interdisciplinarity corresponds to the *pragmatic* school of thought. According to Welch, these two schools provide the philosophical and historical contexts that are often missing in contemporary discussions and appropriations of interdisciplinarity. However, Welch (2011) went on to argue that conceptual interdisciplinarity cannot be the only basis for understanding interdisciplinary theory. It needs the pragmatism that is inherent in instrumental interdisciplinarity to form a more holistic understanding of the creation and application of knowledge. The author wrote, “In order to understand and attempt to solve complex problems, instrumental interdisciplinarity affirms that truth abides within the dynamics of complexity” (p. 18). Like Newell (2001b) and other instrumental interdisciplinarians, Welch privileged complex systems theory as the more logical

epistemological rationale for interdisciplinarity. He argued that complexity is the cornerstone of interdisciplinary theory and it is an appropriate paradigm and worldview for the twenty-first century. As a theoretical approach for interdisciplinarity, complex systems theory recognizes that knowledge is open-ended, socially constructed, and contingent. These same adjectives that Welch (2011) associated with instrumental interdisciplinarity could also be used to describe conceptual interdisciplinarity. However, methodology is what really distinguishes the two for Welch. In its instrumental mode, interdisciplinarity provides a practical methodology that helps one to evaluate and solve complex problems in ways that enhance social and academic progress (see Newell, 2001b). Welch (2011) went on to claim that the sensibility that informs instrumental interdisciplinarity as a worldview and methodology grows out of empiricism and accords with pragmatic philosophy. Scholars such as Newell (2001b, 2013) would likely agree.

Newell's Theory of Interdisciplinarity

For Newell (2010), interdisciplinarity represents a fundamental change in how scholars think about the reductionist and dichotomous ways in which knowledge production has been conceived and explicated in Western thought over time. Interdisciplinarity characterizes *both/and* thinking not the *either/or* thinking that is a defining feature of the Enlightenment and modernist thought. However, Newell's controversial theory of interdisciplinarity is often accused of reproducing the reductionist thinking that he claimed interdisciplinarity is supposed to refute (Frodeman, 2014; Klein, 2001). Newell (2001a, 2001b, 2013) proposed complex systems theory and several steps as the theoretical rationale and methodology that is missing in interdisciplinary teaching, learning, and research in the field. He accused interdisciplinarians of focusing more on

the practice of interdisciplinarity and not its conceptualization (or assessment). However, an examination of the theoretical rationale and framework that Newell (2001b, 2008) proposed suggests that it is a continuation of the reductionism found in Western thought and not its disruption (Klein, 2001; Mackey, 2001).

In interdisciplinary studies, Newell's contributions to the professionalization of the field are substantial and profound. Along with help from Klein and other scholars, Newell (2001b, 2013) created one of the leading professional organizations in the field: the Association for Interdisciplinary Studies (AIS). He also established the organization's main academic journal entitled *Issues in Integrative Studies*, which was later renamed *Issues in Interdisciplinary Studies*. More significantly, Newell's (1998, 2001b) theoretical work has been adapted and advanced in the field in many ways. One prominent example can be found in Repko and Szostak's (2017) influential college textbook entitled *Interdisciplinary Research: Process and Theory*. Also, many influential scholars have appropriated Newell's work to inform and advance teaching, learning, and research in the field. Some of the other notable writers who use Newell's ideas include scholars such as Hursh et al. (1998), Augsburg (2005), Boix Mansilla (2010), Szostak (2015), and Welch (2018).

However, Newell's most significant contributions to interdisciplinary studies can be found in his controversial article entitled "A Theory of Interdisciplinary Studies." In the article, Newell (2001b) argued that complex systems theory provides an appropriate focus and a long overdue theoretical rationale for *interdisciplinarity*. Newell (2013) also wrote, "In short, what was needed was a theory to guide not just our evaluation of definitions and the best practices identified so far, but also our search for additional best

practices and attempts to expand the definition of interdisciplinary studies” (p. 31). As such, Newell (2001b, 2013) claimed that complex systems theory provided the kind of rationale that was missing in interdisciplinary studies. In general, a *theory* is a way of contemplating and speculating about phenomena. In interdisciplinary studies, scholars tend to refer to it as a scheme or body of ideas with correlating principles or rules (Klein, 2001). In the case of Newell (2001a, 2001b), complex systems is a theory that is defined by elements that interconnect through nonlinear relations. For Newell, complex phenomena require interdisciplinarity and complex systems theory serves as an appropriate focus and protocol in interdisciplinary education. According to Newell (2013), complex systems theory helps educators and researchers to solve the complex problems often associated with teaching, learning, and research across different disciplines.

To illustrate what his theory looks like in practice, Newell (2001b) identified the key *steps* that he says characterize the interdisciplinary process for teaching, learning, and research. Newell (2001b) reported the steps in the interdisciplinary process he identified as analogous to the principles associated with complex systems theory. The steps are defining, determining, developing and gathering, searching, generating, integrating disciplinary insights, identifying and evaluating, resolving and constructing, creating, producing, and testing. In this instrumental conceptualization of interdisciplinarity, Newell did not specify how complex systems theory actually helps one to understand the integration of disciplinary knowledge (2001b, pp. 15-18). To explain the absence of an assessment of complex systems theory as it relates to integration, Newell (2001b) stated, “But no one I have talked to or read (including my own writings) has been able to explain

clearly how to integrate disciplinary insights into a comprehensive understanding. We are not even clear on exactly what is meant by integration” (p. 18). In spite of the challenges associated with his project, Newell continued to champion the interrelationship between complex systems theory and interdisciplinarity integration and its practical implications in education and beyond (Newell & Arvidson, 2018).

According to Welch (2018), Newell associated his complex systems theory of interdisciplinarity with *pragmatism*. Again, pragmatism evaluates truth and meaning based on their practical application in various situations. It is important to note that Welch (2011) agreed that pragmatism supports the idea of instrumental interdisciplinarity, thus adding weight to the notion that truth abides in complexity. He indicated that the reason that Newell valued complex systems theory and pragmatism appears to be philosophical as well as political. Newell viewed his theory as an attempt to achieve legitimacy for the field based on a body of empirical evidence in support of the claims made about interdisciplinarity (Newell & Arvidson, 2018, p. 19). It is in this sense that Newell imagined his theory would create “a bulwark against accusations that interdisciplinarity studies is an incoherent field associated with counter-cultural experimentation, haphazard in its approach to teaching and research, and thus insusceptible to evaluation” (Welch, 2018, p. 194). To achieve this goal, Chettiparamb (2007) and Payne (1999) reported that Newell (1997) sought to disassociate interdisciplinarity from any critical paradigm that he felt would threaten the development and future of interdisciplinarity studies or provide critics of the field such as Fish (1989, 2015) with cause to associate it with radicalism or a postmodern orientation. Instead, Newell (2001b) worked on building a theory of interdisciplinarity that focused on the role

of *integration* in interdisciplinary processes. Integration is what allows one to achieve a more holistic understanding of knowledge and complex problems. For Newell, complex systems theory illuminates the integrative nature of the knowledge-making process in solving problems that usually require perspectives and tools from more than one discipline. It is in this sense that Newell envisioned integration as a means to an end, which explains why he argued that pragmatism came closest to the kind of philosophy of interdisciplinarity that he claimed was needed in the field (Newell & Arvidson, 2018).

Furthermore, Newell (2006, 2013) insisted that he introduced a set of practices that could actually help educators to actualize integrative teaching and learning. However, Newell's attempt to achieve this goal using complex systems theory and pragmatic philosophy may have caused more problems than they are able to solve (Mackey, 2001). One of the criticisms of Newell's theory of interdisciplinarity is that it is too difficult to teach to undergraduates (Newell, 2006). Other critics pointed out that Newell's understanding of integration is flawed and underdeveloped. Integrative practices do not lend themselves to the kind of methodical formulation and linear protocol that he advocated in his theory (Frodeman, 2014; Welch, 2018). More significantly, critical interdisciplinarians have argued that Newell's attempt to cohere interdisciplinarity with a linear methodology actually reproduces the rationalist logic and modernist thinking that led to the dominance of disciplinarity in the first place. For conceptual interdisciplinarians and many liberal academics, Newell's work betrays "the revolutionary principles that had attracted these constituencies and like-minded thinkers" (Welch, 2018, p. 198).

In her assessment of Newell's theory of interdisciplinarity, Klein (2001) argued that the demands that Newell places on complexity to be the *ground zero of interdisciplinarity* appear to ask for more substantiation from complex systems theory than it can deliver. His approach is more modernist. For Klein and many conceptual interdisciplinarians, modernism does not value the diversity and simultaneity of differences that interdisciplinarity celebrates. However, modernism privileges empirical knowledge derived from the categorical thinking and instrumentalism associated with disciplinarity. In modernism, "Instrumentalism is implicated within the desire for efficiency and rationality" (Usher & Edwards, 1994, p. 41). In maintaining an instrumental or solely integrationist appreciation of interdisciplinarity, Klein (2001, 2018) noted that Newell and those who champion his ideas tend to overlook the value of conceptual interdisciplinarity. For Klein, conceptual interdisciplinarity is an epistemic approach that raises important questions about the nature and organization of knowledge, particularly in education. Though she once supported and advanced Newell's instrumental view of interdisciplinarity in her *stepwise* appreciation of interdisciplinarity, Klein (2001) reported that she eventually moved toward a more *socio-linguistic* or conceptual appreciation of interdisciplinarity (discussed below). She wrote, "In a subsequent proposal for a generic model of integrative process [Klein, 1996], I retained the fundamental dialogical coexistence of differentiation and unity" (2001, p. 53).

In further assessing Newell's conceptualization, Klein (2001) reported, "The underlying premise of Newell's model is that complex systems theory specifies required steps for integration while conforming to some widely accepted principles for the conduct of interdisciplinary inquiry" (p. 51). Klein (2001) made this point even clearer when she

reported, “the explanation is not accompanied at each step by a precise analogue in complexity theory, a point both Mackey [2001] and Bailis [2001] also made” (p. 51). His theoretical innovation excited strong responses from several critics—Mackey (2001), Bailis (2001), Klein (2001), and Carp (2001)—who confirm this important point made by Klein.

Newell (2013) responded to Klein’s critique and those presented by his other critics. He summarized what he claimed to be the key reasons for their criticisms of his theory. The critiques varied, but most appear to point out flaws in the logic of Newell’s theory. For example, Newell (2013) reported that his critics claimed that his theory is not a suitable theory at all: “its conception of complex systems is wrong, its conception of interdisciplinary studies is wrong, its ontology is wrong, its treatment of disciplines is misguided, its reasoning is flawed, it’s unworkable, and it’s limiting, among many other objectives” (p. 32). Later, Szostak (2002) and Mackey (2002) revisited the debate over Newell’s theory. Szostak (2002) extended Newell’s theory, and Mackey (2002) repeated his claim that instrumental approaches or *rules* are not sufficient in characterizing interdisciplinary processes and integrative practices. With some exceptions (Meek, 2001), Newell’s critics indicated that a sound rationale did not arrive with his theory.

Furthermore, Henry (2018) reconsidered the benefits and deficits in Newell’s theory and its criticisms. He determined that the theory is a worthy ontology yet open to enrichment. Over the years, it appears that this enrichment is what many scholars in interdisciplinary studies have attempted to do. In fact, many seem to go beyond Newell’s work, positing new ways to think about teaching and learning in interdisciplinary studies. As such, some scholars have turned to cognitive theory to help to explain the internal mental processes

that inform integrative and interdisciplinary practices. Others have used behaviorism, which focuses on what can be observed concerning a person's actions (Boix Mansilla, 2010; Hursh et al., 1998).

Behavioral Adult Education Philosophy

In many respects, Elias and Merriam (2005) noted that some scholars often criticize behaviorism for being positivistic, authoritarian, and divisive, espousing the values that are often at odds with those who advocate a more progressive view of education. One of the key preoccupations of adult educators who support this philosophical perspective involves exploring techniques that condition and control human consciousness and behavior. They focus on observable behaviors in a particular subject or community. Elias and Merriam (2005) reported, "Animal and human behavior is studied in laboratory settings employing scientific principles and methodology used so successfully in the 'hard' sciences such as chemistry and physics" (p. 83). The approaches used by behaviorists further the belief that the causes of behavior could be explained by a scientific analysis of the behavior itself. However, there are others who would argue that one's behavior is rooted in the mind or consciousness. They value a more psychological framework for understanding human behavior (Guttek, 2011). Often classified as a theory in psychology, behaviorism reflects concerns and considerations that are also philosophical in nature. In fact, Ozmon and Craver (2008) revealed that psychology was once thought to be a domain in the field of philosophy.

Today, psychologists in behaviorism tend to see themselves more as scientists than philosophers. John Watson, B. F. Skinner, Ivan Pavlov, and particularly, E. L. Thorndick are just a few of the noted psychologists associated with behaviorism and

education. Many of their ideas and writings have been both praised and critiqued for their mechanistic and anti-democratic approach to behavior modification in humans and their support for the operationalization of differentiation in society, particularly education (Douglass, 2000; Marks, 1980). What the different camps in behaviorism both tend to agree on is the idea that human behavior is malleable (Ozmon & Craver, 2008).

Behaviorists claim that human activities can be influenced and determined by reinforcing a system of rewards for actions deemed satisfactory and punishments for those considered unsatisfactory. Elias and Merriam (2005) suggested that many adult educators use some version of behavior modification in all of their instructional activities. For them, learning is just as important within itself. However, adult learners tend to pursue it in order to gain or maintain the practical skills needed for employment, advancement, and/or survival in society. Behavioral adult education philosophy supports the idea that education should produce people who can integrate and share knowledge and experiences as well as collaborate to solve problems.

These kinds of skills should be advocated and learned under conditions and in environments that support such aims and outcomes. This philosophical view endorses teaching and sites of learning where individual differences among students are acknowledged and their behavior is adapted and controlled through positive rather than negative reinforcement. For example, adult educators in higher education often use lesson plans, modules, or graduated material to promote a positive learning experience and environment for students. In turn, they assess and measure what students do and do not learn through a hierarchy of grades that ultimately legislate a system of rewards and penalties for their performances (see Foucault, 1995). In the classroom, the teacher is the

dominant figure who designs and instigates what students experience and learn. Disciplinary content is put in the service of these goals. This strategy is usually implemented in order to help the teacher to achieve particular curricular objectives for teaching and preparing students for matriculation and the various roles that they will play in society.

Behaviorism and Interdisciplinarity

Hursh et al. (1998) have argued that the curricula and objectives at many academic institutions are fragmented and often a hindrance to the kind of academic and social goals espoused by many educators. Using the work of John Dewey, Jean Piaget, and William Perry, the authors introduced a theoretical perspective that they claimed is needed in order to address the disconnectedness and dysfunction that they associated with general education. Hursh et al. suggested that a developmental theoretical framework that values interdisciplinarity and integrative learning is instrumental in reforming curricula in education. For them, the curriculum used for general education at most institutions of higher education often reflects the political struggles among academic departments more than it does attempts to create a more coherent learning experience for students. They argued that students must find connections, identify commonalities, and assess methods and values on their own.

To promote this view, Hursh et al. (1998) created an interdisciplinary model of general education based on developmental theory. Their model consists of two tiers or levels. The first level focuses on the kinds of generic skills that can be easily translated from one discipline to another. This level also emphasizes the importance of understanding content and problems associated with different knowledge communities in

academe. Hursh et al. argued that the integration of content in the various disciplinary areas begins when one starts to explore the key problems in relation to the salient concepts and skills needed to address them from multiple perspectives. The second level deepens the integration of these concepts, skills, and perspectives as the conflicts that students encounter become opportunities for learning. In other words, Hursh et al. (1998) claimed that students learn as a result of their efforts to understand and resolve the contradictions using the insights and skills that they gained in the first level of the model. The process of discovering creative solutions, engaging contingency, and then committing to a reasonable judgment is what stimulates cognitive development and learning. For Hursh et al. (1998), this is the kind of developmental model that could help to transform general curricula.

Boix Mansilla's Theory of Interdisciplinarity

Scholars such as Boix Mansilla (2010) tend to support a developmental and psychological approach to understanding interdisciplinary teaching and learning. In fact, some of them go as far as to claim that, in assessing interdisciplinary learning, a student's intellectual maturation and cognitive development may be the most appropriate conceptual framework educators have (Field et al., 1994). According to Boix Mansilla, such perspectives and approaches are surprisingly sparse in the academic literature. The few that can be found are often non-paradigmatic. Boix Mansilla (2010) reported that a generative epistemological foundation for understanding interdisciplinary cognition is missing in the field. She claimed that one is needed in order for scholars and practitioners to "embrace a broad range of interdisciplinary intellectual agendas, while attending to the disciplinary foundations on which such insights are built and the intellectual processes

required to integrate them in a coherent whole” (p. 288). To fill this gap in the literature, she proposed a *pragmatic constructionist theory* to explain interdisciplinary learning and behaviors. Boix Mansilla claimed that this paradigm could account for the wide variety of enterprises that are often described as *interdisciplinary* in nature and scope. She reported, “Such a view can illuminate the process of considered judgment and critique involved in advancing an understanding that integrates multiple specialties effectively with a purpose in mind” (2010, p. 289).

According to Holley (2017), Boix Mansilla identified the cognitive processes and actions involved in interdisciplinary work. They are a) *establishing purpose*, b) *weighing disciplinary insights*, c) *building leveraging integration*, and d) *maintaining a critical stance*. Boix Mansilla (2010) also identified four criteria to explain why she considered a *pragmatic constructionist theory* to be a necessary and useful epistemological paradigm for understanding interdisciplinary learning. First, it is pluralistic in the sense that it accounts for the various disciplinary worldviews and forms of understanding that they appreciate. Second, the theory is relevant to interdisciplinary learning in that it helps to explain the processes that enable interdisciplinary integration. Third, a pragmatic constructionist theory helps to explain how knowledge “advances from less to more accomplished instantiations; shedding light on the essential dynamics of learning” (p. 294). Finally, Boix Mansilla indicated that the theory provides a form of knowledge quality assurance, which is a “mechanism that diminishes the likelihood of error by putting forth robust and relevant standards of acceptability across interdisciplinary endeavors” (2010, p. 294). This last feature is important for considerations of assessment. However, Richter et al. (2009) suggested that more needs to be done to assess how

students view and understand interdisciplinarity as a worldview and collaborative practice that not only helps them to develop as students but also as humans who must traverse and negotiate various economic and social contexts. In this case, the humanistic view of interdisciplinarity offers some key insights in these areas.

Humanistic Adult Education Philosophy

Humanism makes the autonomy and development of human beings its central focus. According to Elias and Merriam (2005), this philosophical perspective can be traced back to ancient civilizations in China, Egypt, Greece, and Rome, often drawing from the same roots as liberal adult education philosophy. However, the difference is that humanists are not preoccupied with the transference of great ideas from the past and the value system that this signifies. Instead, the emphasis is placed on the role and freedom of the individual in this tradition. Elias and Merriam reported, “Humanist adult educators are concerned with the development of the whole person with a special emphasis upon the affective dimensions of the personality” (2005, p. 111). For scholars such as Conti (2007), this emphasis is aligned with the prerogatives of *existentialism*.

Existentialists focus on the nature of existence and human struggle and how this impacts the worldviews and personal actions of human beings. Ozmon and Craver (2008) traced its philosophical ancestry to the work of Søren Kierkegaard and Friedrich Nietzsche. However, the philosophers more readily associated with this philosophical school are Martin Buber and Jean-Paul Sartre. According to Sartre, human existence is meaningless, absurd, and filled with unending asymmetries and anxieties (Ozmon & Craver, 2008). For existentialists as well as humanists, the notion of universal truths and ideas are problematic because reality is always constructed by individuals. In fact, what is

most relevant is the human condition and the personal choices that one makes in life. Elias and Merriam (2005) found that the fullest expression of this particular outlook is most often associated with the Italian Renaissance. In fact, the term *humanism* is thought to be derived from the Italian word *humanista*, which is generally translated to mean *teacher of the humanities* (Elias & Merriam, 1995, 2005; Klein, 2015).

Therefore, great value is placed on education for many humanists. It is one of the key ways in which the cultivation of individuality and self-discovery occur for most people. However, Elias and Merriam (2005) noted that the term *humanities* has been broadened over the years to include disciplines such as philosophy, history, literature, ethics, and the social sciences. These are the disciplines at the heart of the general curriculum for many undergraduate students in higher education. In humanistic philosophy, educators tend to use this disciplinary content to emphasize the value and uniqueness of each student. They place faith in human beings to be self-directed, problem solvers, and intellectually adventurous in terms of exploring that which interests them the most (Elias & Merriam, 2005). As such, the whole point of a humanistic curriculum is to attend to the self-actualization of the student as an individual. Coursework and activities have to provide students with time for self-reflection and creativity. For example, humanistic teachers create more contextualized assignments that account for the various interests of students and the different ways in which they learn material. The space for learning is open, exploratory, and contextualized based on the student's disposition and learning needs (Elias & Merriam, 2005; Knowles, 1984; Lindeman, 1989).

In general, humanists do not inflict their beliefs on students. In other words, humanistic education favors academic systems that are less bureaucratic, allowing

students more freedom for self-expression and self-determination. Educators must encourage students to develop and test their own beliefs, values, and worldviews in relation to their everyday experiences (Knowles, 1984). The use of prefabricated and prescriptive course material and standardized testing do more to hinder than help students. More importantly, interdisciplinary learning and creativity are advocated and strongly encouraged by many educators who value this philosophical perspective in education. For some, interdisciplinary studies is conflated with the humanities. However, Klein (2015) claimed that there is no sufficient etymological proof that scholars can turn to in order to identify when the idea of interdisciplinarity is first used in the humanities. In fact, she argued that other terms tended to be used in the field more often than the word *interdisciplinarity*, especially concepts such as *integration*, *synthesis*, and *holism*.

Humanism and Interdisciplinarity

In her assessment of humanism and the humanities, Klein (1996, 2015) would agree that the popularity of interdisciplinarity and the emergence of postmodern philosophy helped to regenerate interest and revitalize the disciplines that constitute the humanities. Casey (1986) detailed the ways in which the humanities have been revolutionized by new developments in humanistic theory and philosophy. She attributed the transformation of the field to new developments in philosophy, literary theory, and historical theory. What is even more poignant in this momentum is the desire on the part of many theorists to treat human phenomena like a language or texts. According to Casey (1986), it was the work of the linguist Ferdinand de Saussure that initially enabled humanists to imagine a world in which reality is constituted by diverse discursive formations. As a result, the social world for interdisciplinarians is transformed into a

network of human discourse and the disciplines in the humanities and beyond are constituted and interconnected by the very mechanism that translates human thought and communication (Hongladarom, 2022).

However, Graff (2015) challenged this perspective in his comparative history of interdisciplinarity in higher education. For him, the humanities and communication have both co-opted interdisciplinarity in pursuit of greater recognition and status in academe. Yet, this conflation tends to raise more questions than it solves, particularly for the conceptualization of the humanities. Defining the term *humanities* is often problematic due to its use in the singular as well as the plural form. Graff claimed that its constitution as several disciplines tends to substitute for a clearer definition of the term. To illustrate this point, he cited the definition of the humanities as it has been characterized by The National Endowment for the Humanities. As a result, many educators imagine it to comprise a set of disciplines that are inherently connected and interdisciplinary. However, Graff has argued that interdisciplinarity has been used to prevent the purported decline of the humanities and advance its novelty and relevance. Consequently, its academic relevance and fate have been tied to the aspirations of interdisciplinarity and the transfiguration of general education curricula. According to Graff (2015), what passes for interdisciplinarity in general education is often humanities courses repackaged and relabeled *liberal arts*, *liberal education*, *interdisciplinary humanities*, or *contemporary civilization*. However, Foucault (1995, 2010) posited a consideration of the humanities that treats them as forms of disciplinarity and vessels of power.

Foucault's Theory of (Inter)disciplinarity

Foucault (1995) complicated the conceptualization of the terms *humanities* and *discipline* by (re)valuing them as instruments of *power* or mechanisms for coercion and control. Lattuca (2001) argued that Foucault used the word *discipline* to describe how human conduct and social relations are regulated, normalized, and conditioned by systems of power. In other words, Foucault (1981, 1995, 2010) treated the term *discipline* as a synonym for a branch of knowledge used to organize the *sciences* in education. At the same time, he used the term as a tool and artefact that illustrates how power actualizes, regulates, and reproduces the politicization and control of knowledge as well as its discourse and social relations. For Foucault, knowledge and power are inseparable configurations and mutually generative forces (Welch, 2011). In the larger picture for him, academic disciplines are just one illustration of the greater ways in which knowledge and power work together to order and control modern life (Ball, 1990; Foucault, 1995, 2010; Niesche & Gowlett, 2019; Tessaro, 2022). Usher et al. (1997) claimed that Foucault basically conflated the notion of discipline as a body of knowledge with discipline as a system of social control and penalty to make a larger point about the role that discipline plays as a technology or strategy of power. According to Allan (2013), such connotations have resulted in Foucault's concepts being critiqued for their repetitiousness and confusing application. However, the double meaning that Foucault assigned to the word *discipline* is not wordplay. It is used by Foucault to describe how power turns humans into subjects and agents (Usher et al., 1997).

For example, Foucault (1995) claimed that the word *discipline* is a technique for the transformation of a disposition or an arrangement. He claimed that the methods used

to submit the body to control and subjection create a relation of docility and utility that he called *discipline* (p. 137). Not only does discipline individualize and categorize bodies, but it also circulates them in a network of relations permeated by power. As such, Foucault (1980) concluded, “Power must be analysed as something which circulates, or rather as something which only functions in the form of a chain.” He went on to state, “Power is employed and exercised through a net-like organisation. And not only do individuals circulate between its threads; they are always in the position of simultaneously undergoing and exercising this power” (p. 98).

In many of his complex writings, Foucault (1981) insisted that the exercise of power is perpetually created and constantly induced by the effects of knowledge through disciplinarity and other technologies of power. Foucault (1981, 2011) went on to claim that knowledge is constituted by a system of discourses or texts (signs) that are always intertextual and interconnected. However, *disciplines* serve as a principle of control over the inherent plurality in discourse as well as knowledge. To clarify this point, Foucault (1981) argued that discourse and disciplines or branches of knowledge not only translate the struggles associated with systems of domination, but they are the key domains for the articulation of struggle and conflict (also see Peirce, 1955). The tensions inherent in this process ultimately drive the integration and circulation of power and knowledge in society. Disciplines not only serve and reproduce the status quo, but they can also be repressive in the sense that they prohibit the actualization of one experience while permitting the manifestation of others. Kroker (1980) expressed this Foucauldian sentiment more clearly when he argued that disciplinarity masquerades as reason in education. Organizing knowledge by disciplines hinders the mobilization of intellectual

resources that can be used to create a society that is nonhierarchical, democratic, and historically conscious (Kline, 1995; Kroker, 1980; Niesche & Gowlett, 2019; Takacs, 2004).

In Foucauldian thought, knowledge is inherently interdisciplinary because it is always constituted by the interaction of differences at all levels (Takacs, 2004). To clarify even more, Foucault (1994) argued that, in some respects, all of “the human sciences interlock and can always be used to interpret one another: their frontiers become blurred, intermediary and composite disciplines multiply endlessly, and in the end their proper object may even disappear altogether” (p. 358). Foucault (2010) claimed that the division of the human sciences cannot be “regarded either as definitive or absolutely valid” (p. 30). In fact, the order imposed on disciplines and discourse is artificial and determined by those in positions of authority. In reality, discourse and knowledge are always dynamic and heterogeneous or what Foucault might call *(dis)continuous*. To challenge the idea of history as chronological and unified, Foucault (1981) asked his readers to treat them as discontinuous or nonlinear discourses. To capture this dynamism, he appropriated the term *architectonics* using the ideas of Martial Gu eroult, a Kantian scholar. To illustrate his interpretation of (dis)continuity and its challenge to disciplinarity, Foucault referred to “the architectonic unities of systems...which are concerned not with the description of cultural influences, traditions, and continuities, but with internal coherences, axioms, deductive connexions, compatibilities” (2010, p. 5).

Foucault would agree that “each discipline needs the others in a fundamental and basic sense, because each discipline needs the findings of the others as a check on the validity of its own generalizations and theories” (Kockelmans, 1998, p. 77). It is

important to note that much of Foucault's thinking about disciplines (and interdisciplines) tends to be informed by his investigation of early penal and educational systems in Europe. It appears that the demise of violent public executions prompted the invention of new rules, strategies, and institutions for disciplining and controlling the human mind and body. According to Foucault (1984, 1995), this marked a paradigm shift in the conceptualization of social control. This is why modern *penality* currently emphasizes correction and improvement rather than public executions and torture. More significantly, Foucault (1995) claimed that the executioners and torturers have been replaced by professional figures. Foucault called these professionals *technicians* and they include police, wardens, educators, doctors, lawyers and judges, psychologists, and religious officials. They regulate problems that appear in the form of offenses, deviance, ailments, and deficiency. As a result, aberrancy becomes a focus of study or *knowledge*, thus facilitating the emergence and classification of academic disciplines such as the human sciences as well as the categorization of human beings in society (Foucault, 1995, pp. 26-27).

In other words, Foucault argued that the academic divisions and disciplines in schools extend penalty and inequality. It is true that the various ideas, methods, discourses, and institutional practices that *technicians* employ are designed to rehabilitate and reform people. However, Foucault (2010) noted that these techniques also control humans and aid the reproduction of the social and economic status quo despite the rhetoric of democracy and meritocracy that permeates Western cultures and academic institutions. More importantly, Boyne (1990) argued that discipline, as Foucault conceived it, makes individuals the subjects and agents of power. For example, Foucault

(1995) determined that “discipline is an art of rank, a technique for the transformation of arrangements. It individualizes bodies by location that does not give them a fixed position, but distributes them and circulates them in a network of relations” (p. 146). As such, discipline is not a violent spectacle. It is a measured, discreet, and continuous *loom of power* that produces knowledge and particular kinds of subjects and discourses that are ultimately differentiated and organized as a (human) *science* or discipline in academe (Boyne, 1990). Foucault (1994) insisted, “There can be no doubt, certainly, that the historical emergence of each one of the human sciences was occasioned by a problem, a requirement, an obstacle of a theoretical or practical order” (p. 345). He also pointed out that “all knowledge, of whatever kind, proceeded to the ordering of its material by the establishment of differences and defined those differences by the establishment of an order” (p. 346). In other words, the disciplines represent *epistemological* and *disciplinary* spaces where some ideas and discourses are included and legitimated and those that are considered radical and threatening are subjugated or marginalized.

Radical and Critical Adult Education Philosophy

The radical/critical school of adult education philosophy or *reconstructionism* calls for revolutionary changes in the operation of education and the status quo in American society and elsewhere. While the terms *radical* and *critical* reflect the reformist aims of this school of thought, Elias and Merriam (2005) indicated that they are not exactly broad enough to “capture the liberating, empowering, and transformative aspects that proponents of this orientation espouse” (p. 147). They claim that radical and critical adult education philosophy and their proponents or *radical critics* are considered outliers in educational philosophy and in American society. Elias and Merriam (2005)

reported, “Radicalism has been a minor force in the American tradition” (p. 183). The other schools of thought, according to Elias and Merriam, tend to accept many of the societal values and attempt to work within the realm of their particular value systems and institutional structures. For example, those with a progressive and humanistic disposition tend to use education for social reform. On the other hand, radical critics tend to demand deeper and more substantive changes in the relations of power that maintain the status quo in society. American institutions tend to be conservative and resistant to disruptive changes that are often associated with the politics of the radical left.

Although many adult educators criticize the same features of society and education that radical critics seek to reform, they tend to maintain strong commitments to their institutions and their value system. As a result, Elias and Merriam (2005) pointed out that the more radical activities in educational philosophy tend to take place in informal settings by those who identify as activists rather than educators. In her study on the educational philosophies and teaching styles of teacher educators at a state university, Fries (2012) discovered that, of the 45 faculty members who participated in the project, none (0%) identified radical and critical philosophy as their strongest philosophical preference. However, over half of them (53%) showed support for progressive adult education philosophy and 17% advocated a humanistic philosophy. Fries noted that many faculty members (13%) had mixed philosophies of education.

The disparity in the percentages might be explained by what Brookfield (2005) viewed as a lack of familiarity with the philosophical traditions and the complex discourse used to support many of the key ideas associated with radical and critical adult education philosophy. According to Elias and Merriam (2005), the ideological force that

directs most radical critics flows from several sources, including the anarchist tradition, the Marxist tradition, feminism, and the critical social theory of the Frankfurt School. More specifically, advocates who support a radical and critical philosophical view of education tend to support a few important precepts. They are critical of the values associated with capitalism and market ideologies. They tend to reject dualist and deterministic views of social realities. An emphasis is placed on the freedom and liberation of all human beings from systems of oppression, including hegemonic ideologies, colonialism, and imperialism (Brookfield, 2005; Giroux, 2015). For radical critics, the society needs to be reconstructed and education plays a central role in effectuating the kind of changes that improves the life chances and social conditions for all. Education is viewed as instrumental in helping people to actualize a more humane and democratic society. Elias and Merriam (2005) indicated that radical and critical philosophy tends to resonate with social justice advocates because it is a way of framing and responding to the problems of power that continue to exacerbate the social and cultural challenges that many people experience every day. These challenges involve issues and problems that correlate to race, gender, poverty, war, and the cultural concerns discussed above.

To adequately address these problems and their perniciousness, radical critics argue that a truly democratic worldview and value system must be championed and implemented. Academic institutions are sites in which this reorientation begins (Noddings, 2016). As such, education is put in the service of political and cultural awareness and public activism. Coursework and assignments often focus on the dynamics of power and social problems that maintain inequality and the status quo. Teachers

encourage students to be change agents by broadening their perspectives using cross-disciplinary contexts that characterize the problems that plague diverse communities and institutions. Radical and critical educators view traditional instructional tools, techniques, and processes as activities that too often reproduce the status quo and limit the kind of agency that inspires transformative change (Ozmon & Craver, 2008). This could explain why some scholars suggest that radical critics favor having teachers and students engage in public activities and participatory learning environments that cross disciplines and many other boundaries (Giroux, 1992; Ozmon & Craver, 2008).

Adult educators who value this view often adopt an interdisciplinary approach to help students negotiate controversial material and cultivate solutions and a sense of agency that might lead to cultural change and renewal in the future (Tan, 2006).

Interdisciplinary approaches further blur the lines of authority that maintain divisions in the classroom and the larger community in which the teachers and students exist.

Community-based projects and collaborative interactions inside the classroom also help to expand students' understanding of different people, cultures, languages, and political orientations. In this sense, the appreciation of differences and pluralism in radical and critical adult education philosophy mirrors their prominence as prerogatives and features in the logic of postmodernism and interdisciplinarity discussed later in this study (Elias & Merriam, 2005; Ozmon & Craver, 2008).

Radical and Critical Philosophy and Interdisciplinarity

Elias and Merriam (2005) argued that there is overlap between many of the ideas advocated by radical critics and postmodernists. They claimed that postmodern adult education philosophy welcomes radical revisions and reinterpretations from many

cultural perspectives. Its support of the antifoundational nature of language, texts, and knowledge makes it a viable ideological home for most radical critics. Elias and Merriam stated, “Postmodernist emphasis on power relations and on the will to power as a strong motivating force within society finds resonance with critical or radical educators” (2005, p. 238). However, they warned readers against conflating the two schools of thought, thus oversimplifying their values and warrants. There are important distinctions.

Postmodernists tend to reject many of the Marxist views that are foundational for radical critics. Also, they view the critical pedagogy advocated by radical critics as being utopian.

This need to qualify the politics associated with philosophy appears to be a preoccupation among some interdisciplinarians. For example, in his assessment of the various understandings of interdisciplinarity, Kann (1979) identified three political positions associated with the concept. As mentioned earlier, the political positions of interdisciplinarity that he characterized are *conservative*, *liberal*, and *radical*. The conservatives view interdisciplinarity as a way to address social and economic problems in an effort to reach solutions that usually favor their interests. Their interests are not exactly invested in epistemological inquiry or the more global implications of the concept. Kann (1979) viewed (academic) liberals as more appreciative of the philosophical dimensions of interdisciplinarity and the implications of its processes on research and innovation. However, he noted that this group does not seek to use interdisciplinarity to inspire substantial changes in the social, economic, and political status quo. On the other hand, radical interdisciplinarians are considered more likely to see interdisciplinarity as an agent for revolutionary changes in education and society.

They seek changes in the status quo in society as well as a transformation of the existing organization of knowledge and power in education. In assessing Kann's view of interdisciplinarity, Klein (2017) stated that radical interdisciplinarians challenge the existing ways that knowledge is organized, and they often demand that interdisciplinarity respond to the needs of those in marginalized communities.

In their writings on interdisciplinarity, Salter and Hearn (1996) helped readers to understand how the liberal and radical views of interdisciplinarity may also correlate with the logic of conceptual and critical interdisciplinarity, respectfully. More specifically, they can help one to distinguish the character of instrumental (conservative) interdisciplinarity, conceptual (liberal) interdisciplinarity, and critical (radical) interdisciplinarity. For instance, Salter and Hearn (1996) claimed that the factors that condition one's understanding of these areas of interdisciplinarity are social, political, cultural, professional, and epistemological in nature. As such, they often play a major role in creating and maintaining the conceptual confusion in the discourse and academic scholarship in the field. In fact, Salter and Hearn actually illuminated dimensions and distinctions of interdisciplinarity that are either not expressed or fully elaborated in the work of Lattuca (2001), Klein (2017, 2021), and many scholars in the field (see Welch, 2009, 2011).

According to the authors, there is also a *fault line* within the camp of conceptual interdisciplinarity that is seldom mentioned in the academic literature or historical accounts of interdisciplinarity (Klein, 1990, 2021; Kockelmans, 1998; Welch, 2009, 2011). This fault line resulted in distinguishing *critical* interdisciplinarians under the rubric of what Salter and Hearn (1996) called *conceptual interdisciplinarians* (see more

on its relation to transdisciplinarity, pp. 31-37). What Salter and Hearn found to be significant about critical interdisciplinarians is their treatment of the disciplines. For instance, the authors claimed that conceptual interdisciplinarians maintain a dependence on the integrity of the disciplines because the interdisciplinary process cannot exist without them. They understand that interdisciplinary practices and activities require the disciplines and the organizational structure that maintains them must remain intact. In this respect, no threats to dismantle and reorganize the disciplines and the institutional power structures that support them are posed because the disciplines provide critical interdisciplinarians with a foundation and a starting point for interdisciplinarity. For them, dismantling the disciplines would jeopardize interdisciplinarity itself. In this sense, paradoxically, interdisciplinarity is put in the service of supporting disciplinarity in order to maintain and legitimate itself.

However, critical interdisciplinarians are often viewed as more controversial or *radical* because they stand in profound opposition to disciplinarity and its ethos and co-extensions in education and the larger society. To clarify, Salter and Hearn (1996) reported that critical or radical interdisciplinarians question the fundamental philosophy and logic on which disciplinarity is built. They present an epistemological critique of disciplinarity and, by extension, a social and political critique of the ideological predisposition and institutional arrangements that they support and reproduce. Moreover, they often excite alarm by calling for the deconstruction and/or reconfiguration of the entire educational system as a starting point for substantive change in society. According to Salter and Hearn (1996), this form of interdisciplinarity is inherently agentic and poses a threat to the status quo and power dynamics in education and elsewhere. For this group

of interdisciplinarians, disciplinarity is criticized for being exclusionary, hierarchical, and rigid. They also accuse disciplinarians and those who support them of endorsing the artificial fragmentation of knowledge in ways that mirror and maintain the socio-economic relations found in the larger society.

However, Fish's (1989, 1995, 2015) critique of the radical elements in the epistemological and ideological underpinnings used to support and advance interdisciplinarity tends to overlook the kind of distinctions that Elias and Merriam (2005) and others viewed as noteworthy. In one case, Jacobs (2013) pointed out that Fish's study assumes that the main goal of interdisciplinary studies is liberation from the confines of disciplinarity and the status quo in society, thus explaining its popularity among liberal faculty and radical students. Jacobs stated, "For Fish, interdisciplinarity offers the illusion of intellectual freedom because a new set of partial and incomplete understandings will inevitably replace the ones it succeeds in displacing" (2013, p. 137). Consequently, he claimed that Fish's theoretical view conflates leftist politics and critical theories with postmodern or deconstructionist principles in his critique of interdisciplinarity in education (Jacobs, 2013).

Fish's Theory of Interdisciplinarity

As a noted scholar and influential interdisciplinary thinker, Fish (1989, 1995) is considered one of the more prominent and influential critics of critical or radical interdisciplinarity (Jacobs, 2013; Moran, 2010). He argued that the rise in popularity of interdisciplinarity in education flows from a range of leftist philosophical and theoretical movements such as Marxism, feminism, radical neopragmatism, new historicism, and of particular note, is *deconstruction* (postmodernism). Though distinct, Fish found that these

movements had one commonality: they are hostile to the contemporary arrangement of things as “represented by (1) the social structures by means of which the lines of political authority are maintained and (2) the institutional structures by means of which the various academic disciplines establish and extend their territorial claims” (p. 15).

According to Fish (1989), what is at the center of the claims that interdisciplinarians use to support their positions is the assumption that disciplinary lines are artificial and sustained by those in positions of power interested in maintaining the status quo inside and outside academe. Fish (1989) stated, “By definition interdisciplinary studies do exactly that—refuse to respect the boundaries that disciplines want always to draw—and thus encourage a widening of perspectives that will make possible the fullness education is supposed to confer” (p. 16).

However, the more radical voices in the field are the focus of Fish’s polemic, which provides a more comprehensive explication of how this particular brand of interdisciplinarity is (de)valued by critics of interdisciplinarity as well as proponents. According to Fish’s (1989) interpretation, the radical view of interdisciplinarity is about more than helping faculty and students cross disciplinary boundaries and borders, as Klein (1996, 2021) described in her writings. It certainly moves beyond the instrumental position advocated by Newell (2001b) and those who champion his theory. Fish characterized radical interdisciplinarians as those individuals who seek to employ interdisciplinarity to assault the entire edifice of hierarchy and power on which disciplinary boundaries are supported and reproduced. In Fish’s purview, radical interdisciplinarity is put in the service of transfiguring higher education and the larger society (also see Elias & Merriam, 2005). Radical interdisciplinarity thus signifies as a

form of pedagogic activism and hostility. The hostility, antiprofessionalism, and subversiveness that Fish (1989) associated with radical interdisciplinarity can lead “not simply to a revolution in the structure of the curriculum but to *revolution tout court*” (p. 17). Furthermore, according to Fish, radicalists also call for changes in the structure of higher education, which supports a repressive agenda and the status quo in society. These structures in higher education, especially the academic disciplines and departments, compartmentalize knowledge in ways that limit its potency as an agent for change on the world’s stage.

Fish went on to argue that radical interdisciplinarity and the leftist concepts that inform it tend to operate under the assumption that the political is embedded in the ideology as well as the organization of the disciplines in education. Not only are disciplinary lines and boundaries considered artificial to them, according to Fish (1989), but they too must be exposed and erased in order to foster the kind of social agitation needed to transform the constitution of education and the social, economic, and political regimes that it supports and reproduces. The pedagogy mobilized to fulfill these aims is cultivated in the context of postmodern epistemologies that Fish specifically correlated with movements such as deconstruction and psychoanalytic theory in his study. He described the antifoundationalism that connects the two as being rooted in the thesis that meaning is heterogeneous, constructed, and contingent. As such, the location of knowledge promulgated in these philosophical systems cannot be centered or determined. Fish (1989) noted, in this respect, knowledge cannot be grasped or identified as the foundation of its possibilities because they are always shifting and changing. In this context, the idea of meaning and truth always recedes behind the articulations that it

makes possible in any given situation or event. Therefore, what one thinks one knows is always incomplete. According to Fish, this is the essence of the philosophical worldview and theoretical frame that informs and shapes the ideology and initiatives of radical interdisciplinarians. It calls into question the foundations on which one builds meaning and truth as well as knowledge and disciplinarity. More significantly, this logic is what radicalists hope to operationalize in order to advance the struggle against the legacy of exploitation and oppression in society.

However, Fish (1995, 2015) has insisted that the vision of radical interdisciplinarity is incongruent with the deconstructive and psychoanalytic epistemologies that are often used to inform this brand of interdisciplinarity. To support his claim, he stated that the pedagogy associated with deconstruction and psychoanalytic theory is undercut by the philosophical logic that is used to legitimate it. To clarify, Jacobs (2013) wrote, “In other words, in Fish’s view, the power of the deconstructionist perspective dismantles disciplinary standpoints, but in the process undermines any possible solid anchoring for an interdisciplinary critique” (p. 137). The tension that Fish found between the political positions of radical interdisciplinarity and their philosophical and theoretical claims for interdisciplinary studies are untenable and destined to reproduce the very forms of disciplinarity that they hoped to dismantle.

For Fish (1989), the epistemology associated with deconstructivist and psychoanalytic thought disbands the political argument made on its behalf, which ultimately neutralizes or stalls any revolutionary project the radical interdisciplinarian might advocate. However, Elias and Merriam’s (2005) understandings of radical and critical adult education philosophy do not support the confluences that Fish seemed to

make between radical interdisciplinarity and deconstruction in postmodernism. In their work on adult education philosophy, the authors noted that the two worldviews share some of the same values and concerns. Nonetheless, there are important differences. For example, postmodernists often do not agree with the (Marxist) theory of change articulated by many radicalist (also see Marx, 2008). For them, “The postmodern approach to social change is to embrace temporary actions of resistance within a limited situation” (p. 237).

In many ways, Fish’s interpretation of radical interdisciplinarity and postmodern thought aligns with Newell’s (1997) goal. Payne (1999) and Chettiparamb (2007) both noted that Newell acknowledged that he wanted to disengage interdisciplinarity from its kinship to its more radical predilections and the philosophical perspectives and theories that help to underwrite its prerogatives. Yet, in a response to Fish’s generalizations about interdisciplinarity as an appendage of political radicalism, Newell (1998) lamented that Fish’s theory about the concept and field ignored other accounts and, therefore, found cause to dismiss the entire field and the efforts of its constituents. Paradoxically, as pointed out by Payne (1999) and Chettiparamb (2007), Newell held beliefs about radical interdisciplinarians that appear to mirror those expressed by Fish. However, Lattuca (2001) challenged Fish and Newell’s positions by drawing on the feminist, poststructuralist, and postmodern epistemologies that they find problematic and radical (Dilley, 2002). She determined, “We might conceivably map more recent critical interdisciplinary work on a continuum from modern, or discipline-based, interdisciplinarity, to postmodern, or adisciplinary, interdisciplinarity” (Lattuca, 2001, p. 18). In her review of Fish’s critique of interdisciplinarity, Klein (2021) pointed out the

problem that scholars have found in Fish's argument. As with so many scholars, Klein noted that Fish assumed that interdisciplinarity has a universal goal, definition, and orientation. Moran (2010) called Fish's assumptions a simplification of the complexity of the concept and its competing considerations and applications.

However, Fish (1989) famously determined that it is very hard to be an interdisciplinarian, at least as he imagined the term in relation to its political ambitions and epistemological challenges. He concluded that blurring the existing disciplinary lines will only result in the creation of new lines and authorities. As such, "the interdisciplinary impulse finally does not liberate us from the narrow confines of academic ghettos to something more capacious; it merely redomiciles us in enclosures that do not advertise themselves as such" (p. 18). For a clearer example of this point, readers can turn to Fish's (1989, 1995) explanation of his theory of *transference* between disciplines. In addressing the process of annexing or importing information, methods, and practices in interdisciplinarity, Fish indicated that the disciplinary practices are not necessarily transfigured and the disciplinary constraints do not always disappear between disciplines as an effect of interdisciplinary activities (also see Callard & Fitzgerald, 2015; Gunn, 1998; Orr, 2003). In short, the various elements that move across disciplines and remain intact during the passage often fail to spawn the kind of harmony and interdisciplinary transformation of the faculty involved in these transactions. In her study, Lattuca (2001) claimed that the results from her interviews with 38 faculty members across different disciplines in higher education corroborate Fish's assessment of the power and influence of the disciplines in academe. Lattuca reported, "Fish's observations seem to describe aptly the manner in which many informants [faculty] pursued interdisciplinarity" (p.

236). She claimed that it did not matter how often the invocation of other disciplinary methods or information occurred; the existing disciplinary beliefs of the faculty were not always affected by the new methods, ideas, or practices from the other discipline(s).

This sense of recognition between the work of Fish (1989) and Lattuca (2001) actually helps to contextualize the tension and contention that permeate the political terrain in higher education when it comes to understanding interdisciplinarity. These challenges might explain why Silvast and Foulds (2021) have argued that there is an increasing need to have a *sociology of interdisciplinarity* that can help researchers, faculty, and institutions to improve their understanding of the concept and the challenges one faces in trying to operationalize it. They raised concerns about the complexity and confusion surrounding the discourse of interdisciplinarity and its iterations. They also asked a key question that many interdisciplinarians struggle to analyze and answer, What is being integrated by interdisciplinarity? Some interdisciplinarians have turned to analytic philosophy in search of ways to try to address this concern (Piso, 2015).

Analytic Philosophy of Adult Education

According to Elias and Merriam (2005), a central theme in analytic philosophy is conceptual clarification. Scholars tend to use a variety of terms to refer to analytic philosophy. Scholars will often refer to it as *scientific realism*, *logical analysis*, *linguistic analysis*, or *conceptual analysis*. Regardless of the label, proponents generally claim that misunderstandings about the nature of reality, truth, knowledge, ethics, and aesthetics are due to the confusing ways in which language is used to conceptualize and advance meanings. Many analytic philosophers have often turned to science and logical analysis to help them to create the conceptual clarity needed to address philosophical problems.

As one of the architects of analytic philosophy, Russell (2009) championed and advanced the basic tenets of this approach. For him, logical analysis provided philosophy with the *exactness* of mathematics and science. The key tool in this process is *language*.

Like math and science, language could be broken down into its parts in order to exact the features that condition meaning. For philosophers such as Russell, the meaning of language is true if the parts of a sentence refer to what actually exists. Problems, like language, could be parted, analyzed, and understood. In other words, language is a measure of reality and it underscores the purpose of analytical philosophy for thinkers such as Russell (2009). The emphasis on language might explain why Ozmon and Craver (2008) claimed that many observers prefer the use of the term *linguistic analysis* to refer to analytic philosophy, particularly because of the influence of the later writings of Wittgenstein (1958). He challenged presuppositions about the role that language plays in shaping meaning in philosophy.

Wittgenstein also rejected the notion that positivism and scientific models of mathematics could be used to establish rules for the precise use of language. For him, the analysis of language is a central feature of philosophical study. Philosophers must attend to the ways in which language is used to discuss and describe conceptions of objects and complex ideas. In order to understand the changing meaning of words and language, one must understand the customs and contexts in which they are used. In this analytical process, one has to attend to what language and words reference in the real world and what one intends them to mean and do (Elias & Merriam, 2005). In short, Wittgenstein (1958) developed a more relativistic interpretation of language than philosophers such as Russell. He argued that language was incapable of translating an *objective* reality.

Wittgenstein (1958) claimed that philosophy cannot give language a foundation. It can only describe what philosophy does and how philosophy is used.

When adult educators clarify their logic and methods for addressing problems in education, they are practicing analytic philosophy. It is the school of philosophy that seeks to explicate how the clarification of concepts, methods, and language can be used to solve problems in philosophy and other disciplines. For adult educators who advocate this school of philosophical thought, one of the priorities of the teacher is to help students understand the logic of language and the ways that it can be used to clarify and confuse the interpretation of meaning from one context to another. As a result, an examination of the approaches that educators use becomes vital. As Ozmon and Craver (2008) stated, analytic philosophy asks teachers to contemplate how language impacts the values and ideologies that condition the content and practices that they use to foster teaching and learning. It also helps educators to recognize how language influences every aspect of human life. It is the primary medium for translating teaching and learning across all disciplines. As Elias and Merriam (2005) reported, “All areas of human activity can be subjected to this form of philosophical analysis” (p. 194).

Analytic Philosophy and Interdisciplinarity

Unsurprisingly, the idea that language is a universal medium for communication and analysis has been attractive to many thinkers in interdisciplinary studies. For example, Klein (2014) claimed that language is central to the communication of knowledge and its study should not be confined to one specialty. In fact, it is essential to one of the ancient subjects in higher education: *rhetoric*. As the art of persuasion, rhetoric drives the study of modern linguistics or the study of the structure, meaning, and context

of language. Also, Liu (2008) and Frodeman (2017) argued that interdisciplinarity's nature is fundamentally rhetorical, creating the kind of dialogue between disciplines that mirrors the dialogue between people. In her study of interdisciplinary pedagogy, Haynes (2002) reported that interdisciplinarity challenges the idea of absolute truth and favors its conceptualization as relative, perspectival, and discursive. For Haynes, interdisciplinarity is characterized by different disciplinary discourses and its elements are continuously interacting.

Piso (2015) explained the character of interdisciplinarity in a way that resonates with advocates of analytic philosophy. He claimed, "For Wittgenstein, different disciplinary languages develop because different scholarly communities need different tools" (p. 26). According to Piso, Wittgenstein can provide interdisciplinarians with a powerful account of how language and disciplines help one to conceptualize and comprehend the phenomena of the world. Similar to the function of words and language in Wittgensteinian thought, Piso (2015) viewed different disciplines as descriptive tools for interdisciplinarians. Disciplines and the discourse and texts that support them are interactive maps for navigating knowledge and meaning. According to Piso (2015), scholars such as Klein (1990, 2015) have often used the discourse associated with linguistics as a metaphor to explain and advance the constructivist nature of integrative processes in interdisciplinary studies. Such metaphors are evoked using words such as *bilingualism*, *dialogue*, *architectonic*, and *communicative action* (Klein, 1990, 1996). The term *communicative action* is one that Klein borrowed from Jürgen Habermas (1985, 1987). Holbrook (2013) claimed that it is one of the key metaphors that Klein used to

signify the importance of language and communication in integrative processes and interdisciplinarity.

Klein's Theory of Interdisciplinarity

The Organization of Economic Cooperation and Development or OECD (1972) identified four classes of interdisciplinarity, which appear to serve as a prototype and vocabulary for many of the adaptations that have followed. This includes the definitions and typologies introduced or advanced by scholars such as Salter and Hearn (1996), Kockelmans (1998), Lattuca (2001), Aram (2004), Frodeman (2014), Szostak (2015), Klein (2017), and Schmidt (2021). According to the OECD, the four classes or disciplinary interactions of interdisciplinarity are *multidisciplinarity*, *pluridisciplinarity*, *interdisciplinarity*, and *transdisciplinarity*. Multidisciplinarity juxtaposes various disciplines that may or may not share any connections or commonalities. Pluridisciplinarity juxtaposes various disciplines that tend to be related or share some kind of connection or commonality. On the other hand, interdisciplinarity describes the interaction or integration of two or more disciplines that are usually different in terms of the content, methods, and perspectives that they value and privilege. Transdisciplinarity uses a common system of axioms to establish a more global or holistic approach to disciplinary synthesis that moves beyond or *transcends* disciplinary and institutional boundaries (OECD, 1972).

In her efforts to bring clarity to the character and correlations associated with interdisciplinarity, Klein (2017) introduced her own typology based, in part, on the formulations introduced by the OECD (1972) and Salter and Hearn (1996). According to Klein (2017), the complexity of interdisciplinary activities has necessitated their being

organized into categories labeled by technical terms and discourses. In her classification system, Klein is particularly useful in helping readers to understand the categories introduced by the OECD and the character of interdisciplinarity as presented by Salter and Hearn (1996). For Klein (2017), interdisciplinarity is classified according to the interactions of disciplines and the use of prefixes such as *multi-disciplinarity*, *pluri-disciplinarity*, *inter-disciplinarity*, and *trans-disciplinarity*. She reported that these terms tend to be used interchangeably, even though there are patterns of continuities and discontinuities in the way that they are conceptualized and actualized.

In her appreciation, Klein (2017) also explained *instrumental* interdisciplinarity and *conceptual* interdisciplinarity. According to her, the difference between instrumental and conceptual interdisciplinarity is the *fault line* in the discourse and study of interdisciplinarity. Instrumental interdisciplinarity gained recognition in science-based disciplines. It is not uncommon for interdisciplinarians to associate this particular approach with operationalism, reductionism, and scientism (Klein, 2001, 2017). On the other hand, conceptual interdisciplinarians often question the received wisdom, narratives, and frameworks for understanding the traditional structure and arrangement of knowledge and disciplines, particularly in education. Conceptual interdisciplinarity values the resocialization of knowledge and new ways of knowing.

However, Klein (2017, 2021) has argued that the differences between instrumental and conceptual interdisciplinarity are not absolute, especially when they are treated as forms of communication. Klein (1996) has argued that interdisciplinarity and integrative processes are inherently dialogic. They always require at least one discipline to negotiate and intersect with the content, practices, and worldviews of other disciplines.

In short, Klein (2018) characterized interdisciplinarity as the various dialogues that occur between two or more disciplines. This interpretation explains why Klein (1996, 2021) has maintained that interdisciplinary work requires communicative competence as a precondition. For Klein (1996, 2010), interdisciplinarity is dialogic and conceptual in the sense that its processes are always bound up with the philosophy of language, cultural contingencies, and human action. In contrast, instrumental interdisciplinarity reflects a more pragmatic and methodical orientation that is geared toward solving problems. What is paradoxical is that interdisciplinarians who support conceptual interdisciplinarity often critique and challenge the scientific orientation and methodical practices that instrumentalists value. Over the years, Klein (2017) has introduced and advanced the kind of innovative conceptual tools and practices that interdisciplinarians can use to move beyond instrumental interdisciplinarity (also see Darbellay, 2019).

To understand the differences in the philosophical orientations that scholars often associate with conceptual versus instrumental interdisciplinarity, Klein (2021) suggested that one could view conceptual interdisciplinarity as an epistemic approach that moves beyond disciplinary boundaries. For Klein, an example of conceptual interdisciplinarity in practice might include *boundary work*. Boundary work is the concept that Klein (1996, 2021) has used to describe the interactions and (re)formations that interdisciplinarity inspires in the production and organization of knowledge. The term further crystallizes her characterization of her socio-linguistic view of interdisciplinary integration as a form of *communicative action*. In their assessment of Klein's theory, Laursen and O'Rourke (2019) reported, "Because interdisciplinary work is intercultural language work, interdisciplinarity is a form of communicative action" (p. 42).

To substantiate her theoretical innovation, Klein (1996) turned to the philosophy of Jürgen Habermas (1985, 1987). For instance, Klein (1995) argued that interdisciplinary collaborations require rhetorical, social, and political negotiation. As such, one must attend to language and the reformulations that interdisciplinarity can entail. Klein used Habermas's work to explain how these processes subsist on the dialogues and communicative actions between disciplines (Laursen & O'Rourke, 2019). For Habermas (1985), the term *communicative action* describes how at least two participants engage in speech and interaction to construct the kind of collaborative relationship that leads to the resolution of conflicts and the establishment of mutual understanding. Habermas reported that one of the goals of communicative action is to create a sense of clarity and reciprocity through conversation. However, *strategic action* represents the opposite of communicative action. This instrumental approach not only corrodes the communicative effort through the use of coercive actions, but it prevents the participants from arriving at an understanding of their *lifeworlds* (Habermas, 1985, 1987).

Klein (1996) reported, "Lifeworld, in the Habermasian sense, means the totality of sociocultural facts, events, and objects that constitute a field of knowledge" (p. 88). As with any situation where differences and power are involved, Habermas (1987) claimed that lifeworlds must be critically examined and rationalized and communicative action is how this process occurs. For Habermas, the ideal speech situation assumes that there is equal access to dialogue at all points and a lack of coercion. Unlike Habermas, Klein (2014) recognized that communication and interdisciplinarity are inherently conflictual. For her, the misunderstandings, competitions, and power dynamics in interdisciplinary collaborations should not be dismissed because they usually reappear in new forms.

However, language and communication are essential in helping interdisciplinarians overcome the *boundaries of reticence* that different epistemological and political worldviews inspire. Klein (1996) argued, “Communicative competence is a condition for the possibility of interdisciplinary work, because the quality of outcomes cannot be separated from development of a language culture” (p. 220).

Consequently, one must pay attention to language, content, and the reconfigurations that effectuate the construction and reconstruction of shared knowledge in interdisciplinary studies and the various forms of *boundary crossing*. For Klein (1996), boundary crossing describes the interactions across disciplines that are always conditioned and enabled by dialogue and communication (also see Giroux, 1992). In other words, Klein (1996) used the metaphor *boundary crossing* to describe the dialogism and social constructivism at the center of the integrative processes associated with interdisciplinary practices. This point further reflects Klein’s understanding of conceptual interdisciplinarity. Her philosophical approach to interdisciplinarity emphasizes the rhetorical and architectonic nature of interdisciplinary processes (Klein, 1990). Unlike critical interdisciplinarity, as defined by Salter and Hearn (1996), Klein (1996, 2015) argued that disciplines are necessary for interdisciplinarity. In fact, boundary crossing characterizes how the integration of disciplinary activities allows the boundaries of one academic area to interact with another. It enables two or more disciplines to borrow or combine content, techniques, and tools to address a problem or (re)conceptualize an idea or issue. Therefore, the borrowing or lending discipline’s epistemic nature is modified and transformed as a result of this integrative process. However, Klein (1996) also pointed out that sometimes disciplines borrow concepts and not their operationalization

or philosophical imperatives. Thus, boundary crossing does not always foster the kind of boundary work that most associate with interdisciplinarity (also see Klein, 2014).

In fact, interdisciplinarity entails the clarification and resolution of disciplinary differences in order to construct a combinative and transformative response for teaching, learning, or research. Combinative responses are always conflictual, relativistic, and constructivist (Klein, 1996, p. 296). The conditions of interdisciplinary synthesis vary based on the nature and scope of a given activity, project, or goal. For example, Klein (2018) reported that conservative groups value instrumental interdisciplinarity to solve problems in a strategic and pragmatic fashion. In challenging the discourses and practices that reproduce the status quo, some groups tend to favor conceptual interdisciplinarity. In this sense, Klein's philosophical view of conceptual interdisciplinarity also mirrors the thinking expressed in one of the more influential schools of thought in the philosophy of adult education: *postmodernism*. More specifically, Klein (1996) argued that interdisciplinarity is a human action and creative activity that cannot always be realized in steps, rules, or a pragmatic formula. In fact, interdisciplinary processes are inherently rhetorical, integrative, and postmodern (Klein, 2001).

Postmodern Adult Education Philosophy

Postmodernism questions many of the premises in philosophy that are rooted in the rationalist and scientific thinking that emerges during the Enlightenment and extends into modernism. According to Elias and Merriam (2005), postmodernism supports and advances the idea that there can be no universally accepted truth, mode of thought, cultural tradition, or discipline that fully explicates diverse human experiences and complex philosophical and political problems. For many, it is described as a critical

attitude, an extreme form of social constructivism, and a radical articulation of the simultaneity of differences (Burbules, 2009; Ozmon & Craver, 2008; Welch, 2011). To help readers clarify their understanding of this complex term, Burbules (2009)—as one of the leading authorities in the area of postmodern education—identified the four features that most scholars in the field have come to associate with the character and influence of postmodern philosophy.

In *The Oxford Handbook of Philosophy of Education*, Burbules (2009) provided a succinct description of postmodernism. The first important feature of postmodernity that Burbules described is its celebration of diversity, sensitivity to all differences, and rejection of the binary logic and hierarchization often used to maintain the status quo. The second feature is a strong skepticism or disbelief in the idea of a coherent and consistent identity and reality. For postmodernists, all reality is situational, heterogeneous, intertextual, and conflictual. The third feature in Burbules's assessment has been mentioned earlier. It is the ubiquity and dynamism associated with the *asymmetry of power* in all social relations. Power is treated as asymmetrical because it is both creative and destructive. It is benign as well as pernicious. Its influence permeates the state, formal and informal institutions, and other entities that condition social relations. Without it, many things simply do not get done (Foucault, 1980, 1981). The fourth significant feature of postmodernism that Burbules identified is its preoccupation with language and communication, particularly as they apply to the notion of discourse and texts and how their incongruence and contingency are always implicated in the (de)construction of one's notion of meaning, knowledge, and truth. The uncertainty that postmodernists associate with language tends to commit them to a deep distrust of the

foundational logic and universal claims associated with the Enlightenment and its rearticulation in modernism (Burbules, 2009).

For Usher and Edwards (1994), the term *modernism* describes a period in historical and philosophical thought that is characterized by a belief in science as a harbinger of objectivity and truth that ultimately drives social advancement and progress. In adult education, Usher and Edward (1994) and Usher et al. (1997) framed their conceptualizations of adult education using many of the insights, theories, and conceptual tools that are firmly grounded in the logic of postmodernism. The more significant claim that they pronounce is that education has been conditioned by *rationalism* or the scientific quest for objectivity. Usher and Edwards (1994) argued, “Education theory and practice is founded on the discourse of modernity and its self-understandings have been forged by that discourse’s basic and implicit assumptions” (p. 2). They claimed that, historically, education has been viewed as the vehicle by which modernity’s grand narratives about rationality and individual freedom are reproduced and legitimated. For them, education is inseparable from its Enlightenment legacy and its direct involvement in the production, organization, and distribution of knowledge in support of this ethos (also see Wellmon, 2016).

Elias and Merriam (2005) reported that postmodernism suggests a break or disruption in modernism and its Enlightenment lineage. It challenges the faith and sensibility that modernists place in science, rationality, and objectivity to explain complex realities in the world. Postmodernism and its advocates signal dissatisfaction with all of those schools of philosophy and movements that promise to bring change to society yet fail to do so. Therefore, at its core, postmodernism refers to an

antifoundational mode of thinking about the world in a post-industrial society conditioned by technological advancements and the digitalization of knowledge (Usher & Edwards, 1994; Zuboff, 1984, 2019). According to Elias and Merriam (2005), postmodernism comes in two forms. There is *deconstructive* or skeptical postmodernism and *constructive* or liberating postmodernism. Deconstructive postmodernism questions and dismantles the scientism, absolutism, and authority often associated with the grand narratives of modernism. The authors reported that deconstructive postmodernists hold modernism and its associated concepts responsible for much of the inequality and *oppressive horrors* of the twentieth century (also see Eagleton, 1996). As a result, many postmodern thinkers claim that reality, language, and knowledge are inherently fragmented and compromised by power and oppression. On a similar note, Elias and Merriam (2005) reported that constructive or liberating postmodernism describes what they call *revisionary modernism*. This form of postmodernism calls for a transfiguration of the dominant social, political, and economic paradigms that have been underwritten by Western thought and reproduced by academic institutions. Elias and Merriam (2005) pointed out that constructive postmodernism is “decidedly liberational and critical of social injustices” (p. 224). It is in this context that Eagleton (1996, 1998) argued that postmodernism is a radical philosophical position and sensibility. It challenges systems and worldviews that invest in “absolute values, metaphysical foundations and self-identical subjects; against these it mobilizes multiplicity, non-identity, transgression, antifoundationalism, cultural relativism” (Eagleton, 1996, p. 132). In other words, a postmodern philosophical perspective is “a confrontation with epistemology and deeply

embedded notions of foundations, disciplines, and scientificity” (Usher & Edwards, 1994, p. 3).

While postmodernism is often used to characterize an aesthetic movement as well as a school of philosophy, it is not always clear how *poststructuralism* is related to the concept. Peters and Burbules (2004) clarified the distinction between the two terms. For them, *postmodernism* and *poststructuralism* overlap philosophically and historically. However, the key difference is their starting points. For example, postmodernism’s object of focus and starting point is *modernism*. On the other hand, poststructuralism’s object of focus and starting point is *structuralism* or the study of systems and signs. Of the two, Peters and Burbules (2004) claimed that postmodernism has a much broader range of application and appeal. Elias and Merriam noted, “The postmodern recognizes that there are many social contexts that call for different responses. There are many different groups whose voices need to be heard” (2005, p. 239).

As with many radical critics, proponents of a postmodern worldview in education celebrate pluralism, interdisciplinarity, and the play of meaning in language and texts. Elias and Merriam (2005) also reported that both postmodernists and radical critics share an interest in examining the operation of power and its role as a strong motivating force within society and education. In discussing the impact of postmodernism in education, Ozmon and Craver (2008) wrote, “One result is that the defining boundaries of human thought that once seemed so clear now appear to be fading, including the knowledge boundaries between the academic disciplines” (p. 339). In postmodern education, the aim is to help students understand the emancipatory value of education. Coursework and activities are designed to help students understand how the human experience is

conditioned by social, cultural, and political inequalities that reproduce subjugation and marginalize differences. Postmodern education places an emphasis on diversity and different forms of knowledge. It disrupts the kind of binary thinking that treats things as *either/or* in order to support hierarchies and the marginalization of differences (Elias & Merriam, 2005).

In particular, postmodern *critical pedagogues* use dialogue and community-based learning to foster the kind of social discourse that students can use to critique the status quo that manifests and maintains human suffering and exploitation. This new sense of awareness among students helps them to develop the agency that they need to thwart oppression and create a more democratic world. In turn, postmodern educators tend to use content, methods, and activities from a variety of disciplines to address the complex interrelationships among the social, political, and economic problems in society and their supporting institutional structures. They also critique education and how its traditional practices and protocols reinforce dominant relations of power. This logic could explain why postmodern critical pedagogues emphasize the need to dismantle the traditional disciplinary boundaries in order to pursue a conceptualization of knowledge that is interdisciplinary and free of the restraints that one associates with disciplinarity and specialization (Giroux, 1992; Ozmon & Craver, 2008).

However, as pointed out above, many scholars in educational philosophy have noted that postmodernists reject the meta-narratives of Marxism and socialism that many radical and critical adult educators value (Elias & Merriam, 2005; Kang, 2006, Marx, 2008). Furthermore, postmodernists consider the quest for clarity that many analytic philosophers desire to be modernist and impossible to realize due to the instability of the

very tool that they rely on to achieve their goal: *language* (Peters et al., 2020). In fact, postmodernists also reject the promise of democracy in liberalism and the reliance on scientism that progressivists and behaviorists seek to advance (Elias & Merriam, 2005; Ozmon & Craver, 2008). Eagleton (1996) argued that postmodernism questions certainty in favor of contingency. Meaning and reality are not stable. Their existence is dependent on language, discourse, and texts, which are inherently unstable (Aronowitz & Giroux, 1991). Elias and Merriam (2005) wrote, “The meaning of a text does not inhere in a text but in the interaction between the text and the reader. Thus the text can have different meanings for different readers and even for the same readers at different times” (p. 225).

However, Peters et al. (2020) have raised the question as to whether postmodernism and its celebration of heterogeneity are still relevant in education. They claimed that postmodernism has reached its end. Since the 1980s, the authors argued that a number of writers have proclaimed that postmodernism is over. Burbules (2009) and others have noted that postmodernism has been criticized for being nihilistic, anarchical, and elitist. It tends to overvalue subjectivity at the expense of objectivity. For many, postmodernism is hostile to the kinds of social and political action that are essential in changing the status quo (Aronowitz & Giroux, 1991). For some, its exit from critical and scholarly circles is long overdue (Habermas, 1994). Scholars such as Epstein et al. (2016) suggest that the postmodern has been superseded by a new ethos and sensibility in the culture as well as in education. Admittedly, they acknowledge the lack of consensus surrounding this new orientation. However, the variety of labels given to the new movement suggests a level of diversity and complexity that still reflects a postmodern sensibility (Burbules, 2009).

Postmodernism and Interdisciplinarity

Elias and Merriam (2005) reported that postmodernism has many philosophical ancestors, including philosophers such as Martin Heidegger and, particularly, Friedrich Nietzsche. Welch (2011) would agree. He examined the philosophical roots of instrumental interdisciplinarity and conceptual interdisciplinarity. In terms of conceptual interdisciplinarity, Welch (2011) claimed that its epistemological origins are rooted in the ideas of Friedrich Nietzsche (1997, 2016) or the *Nietzschean tradition*. For Welch, conceptual interdisciplinarity reflects postmodern skepticism concerning the boundaries imposed on knowledge and disciplines and ideologies that support such delineations.

However, for scholars such as Frodeman (2014), Jean-François Lyotard's *The Postmodern Condition: A Report on Knowledge* is considered one of the more definitive statements on the influence of postmodernism on contemporary conceptualizations of interdisciplinarity. According to Frodeman, Lyotard's (1984) study provides one of the first explicitly philosophical elaborations on interdisciplinarity and its challenge to modernism. As a distinct period of historical development, Lyotard used the term *modernism* to describe the perspectives, prerogatives, and discourses that emerged in the Enlightenment of the late seventeenth and the eighteenth centuries. As an intellectual movement and synonym for modernism, the Enlightenment encapsulates a worldview anchored by the belief that reason and science are the means by which humans achieve freedom of thought, certainty, and the expressions of progress that lead to social betterment and equality (Ford, 2020; Halliday, 2001). During the Enlightenment, modernism and its advocates mature in their quest for underlying truths and systemizations that render the events and experiences of the world coherent, certain, and

comprehensive. According to Usher and Edwards (1994), disorder, heterogeneity, and nonlinearity eventually come to be considered relativist impulses that warrant concern, prohibition, and regulation among modernists. In short, postmodernism values diversity, fragmentation, and the simultaneity of differences or what one might call *and/with* thinking. However, modernism signals the *either/or* thinking that has served as a template for the divisions and inequalities in society and its supporting institutions. As such, modernism privileges knowledge derived from rationalism, scientific methodologies, and empirical experimentation. In modernism, instrumentalism is often conflated with rationality and scientism (Usher & Edwards, 1994). Ultimately, modernism signals the inauguration of the social, cultural, and economic disruptions that help to actuate capitalism, inequality, and the modern nation state as they are recognized today (Peters et al., 2020; Usher & Edwards, 1994).

In his assessment of postmodernism, Condee (2016) analyzed a survey of 150 professors at the University of Minnesota. The results showed almost all of the professors in the social sciences and the humanities considered their work to be interdisciplinary. Condee found that this interdisciplinary turn in these fields can be attributed to the increasing influence of postmodernism in higher education. For Condee, postmodernism has established new ways for educators to reimagine teaching and learning in higher education. The author reported, “The current interdisciplinary turn, however, suggests new approaches to scholarship, teaching, and learning are emerging now” (Condee, 2016, p. 16). He might agree that it also promotes the exploration of alternative “conceptions of knowledge when the problematic of an absolute foundation is seriously acknowledged” (Mourad, 1997, p. 117). For him, this postmodern turn has helped to advance

interdisciplinarity. The discourse and logic associated with postmodernism often challenge modernist or methodical understandings of interdisciplinarity and the desire for the unity of knowledge. In contrast, Condee (2016) referred to those who advocated a more pluralistic and multidimensional appreciation of the field as *postmodern interdisciplinarians*. The term characterizes the worldview of those interdisciplinarians who value heterogeneous interactivity along with the conceptualization of interdisciplinarity as a synonym for integration, synthesis, and holism. As more scholars begin to reimagine interdisciplinarity using a postmodern lens, Condee (2016) indicated that more interdisciplinarians may move away from modernist or instrumental orientations and embrace a more inclusive, interactive, and conceptual understanding of the term. Lattuca (2001) is an example of one scholar who illustrates Condee's point.

Lattuca's Theory of Interdisciplinarity

In *Creating Interdisciplinarity*, Lattuca (2001) attempted to understand interdisciplinarity as an innovative form of teaching and research. In doing so, the author discovered that there were very few empirical studies on interdisciplinarity in these areas. After reviewing the academic literature for her study, Lattuca found that many scholars appeared to value the orthodox view of interdisciplinarity as the integration of two or more concepts or disciplines. In fact, many of the dominant theories and typologies used to explicate and organize interdisciplinary scholarship, theory, and practice are built on this general conceptualization of the term (see Aram, 2004; Chettiparamb, 2007; Klein, 2005, 2017; Newell, 2013; Szostak, 2015; Welch, 2011). For example, Jacobs (2013) and Piso (2015) have pointed out how scholars such as Newell (2001b, 2013) and Repko and Szostak (2017) have claimed that integration is a distinguishing characteristic of

interdisciplinarity. In fact, Laursen and O'Rourke (2019) noted that integration is essentially a hallmark for teaching, learning, and research in interdisciplinary studies and the preoccupation of prominent scholars in the field such as Klein (1996, 2002). Is it possible that this strong focus on integration among these scholars is misdirected? Jacobs (2013) claimed that this is exactly the case, insisting that it is not necessary to frame or define interdisciplinarity in terms of integration or synthesis. In fact, he argued that few areas of knowledge are completely integrated and interdisciplinary practices are seldom successful in achieving it. Furthermore, Tessaro (2022) has argued that the consensus among interdisciplinarians that interdisciplinarity entails a focus on the integration of concepts and/or disciplines is a weak point in the field. He claimed that there are instances in the academic literature on interdisciplinarity in which integration plays no substantial role at all. He remarked, "If this is possible, then integration is not fundamental to interdisciplinarity, and much of the current literature directs towards a straw man" (Tessaro, 2022, p. 54).

In her writings, Lattuca (2001, 2002, 2003) did not go as far as Tessaro (2022) in her critique of interdisciplinary integration. However, she found that the traditional appreciation of interdisciplinarity had outgrown the governing definition and logic assigned to it by scholars and practitioners in the field and across several disciplines. According to Lattuca, "The traditional conceptualization of interdisciplinarity as the integration of disciplinary perspectives conceals the disciplinary critique that drives much interdisciplinary scholarship today" (2001, p. 4). In her book, Lattuca explained how innovations in philosophy and critical theory recalibrate interdisciplinarity and inspire "a deeper and broader understanding of interdisciplinary work and the many scholarships

that are collected under that rubric” (p. 4). Holley (2009b) pointed to the significant contribution that Lattuca’s scholarship has made in advancing interdisciplinary theory in higher education. She reported that Lattuca focused on how and why faculty pursue interdisciplinary work and the motivations and questions that guide them. This information provided the building blocks for Lattuca’s reevaluation of the term (Dilley, 2002; Klein, 2021).

According to Lattuca (2001, 2002), interdisciplinarity cannot be fully understood unless one examines processes, contexts, and outcomes together and in relation to one another. Her approach to interdisciplinarity appears to be influenced by the Centre for Educational Research and Innovation (CERI) (OECD, 1972). Lattuca (2001) reported that this definition of interdisciplinarity seems “to accommodate different, and even competing, types of interdisciplinarity. CERI’s definition specifies a range of interdisciplinary interactions” (p. 17). The definition provided by CERI indicates that interdisciplinarity lives on a continuum between the informal communication of ideas and formal collaboration. An example of informal communication includes collegiate conversations among different faculty members. An example of formal communication includes the creation of research teams and teaching collaborations (Lattuca, 2001). What is most significant about this conceptualization of interdisciplinarity is that it focuses on interactions and offers a more expansive understanding of interdisciplinarity that stretches beyond collaborative teaching and team research. Also, the findings from Lattuca’s research along with new developments in areas such as postmodernism and feminism support an appreciation of interdisciplinarity as a network of interactions among the broad range of elements that might be involved in the interdisciplinary

teaching and research activities of faculty in higher education (Dilley, 2002; Holley, 2009a, 2009b).

In fact, one of the reasons that Lattuca (2001) claimed to value CERI's definition is that it is broad and inclusive. Scholars such as Graff (2015) have supported this broadened understanding of interdisciplinarity. He claimed that he emphasized the questions and problems and not the number of disciplines that are integrated or transcended in interdisciplinary endeavors. In the traditional definition of interdisciplinarity mentioned above, many faculty and individuals working in modernist modes would be excluded, including a great number of people working in the physical sciences. In challenging the orthodox interpretation of interdisciplinarity, Lattuca (2001) asked, "Should we propose a definition of interdisciplinarity that discriminates against faculty on the basis of epistemology or is it possible to develop a definition that would allow disparate epistemologies to coexist?" (p. 17). By embracing an alternative consideration of interdisciplinarity that supports modernist and postmodernist worldviews and practices, Lattuca defined and mapped interdisciplinary work on "a continuum from modern, or discipline-based, interdisciplinarity to postmodern, or adisciplinary, interdisciplinarity" (p. 18). Lattuca defined *postmodernism* as a critique of the values and doctrines that emerge from Enlightenment thinking (positivism, rationalism, scientism, etc.). For her, postmodernists oppose any kind of foundational thinking that claims to be permanent, universal, and objective. Lattuca (2001) reported that advocates for postmodernist thinking value the hermeneutic and poetic, pluralism and heterogeneity, and contextualization (Condee, 2016). More significantly, they acknowledge the contingent nature of knowledge and value its interdisciplinary character. For them,

interdisciplinarity appreciates the inclusive nature of knowledge, thus signaling the kind of democratic ethos that supports the redistribution of “power to individuals who would otherwise be powerless” (Lattuca, 2001, p. 16).

Drawing heavily on postmodernism (as well as feminist and poststructuralist epistemologies) to support her understanding of interdisciplinarity, Lattuca (2001) stated that she used this alternative conceptualization to guide the selection of faculty members or *informants* for her study (p. 270). For the project, Lattuca selected and interviewed 38 faculty members in order to understand their attitudes toward interdisciplinarity as a philosophy and practice. The four institutions represented in the study included one research university, one doctoral university, and two selective liberal arts colleges. To explain her delimitation for the study, Lattuca wrote, “institutional affiliation was limited to faculty in research/doctoral universities and selective liberal arts colleges where faculty are generally assumed to be actively involved in research as well as teaching” (p. 269). In a later reflection, Lattuca (2003) revisited the constraints in her choices and presentation. She noted that she only interviewed faculty with doctorates in the traditional liberal arts and sciences. Lattuca stated, “I made that decision because I assumed that these individuals would have stronger disciplinary views than faculty from professional fields, like business and education, which typically include the study of a variety of disciplines” (2003, p. 4). She reported that she also assumed that “faculty with strong disciplinary backgrounds would most readily note tensions between disciplinary and interdisciplinary scholarship” (p. 4). In further reflection on her assumptions, Lattuca (2003) indicated that “a study which included faculty from applied fields and/or from

professional or other interdisciplinary units might have elicited different or more definitions of interdisciplinarity” (pp. 4-5).

When this author asked Lattuca about the omission of community college faculty in her study, Lattuca (personal communication, June 6, 2022) replied, “I limited the study to tenure track faculty who were in research universities and selective liberal arts colleges because they could be assumed to be research-active.” Lattuca went on to say that “the assumption was that the reward system for faculty in four-year institutions is different than in most two-year colleges, with an emphasis on both research and teaching at the four-year institutions whereas community colleges would be more teaching-focused.” She concluded, “Since my sample was limited to tenure-line/tenured faculty, rather than contingent/contract faculty, that was a safe assumption” (L. Lattuca, personal communication, June 6, 2022).

Based on the faculty informants that she did interview, Lattuca (2001) discovered that they had very different interpretations of what constituted interdisciplinary teaching and research. According to Lattuca, “What one informant labeled as interdisciplinary was dismissed by another as merely multidisciplinary or even disciplinary” (p. 71). Based on the questions and results from her inquiries, Lattuca formulated an alternative typology consisting of four philosophical perspectives that include *informed disciplinarity*, *synthetic interdisciplinarity*, *transdisciplinarity*, and *conceptual interdisciplinarity*. Informed disciplinarity involves teaching practices and research questions that primarily center on disciplinary concerns. The questions might be influenced by concepts, methods, or theories from other disciplines, but their contributions serve disciplinary inquiries.

However, synthetic interdisciplinarity occurs when instructional practices and research questions are used to bridge the gap between disciplines.

This form of interdisciplinarity is often thought to be analogous to multidisciplinary, since two or more disciplines are often involved. In transdisciplinarity, teaching and research are driven by the notion that disciplines share common underlying features. The focus is placed on the synthesis of theories, concepts, or methods from across several disciplines and beyond their organizational or institutional boundaries. Lattuca (2001) reported, “It differs from informed disciplinary and synthetic interdisciplinarity in that these theories, concepts, or methods are not borrowed from one discipline and applied to another, but rather transcend disciplines and are therefore applicable in many fields” (p. 83). Lastly, conceptual interdisciplinarity draws one’s attention to the philosophical and theoretical dimensions of interdisciplinarity rather than practicality. It often challenges one’s understanding of disciplinary issues. One of the goals of teaching and research using this form of interdisciplinarity is to challenge the organization of knowledge and disciplinary structures that academics take for granted. It raises questions about how and why disciplines are fragmented and the benefits of their integration. For Lattuca (2001), *conceptual interdisciplinarity* is the form of interdisciplinarity that she imagined to be most congruent with her understanding of postmodernism.

Challenges to Lattuca’s Theory and Assumptions

In her assessment of Lattuca’s theory, Klein (2021) described it as a *radical stance* that challenges the role and primacy of integration in theorizing the character of interdisciplinarity as a philosophy and practice (p. 88). However, there appears to be two

key concerns in the development of Lattuca's study that Klein and others may have overlooked (Dilley, 2002; Falcus et al., 2019; Holley, 2017). The first is Lattuca's interpretation and application of the term *postmodernism*. The definition that she used to frame and underwrite the empirical data that lead to the creation of her typology for interdisciplinarity appears to undervalue one of the key properties of postmodernism as it has been outlined by leading scholars in postmodern philosophy such as Burbules (2009). In his study on postmodernism and education, Burbules (2009) identified some of the important characteristics or elements of postmodernity that he viewed as constituting its distinctiveness in the philosophy of education. One important feature is what Burbules called the *dynamic of asymmetrical power*. For him, this term is considered one of the defining properties of interdisciplinarity (also see Foucault, 1978, 2010). Ultimately, this concern signifies the tensions that many scholars might find in the interpretation of postmodernism that Lattuca (2001) used to qualify her interpretation of interdisciplinarity and guide her selection of faculty for her study. According to Burbules (2009), the asymmetrical dimension of power tends to characterize all relations and implicate all humans in a complex network of contingent interactions that always impact others in some form or fashion (also see Peters & Burbules, 2004).

Critics of interdisciplinarity have raised concerns about the lack of attention paid to the role that asymmetrical power plays as a feature in interdisciplinary theory and practices (Barry et al., 2008; Tessaro, 2022). For example, Callard and Fitzgerald (2015) have criticized scholars in interdisciplinary studies and beyond for underplaying the exercise of power among collaborating disciplinary communities (also see Barry & Born, 2013). The authors claimed that interdisciplinarians presuppose that there is a natural

reciprocity and mutuality in the logic of interdisciplinary interactions and exchanges. This is not always the case. One problem is that financial and academic power is not distributed equally in higher education and probably never will be. Another problem is that interdisciplinarians operate under the presupposition that interdisciplinarity is a harmonious event. In many cases, it is inherently disruptive and discontinuous (see Foucault, 2010). Echoing Burbules (2009), Callard and Fitzgerald (2015) highlighted this problem by coining the term *interdisciplinary asymmetry* to acknowledge the fact that consensus, integration, and reciprocity are not necessarily promised to those who practice interdisciplinarity, especially when there are differences in power and prestige among the various knowledge communities inside and outside of higher education. Such inequalities in the distribution of power actually reveal that interdisciplinary interactions, as Lattuca (2001) described them, often involve struggle and conflict. While this sentiment is underplayed in Lattuca's theory of interdisciplinarity, it takes center stage for scholars such as MacMynowski (2007).

MacMynowski reported that *knowledge claims* carry different levels of credibility and authority depending on the person and academic discipline from which they emanate. A knowledge claim is the term she used to describe the articulations one uses when showing that one knows something about something and the impending values, worldviews, and academic positionality and prestige that condition the way others interpret those articulations. MacMynowski (2007) pointed out that conflicting claims often meet when *knowers* or faculty and researchers participate in interdisciplinary collaborations. The author also noted Foucault's study on how social capital and authority have accrued to scientific disciplines and institutions. For him, their knowledge

claims are often perceived to be more objective and more true. For MacMynowski (2007), this is another example of the workings of the relationship between knowledge and power to convey authority by legitimating some claims and discourses while marginalizing or discounting others. She went on to introduce and describe four potential scenarios that characterize how interdisciplinary enterprises unfold and demonstrate the exercise of power in academic fields. For the author, power is demonstrated in interdisciplinary undertakings through conflict, tolerance, ambivalence, mutual identification, cooperation, and fundamental transformation.

Unsatisfied with the standard conceptualization of interdisciplinarity as the integration of two or more disciplines or concepts, Barry et al. (2008) recognized the importance of establishing an alternative understanding of the relationship between disciplinarity and interdisciplinarity to advance work in all sciences and technology. As such, Barry et al. questioned whether the current appreciation of interdisciplinarity as a solution to various contemporary problems is still viable. In short, the scholars argued that it may be more advantageous to find out how to understand interdisciplinarity as a space of differences and multiplicity. For Barry et al. (2008), an understanding of the multiple logics of interdisciplinarity rather than the more teleological accounts in the academic literature allows one to recognize the conflicts and ironies as well as the innovative potential in all interdisciplinary practices (also see Klein, 1996).

To illustrate the implications of this paradox, Orr (2003) argued that interdisciplinarity is synonymous with innovation and collaboration, particularly as it is advanced by the infrastructure and ubiquity of modern technology. Digital technology has made every branch of knowledge translatable, transferable, and inherently democratic

and interdisciplinary. Despite its theoretical and pedagogical benefits, Orr (2003) claimed that, ironically, interdisciplinarity's greatest value to academic institutions may be in how it is appropriated to ground hierarchical, undemocratic, and utilitarian value systems in a market-driven knowledge economy (also see Fish, 1989). She claimed, "Institutions such as the university therefore incorporate interdisciplinarity as a paradigm for modern, efficient knowledge production, yet justify and financially underpin their nineteenth-century ideological legacy by continuing to sustain and support a hierarchy of disciplines" (2003, p. 47). When the logic of interdisciplinarity is realized and operationalized in its ideal and meta-disciplinary form, it poses too much of a financial and conceptual challenge to institutions and their operational and organizational rationale. She suggested that interdisciplinarity does not transform education as much as it relocates and repositions teaching, learning, and research priorities within a framework acceptable to those who wield the greatest power. As a result, Orr (2003) determined, "The economics of institutional power—funding, profitability, marketability of outcomes of research—thus overrides any 'pure' motivation for interdisciplinarity as principle" (p. 47).

Moreover, theorists such as Barthes (1989) have insisted that interdisciplinary endeavors are not peaceful operations in theory or practice. Interdisciplinary endeavors begin when the solidarity of the disciplines breaks down. In other words, interdisciplinarity entails a disruption of the discourses and knowledge traditions that support disciplinarity. It entails a break or a disruption of the status quo in order for something new to emerge (Kristeva, 1986). Gunn (1998) argued that interdisciplinarians share a predisposition to cross disciplinary boundaries to address particular research

interests and inquiries. However, the nexus formed between interdisciplinarity and intellectual liberty can hide their more invasive and disruptive character. According to Gunn (1998), the idea that interdisciplinarity may also be peremptory, prescriptive, and imperialistic may be foreign to many scholars and educators. However, the terms do apply when one considers that “the redescriptive impulses of interdisciplinary studies almost of necessity place one discipline in a position of subordination to another.” The result is that the subordinated discipline is destabilized or subsumed under the pretext of interdisciplinarity and incorporated into some larger hegemonic framework. In essence, the practice of interdisciplinarity has the potential to run counter “to the redemptive heuristics used to justify it” (p. 256).

To illuminate Gunn’s (1998) point, one can turn to the recurring point of tension in the academy among those who view the human and social sciences as less rigorous, less prestigious, and less relevant than the natural sciences (Graff, 2015; Kagan, 2009; Snow, 1959). Elaborating on this point, Altbach (2016) argued that American higher education is complex and hierarchical. The stratifications and inequalities found among the various academic institutions frame the relations between the departments and disciplines. Echoing Kant (1979), Altbach claimed that disciplines and departments are also stratified and ranked, with medicine and law at the top. The author went on to confirm that the hard sciences generally carry more prestige than the social and human sciences in most institutions. He stated, “Other applied fields, such as education and agriculture, are considered lower on the scale. These hierarchies are very much part of the realities and perceptions of the academic profession” (p. 93). There will likely not be any serious change in these views any time soon, especially since departments and disciplines

in the human and social sciences often mimic the research methods of the natural sciences, and institutions with lower rankings and less prestige tend to follow the lead of the more elite, research-oriented schools (Altbach, 2016; Bowles & Gintis, 1976; Brennan & Magness, 2019; Brint & Karabel, 1989). According to Altbach (2016) and Davidson (2017), a notable exception is the community college, which has found ways to be innovative and effective outside of many of these pressures.

However, critics of higher education such as Hacker and Dreifus (2010) would disagree. As an institution in the lower tier in the hierarchy of American higher education, the community college is generally described as “any not-for-profit institution regionally accredited to award the associate in arts or the associate in science as its highest degree.” The definition also includes “the comprehensive two-year college as well as many technical institutes, both public and private” (A. Cohen et al., 2014, p. 5). In their work, Hacker and Dreifus (2010) and Beaumont (2020) both found that the push toward more prestige and the pressure to publish have afflicted small liberal arts colleges as well as community colleges (also see Rosas Alquicira et al., 2022). Hacker and Dreifus reported that the publishing virus has spread “to the community colleges, nursing schools, and lower tier colleges that previously functioned well without having their professors’ names in journals” (2010, p. 87). For them, this detracts from the democratic mission and the important role that these institutions play in American society, which is to enable the transmission of knowledge to transform lives and the community for the better. Merriam and Brockett (2007) found the community college to be an example of a space in higher education that actively encourages inclusiveness and integrated learning. More significantly, community colleges tend to be inexpensive, open-access institutions that

offer liberal arts and transfer education, developmental education, continuing and adult education, and vocational training (A. Cohen et al., 2014). With its open access to a wide variety of students and emphasis on teaching and pedagogical innovation, the community college is essential in helping non-traditional adult students, women, and minority groups to access higher education (Bailey et al., 2015; Miller et al. 2016; Ockerman, 2012).

This point brings the reader to the second concern in Lattuca's study that Klein (2021) and others may have overlooked (Dilley, 2002; Falcus et al., 2019; Holley, 2017). The problem becomes much more evident when one examines the appendix in Lattuca's study. When reading the appendix, one learns that there was a pilot or preliminary study done beforehand. In that study of ten faculty members, Lattuca (2001) included community college faculty. However, this particular group of faculty members is noticeably absent in the study done later, in which 38 faculty members were selected (with the help of administrators) from one research university, one doctoral university, and two selective liberal arts colleges (pp. 267-269). As stated in the first chapter of this study, ordinarily, the delimitation in Lattuca's research design would not appear problematic for most scholars. What raises a red flag for students of postmodern philosophy, particularly those with a strong Derridean persuasion, is the binarity signaled by the presence and absence of community college faculty in a study that relies heavily on the inclusive logic of postmodernism (Burbules, 2009; Peters et al., 2020). This moment of contradiction in Lattuca's study is significant because it is also at odds with the definition of postmodernism that is valued by scholars in adult education. For example, Elias and Merriam (2005) wrote, postmodernism makes "a deliberate attempt to unsettle assumptions and presuppositions. It refuses to accept boundaries or hierarchies in

ways or things” (p. 229). Furthermore, scholars such as Eagleton (1996, 1998) and Kang (2006) have also pointed out that postmodern philosophy rejects boundaries, binary oppositions, and hierarchies in favor of the celebration of differences, inclusivity, and interactivity. As a result, postmodernists often seek to challenge and deconstruct such structures and delimitations in theory as well as in practice (see Derrida, 1997, 2004).

This understanding of postmodernism challenges the strength of the views that inform Lattuca’s (2001) assumptions about interdisciplinarity and community college faculty in her study. In fact, the abovementioned assessments of the community college articulated by scholars such as Hacker and Dreifus (2010) add more weight to the idea that the assumptions that Lattuca (2001) made in her study may be open to deconstruction when they are viewed through the postmodern framework described by scholars such as Burbules (2009) and Elias and Merriam (2005). For scholars in adult education such as Merriam and Brockett (2007), the lack of representation of community college faculty in Lattuca’s project appears to send a troubling message to adult educators who work in these institutions. It might also suggest to some readers that community college faculty do not have much to contribute in the way of interdisciplinary teaching and research in higher education. Yet, some scholars suggest that the voices and experiences of community college faculty may matter much more than Lattuca’s study indicates (Bailey et al., 2015; Beaumont, 2020). These authors evidence the important contributions that the community college and its faculty have made to interdisciplinary studies and adult education. The appreciations of community college faculty that these authors explicate draw attention to what Merriam and Brockett (2007) called the *deeper and more subtle*

conditions that often differentiate academic institutions and marginalize community college faculty as less consequential players in higher education (pp. 195-197).

The Community College and Interdisciplinarity

In the community college and elsewhere, there appears to be little agreement among scholars and practitioners in terms of what interdisciplinarity is and what kind of *education* or processes and opportunities for teaching and learning that it enables (Burgett et al., 2011; Davis, 1995; Dezure, 2010; Haynes, 2002; Klein, 2002; Newell, 2001a, 2006; Repko & Szostak, 2017). According to Magennis and Farrell (2005), *teaching* describes activities, practices, and processes that make learning possible. It is a complex phenomenon that involves the integration of various disciplinary perspectives. The authors stated that teaching is often undertaken and informed by one or several philosophical viewpoints and paradigms. These outlooks condition the choices that one makes to facilitate teaching and learning. The term *learning* is both a noun and a verb (Magennis & Farrell, 2005). As a verb, the word *learning* is the integration of new and old knowledge or experiences. The word *knowledge* describes the understanding and information that one acquires through subjects, texts, education, and experience (Derrida, 2004; Gibbs, 2021). The attainment and understanding of new knowledge are what results from the effective use of various models, methods, content, and strategies for teaching. For Magennis and Farrell (2005), teaching and learning in *higher education* or the various tiers of academic and vocational institutions that live beyond postsecondary education are generally perceived as essential in helping students to prepare to enter a particular profession or field. This assessment is particularly applicable to the community college (Bailey et al., 2015).

Historical Overview

The community college is often thought to be a uniquely American innovation. However, its ethos is rooted in the European system of education, particularly the one in Germany in the nineteenth century. In his history of the differentiation of higher education in California, Douglass (2000) argued that American academic architects and reformers found the German model of higher education attractive for two significant reasons. They attributed Germany's industrial success, military might, and prosperous economy to its efficient system of education. The American community college system would emerge in the early years of the twentieth century with the German model as an influential template (Douglass, 2000). The establishment of inaugural institutions such as Joliet Junior College marks a significant moment in higher education. According to A. Cohen et al. (2014), the key social and political forces that precipitated the rise of community colleges include the need for a skilled workforce for the nation's expanding industrial sectors. This momentum is also influenced by growing public protestations that called for greater equality and access to higher education for all of those who had traditionally been excluded. These sweeping changes at the turn of the twentieth century and beyond eventually resulted in more diversity in higher education and the expansion of community colleges and programs to meet the demand for higher learning. Miller et al. (2016) claimed that community colleges have played a critical role in providing a diverse group of adult learners with access to higher education that leads to credentials, diplomas, certificates, and employment training opportunities.

Ironically, critics have argued that states could have accommodated the desires of those seeking more access to higher education by expanding the opportunities and

capacities at existing colleges and universities in their regions (Douglass, 2000; Nasaw, 1979). The community college was instrumental in helping academic leaders and state legislators to accommodate the competing interests of those who saw education as a pathway to a more democratic society and those who saw it as a way to reproduce the values and privileges that maintained inequality and the status quo (Bailey et al., 2015; Brint & Karabel, 1989). This paradox was supported by academic architects such as Henry Tappan, William Rainey Harper, David Starr Jordan, and James Bryant Conant. They saw two-year institutions as a place to relegate the teaching of often ill-prepared freshman and sophomore students so that senior faculty at larger institutions could focus more on research that leads to publications and novel innovations that advance the prerogatives of academe, corporations, and governments (Nasaw, 1979; Thelin, 2011).

In his study of the community college, Shor (1987) claimed that community colleges were conceptualized as institutions for the working classes and all of those who had traditionally been excluded in the past: women, minorities, and older adult learners. For him, community colleges should be imagined in the same genre as public housing, rather than the more elite traditions of higher education. Shor (1987) reported that community colleges were unique in the sense that many saw them as both *college* and *not-college*, as both inside and outside the traditional academic system as it had been imagined historically in the United States. However, community colleges and higher education in general tend to reflect the social conditions and contradictions in the larger society (Bailey et al., 2015; Levine, 1986). In terms of the curricula at these institutions, Shor found them to be just as fragmented as higher education itself.

Consequently, Shor (1987) claimed that the fragmentation of knowledge by disciplines as well as the divide between the humanities and vocationalism might be one of the fundamental curricular divides that students must face in the community college. Therefore, he found that it is difficult for most students to acquire an understanding of the structure of knowledge as an interconnected whole. Shor (1987) argued, “Knowledge of reality is as divided as humanity, into confused and conflicting parts instead of a meaningful whole” (p. 35). In fact, he pointed out that curricula in community colleges often require students to choose between earning a living and learning how to think. Such biases, according to Shor (1987), direct students away from the humanities and liberal arts courses and toward the kind of vocational training and occupational structures that will require little to no creativity, agency, or independent thought (also see Hanson, 2013). Shor claimed that liberal education and the humanities were thought to be reserved for the elite and community colleges would provide the kind of career training and remediation that higher-tiered institutions found unattractive and less prestigious (Bastedo, 2005; Crow & Dabars, 2015, 2020; Levine, 1986).

Shor’s (1987) points explain why the community college tends to be viewed as an entity outside the realm of the concerns that preoccupy professors and researchers who work in larger colleges and university systems (see Lattuca, 2001). As such, community college faculty and staff are often seen as inconsequential actors in higher education (A. Cohen et al., 2014). The politics and tension inherent in these competing interests and aims in academe might explain why some scholars and critics sometimes use a range of paradoxical terms to signify the complex development and role of the community college in higher education. This discourse typically includes terms such as *people’s college*, *city*

college, technical college, anti-university college, contradictory college, and glorified high school (A. Cohen et al., 2014; Thelin, 2011).

In fact, some historians in higher education tend to relate changes in the discourse and terminology used to describe the community college to changes in its development (Rudolph, 1978). Since its beginning until the 1940s, two-year institutions were commonly called *junior colleges*. Junior colleges were generally defined as those schools offering two years of instruction beyond high school—but at a collegiate level. They often served as examples of the democratization of higher education, as conceived and promoted by the President’s Commission on Higher Education (Truman Commission of 1947). With this act, the federal government argued that higher education was responsible for educating elite as well as training non-elite students for a wider array of professions and positions in the workforce (Nasaw, 1979; Thelin, 2011). The commission recognized and promoted the idea that most students benefited from formal education in the two-year college and beyond. Later presidents would attempt to advance this idea, arguing for free community college for all (discussed below).

During the 1950s and 1960s, A. Cohen et al. (2014) claimed that the term *junior college* was typically used to distinguish the lower-division branches of private universities and those two-year colleges supported by churches. The term *community college* would later be used to describe the comprehensive institutions that were publicly supported by local and state governments. It is also during this period that one sees more veterans, women, and minorities entering higher education as a result of the Servicemen's Readjustment Act of 1944 (G.I. Bill), the Civil Rights Movement, and the Higher Education Act of 1965, which provided more financial and educational resources for

students attending postsecondary institutions. By the 1970s and 1980s, the term *community college* was generally used to refer to both junior colleges and two-year colleges. As mentioned earlier, A. Cohen et al. (2014) reported, “We define the community college as *any not-for-profit institution regionally accredited to award the associate in arts or the associate in science as its highest degree.*” The authors went on to claim that this description includes “the comprehensive two-year college as well as many technical institutes, both public and private. It excludes many of the publicly supported area vocational schools and adult education centers and all of the proprietary colleges” (p. 5). More significantly, community colleges tend to be inexpensive, open-access institutions that offer liberal arts and transfer education, developmental education, continuing and adult education, occupational and vocational education, and integrative education in the form of a general curriculum or the distributive requirements that undergraduate students must complete according to their academic course of study or program.

The 1990s was a time of tremendous growth and expansion in the community college sector. Enrollments increased as well as the demand for students with knowledge and training in advanced technology. As digitalization transformed teaching and learning and prioritized online education, the community college faced increasing competition from proprietary colleges (Bailey et al., 2015). These colleges were some of the first institutions incentivized by the Student Loan Reform Act of 1993. With this legislation, Congress amended the Higher Education Act of 1965, thus allowing student loans made by private lenders to be guaranteed by the federal government. Consequently, student loan debt and defaults skyrocketed. Many thought leaders and philanthropists began to

engage in conversations about ways to make higher education more accessible and affordable for students, particularly minority students (Markovits, 2019). As these initiatives gained traction in the twenty-first century, A. Cohen et al. (2014) would agree that they essentially echoed many of the concerns voiced in the early history of the community college. As with Truman and his 1947 commission, presidents such as Bill Clinton in 1998 and Barack Obama in 2009 began to underscore the importance of universal and free education for students through grades 13 and 14. Later, President Joseph Biden proposed making community college free as a part of his *Build Back Better Act*. Rogers (2022) suggested that Biden's views on the community college may have been influenced by the fact that First Lady Jill Biden is a community college professor and advocate for change in education. However, Biden's initiative encountered several political roadblocks that culminated in its demise and eventual withdrawal as a policy initiative and talking point (Rogers, 2022).

In spite of the failure of Biden's bill, one clearly recognizes that the idea of integrating high schools and community colleges has returned as a feature in discussions on ways to expand the opportunities for student access and success in higher education. These initiatives have gained even more momentum with the distribution of millions of dollars in funding from organizations such as the Bill and Melinda Gates Foundation, leaving many critics who share a radical philosophical sentiment to wonder if the funding is solving or reproducing the problems that it was supposed to solve (Giroux, 2015; McGoey, 2016). The website for the foundation lists the number of projects that it has funded over the years. This includes grants that help to advance interdisciplinary studies in higher education. According to GatesFoundation.org, the foundation awarded \$20

million to Duke University to expand teaching and research across the traditional disciplinary boundaries at the university.

The Appeal of Interdisciplinarity

Many philanthropists and scholars insist that interdisciplinarity is critical to deepening one's understanding of how students learn in higher education, particularly those in open access institutions such as community colleges (Collins, 2020; McGoe, 2016; Miller et al., 2016). According to Salter and Hearn (1996), interdisciplinarity is rooted in ideals that are often associated with holism, inclusivity, democracy, and liberal education (see Bradshaw, 2021; Stoller, 2020). These ideals are viewed as a bulwark against the static traditions, ideologies, and idiosyncrasies associated with teaching, learning, and research in the field of education. For example, Klein (1990) described the character of the interdisciplinarian as someone who is curious, flexible, patient, and comfortable with diversity, ambiguity, and changing social roles. More importantly, this person feels empowered by a broad education and dissatisfied with disciplinary constraints that limit one's abilities to follow ideas and issues across disciplinary traditions and borders. In this sense, interdisciplinarity is not only the integration of the content, perspectives, and methods from multiple disciplines, it also functions as a form of philosophy in that it promotes reflexive and reflective thinking (Klein, 1990, 2021). The other activities that she associated with the character of interdisciplinarity include linking, bridge-building, blending, synthesizing, and integration (Klein, 2005, 2017).

Though disciplines have been essential in helping one to understand various phenomena in the world, Jacobs (2013) noted that they have faced increasing scrutiny and criticism with respect to integration through interdisciplinarity. He went on to write

that disciplines are criticized for being *suffocating cloisters* that arrange knowledge artificially. More specifically, interdisciplinarians view disciplines as impediments to a more integrated curriculum, particularly for undergraduates in higher education. Disciplinarity is considered better suited for younger learners or those interested in narrow research (Collins, 2020; Dinmore, 1997). However, interdisciplinarity promotes the kind of higher-order critical thinking and global worldview that improve adult students' ability to solve problems and help them to be more flexible and effective in the workplace (Becerra, 2021; Davidson, 2017). In fact, many interdisciplinarians have claimed that the disciplines are inadequate units for addressing the vexing social and political problems of the day. These problems are often multifaceted, requiring insights from different disciplines and diverse areas of expertise (Jacobs, 2013; Newell, 2013). For other critics, disciplinarity is at odds with the knowledge-network economy of the digital age. They celebrate interdisciplinarity for its contemporaneity, innovativeness, and capacity to address complex phenomena from multiple perspectives (Newell, 2001b, 2013). According to Menand (2010), interdisciplinarians favor a more pluralist and integrated understanding of knowledge and disciplines. For them, knowledge is naturally combinative and the establishment of disciplinarity in education is more political than pedagogical.

According to Klein (1990, 2010), interdisciplinarity also tends to be viewed and advanced as a key way to make general education more liberal, integrative, and substantive at community colleges as well as four-year colleges and research institutions. While strong interdisciplinary programs exist at many elite institutions such as Brown University, Stanford University, and Vassar College, Klein found that most of the

interdisciplinary programs today have been established in state universities and community colleges. For her, this is just one more example of the ways in which interdisciplinarity has been seen, historically, as a way to revitalize and promote the benefits of a liberal arts education. In the early part of the twentieth century, the enthusiasm for interdisciplinarity was found to be most apparent in the social sciences, general and liberal education, and curricular reform (Klein, 1990, 2010).

In this context, Hanson's (2013) historical perspective further clarifies why interdisciplinarity and a liberal education remain important features in the community college in spite of persistent misconceptions about its history and role in higher education. He argued that many scholars and educators tend to forget that community colleges were meant to serve as liberal arts colleges (see Lattuca, 2001). Without the liberal arts, the rhetoric of progress, integration, and innovation conflated with the community college would be seen as suspect by faculty and the public (Shor, 1987). In fact, the mission of the college was later adjusted due to academic and political forces that wanted to reorient the colleges and the curricula toward vocational training. This move seems to contradict the original vision of the community college as a place that would prioritize liberal and integrative education and provide students with the breadth and interconnected educational experiences that liberalism values. In fact, Hanson (2013) claimed that the term *associate degree* was coined by William Rainey Harper, the first president of the University of Chicago, to denote that community college students would come to see the value of their credentials when they later *associated* them with specialized study in a particular discipline. Hanson also pointed out that Harper and other academic leaders were concerned that the emerging emphasis on research and

publications would negatively impact teaching and the students. He reported that these leaders believed that there were differences in the training and skills needed to excel at teaching than those needed to excel at research and publication. This inevitably led to their dividing their institutions into junior and senior colleges. The first two years of a student's academic tenure would be completed at the junior college, where one could enroll in a range of courses in the liberal arts. Hanson (2013) reported that other states soon followed the examples modeled by academic innovators such as William Rainey Harper and Joliet Junior College, which is considered the first public community college in American higher education.

Ironically, the view of community colleges as liberal arts institutions for inclusive and integrative learning was soon challenged by members of the colleges' national organization—the American Association of Community Colleges (AACC). According to Hanson (2013), these officials pushed to emphasize terminal certificates and applied associate degrees that focused on the kind of vocational training that would attract students and help to meet the demands of the local economy. Hanson argued that the group determined that it should establish a market niche. In doing so, a consensus was formed around the idea that this niche should be distinguished from that of more established academic institutions. Thus, Hanson (2013) claimed that the members of the AACC worked to moderate and not champion *the liberal arts attitude* of staff and faculty who worked in the community college sector in higher education. Despite the rhetoric of democracy, Hanson (2013) argued that the AACC did not accept the idea that each citizen is equal when it comes to their aptitude for academic work and success. In terms of its history, Hanson pointed out that some members of the AACC have often treated

inequality as an acceptable part of social and academic life. As such, they were less troubled by the subtle and overt ways in which the inequality and barriers of class were hardened by the short-term programs and terminal credentials that the community college offered women, the poor, and those traditionally excluded from higher education. In fact, the AACC worried about the social unrest that might ensue if a large part of the lower classes were educated in a way that was equal to their social superiors (Hanson, 2013). For example, in their study on community colleges, Brint and Karabel (1989) noted, “there was something potentially threatening to the established order about organizing the educational system so as to arouse high hopes, only to shatter them later” (p. 11). In turn, academic leaders and advocates for reform would have to find a way to curb the public’s desire for improvement and social mobility using the very academic system that often accepts the fulfillment of such aspirations as its mission. Ironically, Brint and Karabel (1989) reported, “The ideal of equal education would have to be forsaken, for only *differentiated education*—education that fit students for their different vocational futures—was truly democratic” (p. 11).

In this sense, Rudolph (1978) may be correct when he insinuated that the community college’s capricious relationship to liberal arts and interdisciplinary education has helped to generalize opportunity and cushion failure. In its mission to serve adult learners in the community by making access to higher education more democratic, it has held out the promise of the American Dream and at the same time reproduced the kinds of social and economic divisions that are evident in the larger society (Bailey et al., 2015; Rudolph, 1978). In fact, A. Cohen and Kisker (2010) argued that one of the ways that academic administrators and politicians mitigated the criticisms that many social activists

levied against general curricula in academe was to erect thousands of community colleges around the country as a way to preserve the sanctity of those academic institutions that already existed but were not necessarily willing to open their campuses to many of the students they often excluded. As a result, any reforms to the general curriculum in terms of making it more democratic and holistic were often thwarted by those who envisioned the community college as providing an academic experience that did not necessarily require an emphasis on the liberal arts (Brint & Karabel, 1989; Hanson, 2013).

This perspective is at odds with many of the ideas in Nutting's (2013) work on how interdisciplinarity and liberal arts programs prepare students for the workforce and life, particularly in community colleges. The question becomes, What kind of work and what kind of life? Nutting appeared to indicate that the possibilities were endless. She reported that community colleges provide liberal arts curricula and an array of interdisciplinary programs and courses that benefit students in a variety of ways. She found that most community colleges offer one of three models of interdisciplinarity. This might include courses that stand alone and are taught by a single professor. It could include courses connected by a program in which faculty from various disciplinary areas participate (see Klein, 1990). Finally, it could entail courses that are team-taught (Nutting, 2013). To make liberal arts education even more effective at the community college, Nutting recommended the development and incorporation of interdisciplinary courses and programs that are best suited to the needs of the particular institution and the student population that it serves. Also, scholars such as Kroll (2013) and Kanny (2013) have suggested a need for wider recognition of the range of scholarly writings done by community college faculty on the relationship between liberal arts education and

interdisciplinary teaching and learning at the community college (also see Conrad, 1983; Ockerman, 2012).

Impact on Faculty and Students

Even today, interdisciplinarity is viewed as the *panacea* or solution to the problems associated with general education specifically and higher education in general (Frodeman, 2014). In fact, interdisciplinarity often serves as “an alternative to general education programs that merely shuffle the standard distribution requirements” (Klein, 1990, p. 167). Klein (2002) has argued that many educators view interdisciplinarity as essential for teaching and learning in the information age. However, Bradshaw (2021) and Stoller (2020) reminded readers that the effectiveness of interdisciplinarity in education really depends on how it is interpreted and applied. A major concern of many scholars is that one’s (mis)appropriation of interdisciplinarity might very well reproduce or reinforce the problems that it is employed to solve in education (Kramnick, 2017; Menand, 2010). For Jacobs (2013), this conundrum should raise real concerns about the exultation of interdisciplinarity despite its competing postulates and divergent conceptualizations and applications in the classroom and elsewhere. However, the opposite often occurs. Many faculty and administrators continue to see interdisciplinarity as an agent for reform and a way that they can create a more integrative and holistic learning experience for students (Menand, 2010; Reybold & Halx, 2012).

For Klein (1990), interdisciplinarity tends to be championed and advanced as a way to make education more liberal, integrative, and substantive. In fact, the line between the idea of a liberal education and interdisciplinary education is often blurred. Historically, the interdisciplinary movement in the United States has been entwined with

improvements to the general curricula in higher education. A. Cohen and Kisker (2010) reported that the calls for more interdisciplinarity in general education actually reflected the kind of courses and curriculum that were evident before more professors oriented their energies and careers toward the demands of specialization and publication. In the 1930s and 1940s, interdisciplinarity was associated with the emergence of new fields such as American studies. Other disciplines were revitalized by interdisciplinarity in the 1950s and 1960s. They include the development of fields such as social psychology, cognitive science, and molecular biology. Klein (2015) wrote that interdisciplinary courses in higher education grew even more in the 1960s and 1970s with the emergence of courses in Black/ethnic/women's/environmental/urban/and science, technology, and society studies. The 1970s and 1980s were years in which there was increasing demand for interdisciplinary approaches to address academic as well as global problems (Salter & Hearn, 1996). By 1994, according to Newell (2002), interdisciplinary liberal education was embraced and advocated by several important organizations in higher education, including the Association of American Colleges and Universities. He also noted that many curriculum committees at colleges and universities throughout the nation began to implement more interdisciplinary components in their core curriculum requirements. In the twentieth century, cultural studies and advancements in the sciences further fostered the idea that interdisciplinarity is an innovative teaching and learning tool in higher education. The proliferation of advancements in information and communication technology also promoted the establishment of more interdisciplinary relationships in the sciences and other areas of curricula in higher education (Frodeman & Mitcham, 2007; Klein, 2015).

According to Gardner et al. (2014), there is evidence that suggests that students in higher education are not provided with the kind of framing or understanding that actually supports interdisciplinary or integrative learning. In many ways, it appears that this epistemological burden must fall on the students to figure out and actualize. In their study, Gardner et al. found that faculty at many four-year institutions and research universities in higher education often struggle trying to socialize students to interdisciplinary processes and practices. This point is more clearly illustrated by the findings from their research. The authors interviewed 35 faculty advisors and 18 of their doctoral students at a public land-grant institution. Through multiple interviews, the researchers had the respondents discuss their perspectives and experiences with interdisciplinarity as participants in a federally funded program that focused on support for graduate students. Surprisingly, Gardner et al. (2014) reported that the students espoused a more discerning conceptualization of interdisciplinary research and collaboration than the faculty members. In fact, the evidence from the interviews revealed that faculty tended to overestimate their familiarity with interdisciplinary research practices. On the other hand, the doctoral students were much more likely to embrace the fact that interdisciplinary processes required a substantial amount of time and effort.

Gardner et al. (2014) suggested that the disparity between the two groups may be a reflection of time and resources. However, they argued that it could just as well reflect the ways in which faculty and students are socialized early in their academic careers. In other words, faculty members are often socialized by the particular culture of their respective discipline or specialization and its methods, discourses, and worldviews. To ask them to reconsider this orientation and/or develop an affinity for a new one presents a

real challenge for them. Graduate students are more receptive to interdisciplinary overtures because they tend to be less indoctrinated by the culture of their respective fields. Therefore, Gardner et al. (2014) concluded that administrators, program directors, and faculty must be aware of the difficulties and challenges involved in implementing and advancing interdisciplinary collaborations and initiatives on campus.

The experiences of students that Gardner et al. (2014) documented in their study of interdisciplinary orientation at a research institution differs from Hattendorf's (2017) characterization of interdisciplinarity as it is experienced by students at the community college. Hattendorf examined the impact of interdisciplinary teaching and learning at the community college and how this approach affects students who transfer to four-year colleges. Hattendorf indicated that community college interdisciplinary programs can prove to be ideal environments for assessing the benefits of interdisciplinary learning in facilitating the academic success of students. For him, interdisciplinary initiatives contextualize and integrate courses in the general curriculum in ways that help students to matriculate. After interviewing students who graduated with an interdisciplinary degree from Skagit Valley College and transferred to a four-year program within the state of Washington, Hattendorf found that, overall, the interdisciplinary orientations and approaches used at Skagit Valley College benefited students. The students indicated that they had developed a strong interdisciplinary worldview as a result of their coursework at the community college. For Hattendorf (2017), such responses suggest that interdisciplinary initiatives and programs at the community college have the potential to serve as paradigms that faculty at other institutions in higher education can explore or model.

Hongladarom (2022) suggested that there needs to be a balance that recognizes and supports interdisciplinary relations inside and outside of higher education. To imagine what this consideration might look like in practice, Ockerman (2012) examined how interdisciplinarity can be used to bridge the gap between the humanities and vocational programs at the community college. She claimed that the hybridization occurring in most occupations indicates that academic programs with an exclusively disciplinary focus may no longer be sufficient preparation for students. Community colleges are responsible for preparing many of the students who will enter particular vocations in the workforce. They are often the bridge that connects education and the labor market in local communities. However, these institutions, as mentioned above, also offer students a liberal arts education, thus providing them with opportunities to explore the humanistic dimensions of education. For Ockerman (2012), interdisciplinarity can be utilized as an ethos and educational paradigm for developing innovative programs that connect the various subject areas and vocational programs at the community college in order to better prepare students for success in the changing workforce in the digital age.

Generally, the economic and utilitarian focus associated with career programs at community colleges can be perceived as being at odds with the humanities, which tends to be portrayed as a more intellectual pursuit that prepares students for white-collar professions and leadership roles in society (Hanson, 2013). However, Ockerman (2012) argued that interdisciplinary education can help institutions to deliver on both the economic impetus and humanistic promise found in higher education. With their distinct purpose and profile in higher education, community colleges can use interdisciplinarity to deliver on the democratic missions and occupational provisions that are key to

community stability and advancement. For example, interdisciplinarity can be used to encourage the kind of conversations and collaborations on campuses that can help to connect the economic objectives of education with the academic breadth and holistic education that the humanities can offer. Interdisciplinarity allows one to locate the kinds of content and skills that translate in both areas, thus making it easier for students to see how learning in both domains intersect and provide them with the kinds of experiences and abilities that employers find attractive. This includes the ability to collaborate, synthesize information, negotiate complexity, and solve problems using multiple perspectives.

In her work, Ockerman (2012) acknowledged that there are problems establishing clear definitions of interdisciplinarity that often prevent it from flourishing in higher education. To improve and promote interdisciplinarity in the community college sector, Ockerman recommended that educators clarify the definition of interdisciplinarity to better inform the ways in which it is perceived and operationalized for programs and courses. More importantly, Ockerman noted that this definition needs to be congruent with the unique mission and mandate of the community college in higher education. She noted that the definition of interdisciplinarity advanced by members of the Teagle Foundation is more appropriate and congruent with the inclusive mission and goals of the community college. In this case, interdisciplinarity is defined as an approach to the design of curricula and the purpose of instruction is to evaluate and integrate information, concepts, and tools from multiple disciplines or knowledge communities in order to help students to understand and solve problems using multiple perspectives.

However, Ockerman (2012) also found that interdisciplinary innovations tend to be less dynamic at community colleges than at universities that focus on research. Though noted advancements and interest in interdisciplinary education have always been quite strong at the community college, she suggested that these institutions are sometimes less adept at developing, sustaining, and funding large interdisciplinary programs. She also recommended more faculty engagement and the adoption of a shared understanding of interdisciplinary pedagogy and concomitant professional development plans that can help faculty to implement interdisciplinary methods and activities (discussed below in the work of Beaumont, 2020). In her evaluation, Ockerman (2012) viewed these recommendations as mechanisms for calibrating interdisciplinarity as an institutional imperative at the community college as well as other sectors of higher education.

In terms of faculty development initiatives related to interdisciplinary practices at community colleges, Beaumont's (2020) study helps one to appreciate the value of a cross-disciplinary professional development program in this sector. Beaumont conducted an empirical study at a large urban community college in the northeastern part of the United States. He revealed that the college has a staff of 550 full-time faculty members, 1,500 part-time faculty members, 27,000 students, and 17 academic departments. As with many community colleges across the nation, the college maintains an open enrollment policy and offers developmental studies in reading, writing, and mathematics for those who may need academic enrichment in these areas. With such a culturally diverse student population, Beaumont (2020) reported that the college thought it was vital to have a faculty that could respond to the needs of such a diverse student body with varying academic backgrounds and career trajectories. The college's Academic Affairs Office

offers a cross-disciplinary professional development program as one way to help faculty members better assist students.

According to Beaumont, “The program provides professors with a sustained opportunity to focus on their teaching and their students’ learning and to make teaching central to their scholarly pursuits” (p. 103). He identified the five primary objectives of the program for faculty as the following: “1) develop increased awareness of classroom events, behaviors, and attitudes, 2) engage in reflection, observation, and feedback on teaching and learning, [and] 3) experiment with small changes in their teaching.” The other objectives also help faculty to “4) develop a responsive approach to teaching in diverse contexts [and] 5) participate in the SoTL [Scholarship of Teaching and Learning] by reading texts, exchanging ideas, and producing a culminating classroom-based research project” (p. 104).

To assess how effective the program was in helping faculty to achieve these objectives, Beaumont collected data from the applications submitted by the faculty participants, online surveys, faculty reflections and assignments, and semiformal exit interviews. Beaumont (2020) claimed that the primary data for his study came from surveys completed by faculty participants from 2015 to 2016. He reported that a total of 19 of 32 participants completed the survey during this period. As with many of their peers at four-year institutions and major research universities, community college faculty are hired based on their academic credentials, professional experiences, and scholarly research and publication record. Beaumont (2020) wrote that many community college professors are now faced with “an increased expectation to pursue scholarship, conduct research, present at professional conferences, and publish in peer-reviewed journals” (p.

100). He also found that community college faculty members often do not have formal training in teaching methodology, learning theory, or the philosophy of education.

Generally, faculty members teach the way that they were taught. They usually improve through trial and error (also see Bernauer & Tomei, 2015; Colgan & Maxwell, 2020).

After further evaluation of the data from the cross-disciplinary professional development program, Beaumont (2020) discovered that the participants agreed that having an interdisciplinary perspective helps them to face the complex pedagogical and student challenges that they face as community college professors. Also, Beaumont (2020) further revealed what the participating faculty found to be some of the benefits and drawbacks of participating in an interdisciplinary professional development program. Based on the data that he collected from the participants' applications, online surveys, reflections, assignments, and exit interviews, Beaumont discovered that faculty mostly perceived the experience as beneficial. Some of the more poignant points that he made are worth noting. According to Beaumont (2020), the benefits from the experience indicated that there was a need for more meaningful interactions among faculty across disciplines. Faculty found that they benefited from sharing their different perspectives on teaching and learning at the community college. There was clearly a desire among them for more peer observation of teaching and constructive feedback. Faculty not only became more aware of the various methods used in other disciplines, but the outsider's perspective inspired many of them to reflect on their own values and practices. In many ways, Beaumont's work advances the idea that teaching serves as the common ground on which faculty from all disciplines can interact. For him, this insight has implications for faculty development initiatives in the future. He learned that interdisciplinary interactions

among faculty can enrich professional development programs for teachers and impact student learning in positive ways.

With that said, Beaumont (2020) found that the participants saw relatively few drawbacks in working with peers from other academic disciplines. Some of the drawbacks that the participating faculty did mention were related to the misunderstandings that occur as a result of one's orientation to discipline-specific content and cultures. Another was the difference in the ways that various teachers approached teaching and the degree to which they focused on content in their respective disciplines. Beaumont claimed that these concerns and other areas related to cross-disciplinary professional development may require further investigation. He reported, "One line of inquiry might be to investigate to what extent, if any, teaching methods or teaching philosophies are discipline bound and to what extent they are dependent on the individual professor" (p. 112). Beaumont (2020) indicated that this recommendation might be useful in clarifying many of the assumptions and misconceptions that many scholars have about interdisciplinarity and community college faculty in higher education (see Lattuca, 2001). More specifically, such inquiries would provide more insight into the relationship between one's philosophical orientation and its impact on one's teaching practices. With that said, his perspective can help scholars and practitioners in higher education "to update the picture of interdisciplinarity continually—as well as that of scholarship in general" in interdisciplinary studies (Lattuca, 2001, p. 261).

Summary

This chapter has illustrated how valuable Elias and Merriam's (2005) typology of adult education philosophy can be as a conceptual framework for organizing and

synthesizing the divergent perspectives found in the academic literature on interdisciplinarity. This literature review explains how the competing theories associated with interdisciplinarity actually correlate with the following philosophical schools of thought: *Liberal Arts*, *Behaviorist*, *Progressive*, *Analytic*, *Humanistic*, *Radical/Critical*, and *Postmodern* philosophies of adult education. In many respects, this overview reveals how philosophy, interdisciplinarity, and education share the same troubled intellectual history in Western thought. For example, a recurring theme that permeates the literature is the continuous dialogue and tension between modernist (foundational) and postmodernist (antifoundational) views of knowledge and how this interrelationship acts as a metaphor for the conflicts and ironies in the interrelationship between academic equality and inequality and disciplinarity and interdisciplinarity. Moreover, another recurring theme in the scholarly literature is the various ways in which power is realized and operationalized inside and outside the academy. As a result, interdisciplinarity functions as a *metacommentary* on power and its impact on knowledge, education, and society. These relations and their tensions are further complicated by competing conceptualizations and practices in interdisciplinary studies and how they are used (and not used) to address the complexities and materiality of power embedded in the order of knowledge and academic institutions that reproduce *disciplinarity* as well as *differentiation* (Douglass, 2000; Foucault, 1995; Usher & Edwards, 1994; Wellmon, 2016). This literature review has been an attempt to contextualize the various understandings of interdisciplinarity and the philosophical movements that give them life. It also reveals how key scholars in interdisciplinary studies actively advance particular philosophical positions and marginalize others. With this in mind, one is able to

understand the contexts, connections, and conflicts in the epistemological origins of instrumental (conservative), conceptual (liberal), and critical (radical) interdisciplinarity and the pedagogical and political implications.

In many ways, the work of Lattuca (2001) helps to crystallize, problematize, and advance the conversations that have occurred within and across these different philosophical and political domains. As one of the few empirical studies in the field to embrace and advance *postmodern interdisciplinarity*, Lattuca's work is significant because it challenges the perspectives of key authorities in the field such as Newell (2013), Klein (2021), and Fish (2015). However, to make her interpretation of postmodernism even more agentic, she appeared to invite researchers to update and enrich her work in new and innovative ways. Lattuca (2001) stated, "The task for researchers in higher education and other fields is to update the picture of interdisciplinarity continually—as well as that of scholarship in general" (p. 261). One can begin this *updating process* by including more of the voices of those faculty members who have been largely excluded from Lattuca's (2001) important study, namely community college professors. Not only would this effort enrich conversations in the field, but it would align more closely with the inclusive nature of postmodernism as it has been conceived by many postmodernists and substantiated by the critical and radical interdisciplinarians who advance it.

CHAPTER THREE

Methodology

The purpose of this study was to explore the ways in which community college faculty contribute to interdisciplinary studies in higher education. As such, this study used both quantitative and qualitative methods to address the gap in Lattuca's (2001) study and enrich it with the kind of inclusiveness that reflects the democratic mission and interdisciplinary initiatives evident in educational philosophy and community colleges. To advance the purpose of this study, the author investigated the following exploratory questions:

1. What are the characteristics of the adult education philosophy and associated practices of faculty teaching courses in interdisciplinary studies in the community college?
2. What are the ways in which the adult education philosophy and practices of faculty support or contradict one another?
3. What are the ways in which the adult education philosophy and practices of faculty support instrumental, conceptual, or critical interdisciplinarity?

In this chapter, the research design and methodologies are described.

Additionally, the demographics of the sample population and the setting for the study are explained. The instrument and procedures used for data collection are outlined, along with an explanation of the theoretical framework that will be used to analyze the collected data. A statement on the author's ethical considerations, conflicts of interest, and limitations will also be addressed.

Research Design

According to L. Cohen et al. (2018), *research design* is "a plan or strategy that is drawn up for organizing the research and making it practicable, so that research questions

can be answered based on evidence and warrants” (p. 173). It is a way to create a coherent articulation or *roadmap* of how the components used to address one’s research questions will operate together to address the problem(s) they represent. Yin (1989, 2018) referred to research design as the *logical sequence* that connects research questions and empirical data. While there is no single template for constructing a research study, scholars agree that the purpose of one’s research generally determines its design and informs the researcher’s choice of methodology. The common methodological approaches used for research in education are described as *quantitative* or *qualitative* in nature. According to Roberts and Hyatt (2019), the two tend to have different theoretical and philosophical rationales for grounding, conducting, and explicating research. For example, they noted that a *quantitative* methodological approach generally tends to be more positivistic, thus relying on numerical data for precise testing, verification, and reproducibility. On the other hand, a qualitative approach is often used to help one to understand the construction of meaning and the circumstances that influence its constitution and interpretation (Roberts & Hyatt, 2019).

However, the complex character and multidimensional nature of the questions posed for this study warrant the use of a *mixed methodological* approach for collecting data. According to L. Cohen et al. (2018), a mixed methodology combines elements from both quantitative and qualitative approaches as a way to bring greater understanding to a problem or research study. In clearer terms, a mixed methodology is a way of collecting, integrating, and analyzing both quantitative and qualitative data to address a complex problem or multidimensional phenomenon in a single research study. In this study, the term is used to describe how quantitative and qualitative methods can be integrated for

collecting and analyzing data. With that said, the author used a survey and semi-structured interviews for this study (see more below). The value in using a mixed methods approach was that it recognizes the fact that reality and experiences as well as research problems and questions are not solely quantitative or qualitative in essence. The use of mixed methods in research encouraged the author to look at the world through different lenses in order to make sense of its plurality and complexity. For L. Cohen et al. (2018), there are multiple ways in which one can explore and explicate complex phenomena, particularly in education. They pointed out that research questions tend to have more than one dimension to their character.

With this information in mind, a mixed methods approach allowed the author to collect a wider range of data in order to address his research questions. When a quantitative and qualitative approach are combined for data collection, they can provide a more holistic understanding of a topic or subject using established criteria as well as the unique experiences of respondents. More importantly, mixed methods help to improve the validity and reliability of one's research data (Roberts & Hyatt, 2019). However, some critics have argued that a mixed methods approach in research can be a costly and labor-intensive enterprise. Other problems, according to L. Cohen et al. (2018), include the challenges one faces trying to select and integrate appropriate methods and tools in ways that advance one's research study. Also, the authors noted that one must be skilled in the particular methods one hopes to integrate and one must be prepared to deal with the conflicts and contradictions that can emerge as a consequence of using a mixed methods approach for research.

In spite of these challenges, many scholars in education have found the *case study* to be a useful way to explore topics that warrant a mixed methodological approach (L. Cohen et al., 2018; Merriam, 1998; Yin, 1989, 2018). The case study is also a method that many scholars tend to use in interdisciplinary studies (Klein, 2014; Lattuca, 2001; Repko & Szostak, 2017). The main point in using a case study is that it allows the author to describe in greater detail the philosophical beliefs, views, attitudes, and practices of the subjects (faculty members) who will participate in the study. More significantly, scholars tend to define the case study in terms of its orientation as a strategy as well as a product. For example, Yin (2018) described a case study as a form of empirical inquiry that explores a subject or phenomenon within a particular bounded system or limited context. For him, questions that ask *how* and *why* are suited for case study research. On the other hand, Merriam (1998) viewed the case study as a more holistic characterization and evaluation of a single phenomenon or social unit. However, L. Cohen et al. (2018) pointed out that it is often difficult to arrive at a universally accepted definition of a case study because of its broad appeal and use in so many different fields. They called it “a method, a process, a methodology, a research design, an outcome, a research strategy, [and] a focus” (p. 375).

For this study, the author privileged Merriam’s (1998) description of a case study as a holistic *evaluation* of a subject or phenomenon that is particularistic, descriptive, and heuristic. *Particularistic* means that the case seeks to explore a particular situation, event, or phenomenon. The specificity of focus is useful for addressing problems of practice or “questions, situations, or puzzling occurrences arising from everyday practice” (p. 29). According to Merriam, *descriptive* refers to the outcome or end product of a case study.

This involves the rich or *thick* description of the situation or event being evaluated. Instead of reporting one's findings using numerical data, one uses prose and literary techniques to detail, evaluate, and judge situations. In this sense, the case study becomes *heuristic*. It provides the kind of illumination that clarifies one's understanding of a particular subject or phenomenon being investigated (Roberts & Hyatt, 2019). As Merriam (1998) reported, these revelations that a case study makes possible can offer researchers new insights and meanings, particularly in terms of why a theory, practice, or innovation succeeds or fails. Also, it can inform the actions that need to be taken in a particular situation to create changes in perspectives and practices. With a case study, researchers can explicate their findings from quantitative as well as qualitative data in ways that are accessible to a wider range of readers (Merriam, 1998). However, L. Cohen et al. (2018) claimed that there are limitations in using case studies. For example, the results of a study using this approach may not be generalizable or easily cross-checked, raising concerns about bias and lack of objectivity. With that stated, most students of case study research agree that one of its key strengths is that researchers can use a range of data collection tools and approaches to explain the complexities and nuances in the data gathered from the population used in a research study (Hays & Singh, 2012; Roberts & Hyatt, 2019).

Population

Faculty participants were identified for this study using a process that Patton (2014) called *purposeful sampling*. According to Patton, purposeful sampling is the practice of selecting *information-rich* cases or participants from which researchers can learn as much as possible about the stated purpose of the research. Information-rich

resources provide one with access to the kind of knowledge, insights, and experiences that illuminate research questions and facilitate more holistic understandings of the problems that they address. Patton (2014) claimed that purposeful sampling is congruent with qualitative research. For him, quantitative inquiries tend to focus on larger populations and probability-based *random sampling*. Qualitative inquiries often focus on smaller samples in order to gain a more comprehensive and holistic understanding and interpretation of the phenomenon rather than empirical generalizations. According to Patton (2014), the point of purposeful sampling is to align the purpose of one's research study, its primary questions, and its participants so that they provide the richest source of information.

By using purposeful sampling as the approach for selecting faculty participants who teach in an established program in interdisciplinary studies (IDS) in a large community college system in St. Louis, Missouri (see Settings below), the author had access to the kinds of information, ideas, and faculty experiences that are needed to address the problem and research questions presented in this study. The sample population for this study included all faculty members who were approved by the division dean, general education coordinator, or department chair to teach one or more interdisciplinary courses in the Liberal Arts Division between the academic years 2016 and 2021, the years that appeared to show IDS courses being taught regularly on all four campuses in the St. Louis Community College (STLCC) system. This included online courses, hybrid courses, and lecture courses in IDS. These courses were selected because interdisciplinarity is their specific focus, and faculty who teach these courses tend to be assessed more carefully. For example, qualifications to teach one or more classes

designated as IDS courses were based on the faculty member's experiences and *their* having a Master's degree or higher with a minimum of 18 graduate credit hours in at least one of the primary subject areas or disciplines associated with the IDS course(s) one intends to teach (S. Osburn, personal communication, June 6, 2022). There were a total of 12 classes designated as IDS courses in the college's course catalog. This included courses labeled IDS 102, 103, 104, 105, 106, 107, 108, 112, 114, 115, 119, and 120. The IDS 101 course was changed to IDS 114.

To identify potential full-time and part-time faculty recruits who have taught one or more IDS courses between 2016 and 2021, the years when a wide variety of IDS courses were offered regularly on all campuses, the author searched the Interactive Course Schedule during this period to find faculty members, the specific IDS course(s) that they taught, and the academic term in which the course(s) were taught. As St. Louis Community College (STLCC) is a large academic system with four main campuses, the author was also able to discover the campus location where the course(s) was offered. After collecting and assessing the information found in the archives of the Interactive Course Schedule from 2016 to 2021, the author discovered the following information about the sample population at STLCC. Between 2016 and 2021, there were a total of 27 faculty members who taught one or more IDS courses throughout the STLCC system.

Setting

With campuses located throughout the St. Louis metropolitan area, STLCC represents the complex character of the community college as it is described by scholars such as A. Cohen et al. (2014) and others. The community college system in St. Louis was formed in the early 1960s to address the needs of the community and growing

industries throughout the area. Funding was approved to build three largely independent campuses in accessible locations throughout the metropolitan area. St. Louis Community College at Forest Park is located in the heart of St. Louis City. It characterizes the urban campus in the system. St. Louis Community College at Meramec is located in Kirkwood, Missouri. It characterizes the suburban campus in the system. Also, St. Louis Community College at Florissant Valley is located in Ferguson, Missouri. It also characterizes a suburban campus. The newest campus in the system is St. Louis Community College at Wildwood, which is located in Wildwood, Missouri. While it is also considered a suburban campus, it was strategically located to attract students from rural areas in southwest Missouri. Over the years, each campus developed distinct campus cultures and competing administrative processes. Between 2013 and 2015, the college began actualizing the transition process that eventually led to the consolidation and integration of all four campuses into a *one college* system (St. Louis Community College, 2022a, 2022b).

The distribution of the four main campuses made higher education accessible and it allowed certain campuses to emphasize specialized programs based on community needs. As such, STLCC is considered to be one of the larger community colleges in the region (St. Louis Community College, 2022a, 2022b). According to the college's website, the college has over 2500 administrators, faculty, and staff and serves nearly 15,000 students throughout the area and beyond. In 2021, faculty data revealed that there were a total of 609 faculty members at the college. The racial constitution of the faculty breaks down accordingly: White (447), Black or African American (64), Hispanic/Latino (16), Asian (13), American Indian or Alaska Native (0), Native Hawaiian or Other Pacific

Islander (0), Two or More Races (6), Race and Ethnicity Unknown (45), and Non-Resident Alien (16). Also, data showed that 41% of the faculty members were male and 59% were female. The office of institutional research at the college “does not cut employment data by campus” (C. Whalen, personal communication, June 7, 2022).

In terms of the students served by the college in Fall 2021, the mean age of the student body was 25 and the median age was 21 (St. Louis Community College, 2022a). Based on college data from 2021, 35% of the student body attended full-time and 65% attended part-time. Also, the data showed that 62% of the students identified as female, 32% male, and 10% unknown. The ethnicity of the student body at the Forest Park campus was 44% Black/African American, 38% White, 5% Hispanic/Latino, 5% Asian, 0.2% American Indian/Alaska Native, 5% Multiracial, 0.1% Native Hawaiian/Other Pacific Islander, 0.9% Non-Resident Alien, and 3% Unknown.

At the Meramec campus, the student body was 14% Black/African American, 67% White, 5% Hispanic/Latino, 5% Asian, 0.1% American Indian/Alaska Native, 4% Multiracial, 0.0% Native Hawaiian/Other Pacific Islander, 1% Non-Resident Alien, and 3% Unknown. The 2021 data showed that the ethnic make-up of the students who attended the Florissant Valley campus was 62% Black/African American, 23% White, 4% Hispanic/Latino, 2% Asian, 0.3% American Indian/Alaska Native, 5% Multiracial, 0.0% Native Hawaiian/Other Pacific Islander, 1% Non-Resident Alien, and 2% Unknown. At the Wildwood campus, the student body was 8% Black/African American, 76% White, 4% Hispanic/Latino, 3% Asian, 0.3% Native American Indian/Alaska Native, 3% Multiracial, 0.3% Native Hawaiian/Other Pacific Islander, 0.9% Non-Resident Alien, and 4% Unknown (St. Louis Community College, 2022a).

The community college system also offers over 15 college transfer options and over 80 career-focused programs for students and their varying academic goals and career objectives. It is one of the few community college systems to develop, promote, and allow students to complete at least one course in interdisciplinary studies as part of the general education program (St. Louis Community College, 2022a). As mentioned above, the college offers 12 courses in interdisciplinary studies (IDS). Several qualified and experienced faculty members on each of the four main campuses have regularly taught IDS courses for many years. As such, St. Louis Community College and its diverse campus environments served as an appropriate setting for collecting data on the philosophical beliefs and experiences of a diverse group of faculty members who have taught one or more courses in interdisciplinary studies between 2016 and 2021.

Data Collection

Scholars in case study research such as Yin (2018) would agree that one of its key strengths is that researchers can use a range of *data collection* tools to gather the kind of information that is needed to make it as effective as possible. Data collection is the term that describes the process one uses to collect and assess information in a systematic way in order to address a particular research question or questions (Yin, 2018). A mixed methodology was used to collect data for this research study. More specifically, the author used semi-structured interviews and the Philosophies Held by Instructors of Lifelong-Learners (PHIL) survey by Conti (2007).

Semi-Structured Interviews

Merriam (1998) stated, “Interviewing is probably the most common form of data collection in qualitative studies in education. In numerous studies [,] it is the only source

of data” (p. 70). An *interview* is a conversation in which two or more participants exchange information, typically using a format structured by a series of questions and answers. According to Hays and Singh (2012), there are many types of interviews, including *structured interviews*, *semi-structured interviews*, and *unstructured interviews*. Semi-structured interviews were the primary data collection method for this study. They allowed for nuance and diversion in the interviewing process. In fact, “the sequence and pace of interview questions can change, and additional interview questions can be included to create a unique interview catered to fully describing the interviewee’s experience” (Hays & Singh, 2012, p. 239). One of the disadvantages is that the nature of semi-structured interviews does not always ensure that the data collection experience is consistent from one interview to the next in a research study. However, a major strength of using a semi-structured interview is that it allows the voice of the participants to be a central source of information. Hays and Singh (2012) provided a few tips on how to write strong questions for semi-structured interviews. The authors reported that the interview should be conversational and not be overly formal. They also encouraged the use of illustrative and open-ended questions and discouraged the use of those that limited the response of participants (also see Rubin & Rubin, 2012).

Surveys

Besides interviews, the author also used *questionnaires* and *surveys* to collect data. A questionnaire is an instrument for collecting data for general inquiry or a major research study. Questionnaires can be an inexpensive and efficient way to gather data on a range of topics, including personal commentary and/or demographic information about the participants in a particular study (L. Cohen et al., 2018). According to L. Cohen et al.

(2018), a survey is an instrument for collecting data for general inquiry or a major research study. A survey was used as the secondary data collection tool for this study. Surveys provided an inexpensive and efficient way to supplement data gathered from interviews. They allowed the author to collect data on a range of topics using a small or large sample population. L. Cohen et al. (2018) claimed, “Typically, surveys gather data at a particular point in time with the intention of describing the nature of existing conditions, or identifying standards against which existing conditions can be compared, or determining the relationships that exist between specific events” (p. 334). As with questionnaires, surveys vary in complexity and can be especially useful for illuminating the *lived experiences* associated with a topic or detailed descriptions of a participant’s perceptions or worldview (Yin, 2018). Surveys can provide descriptive and explanatory information that can be processed for qualitative as well as quantitative value. For example, surveys in education often include those that explore student and faculty preferences, values, attitudes, and beliefs in particular areas.

According to L. Cohen et al. (2018), surveys can be exploratory, descriptive, or analytic. What is most important is that “a survey’s general purpose must be translated into a specific central aim” (p. 336). Another important consideration is how surveys are administered for research. A survey can be self-administered. It can be administered via mail or using a website, telephone, or even face-to-face. Surveys can be paper-based or digital instruments. Paper-based surveys tend to be advantageous if a researcher self-administers them at a location where computer access is unavailable (Hays & Singh, 2012). However, there are some drawbacks. Paper-based surveys can be easily misplaced or lost by respondents and challenging to manage. Using a digital survey that can be

distributed online or via multimodal devices prevents many of the problems associated with paper-based surveys (L. Cohen et al., 2018).

The PHIL Survey

More specifically, the survey used for this study was Conti's (2007) *Philosophies Held by Instructors of Lifelong-Learners (PHIL)*. Conti (2007) has granted all researchers full permission to reproduce and use his instrument (p. 35). While Zinn (2004) and Fries (2012) considered Conti's contributions to educational philosophy in adult education to be formidable, the author of this study could not find in the literature other authors who have used and further substantiated Conti's PHIL survey. This was another important reason why the author used interviews to supplement data from the survey. With this said, Conti's (2007) innovation is actually a more user-friendly and efficient resource for helping adult educators inside and outside academe to identify their educational philosophies (see Alexander et al., 2021). According to Conti (2007), the PHIL survey was created to be a concise interpretive tool that is designed for self-administration and self-assessment (also see Chapter Four). He claimed that PHIL fosters the kind of reflection and critical analysis that can help one to understand what one does in the classroom and why. More specifically, it was developed to help respondents signify their preference for a particular school of educational philosophy: *Idealism, Realism, Pragmatism, Existentialism, or Reconstructionism*. These areas were consistent with the schools of thought identified in adult education philosophy in Chapter Two. For example, Conti associated Idealism with *Liberal Adult Education*, Realism with *Behaviorist Adult Education*, Pragmatism with *Progressive Adult Education*, Existentialism with *Humanistic Adult Education*, and Reconstructionism with *Radical and Critical Adult*

Education. In educational philosophy, there is no right or wrong answer (Elias & Merriam, 2005). The categories in Conti's (2007) survey were very descriptive, helping one to understand the different beliefs, values, and practices that influence teaching and learning in education and the workplace. Conti claimed that the philosophical schools are differentiated by their various understandings of how knowledge is constituted, the nature and roles of students and teachers in the learning process, and the aims of curricula and activities for teaching and learning. The author recognized that variances may exist among educators within a particular school of philosophical thought. However, he noted that "PHIL only identifies placement in one of these major philosophical schools; it does not identify or measure degrees of variance within these schools." He went on to state, "As such, placement is not designed as a label for stereotyping a person; instead, it is designed to stimulate critical thinking and reflection about the teaching-learning transaction" (p. 22).

More significantly, the PHIL survey was created to be concise and efficient. For example, Conti (2007) used a flow-chart design frame for PHIL that consists of four statements about a respondent's core beliefs about education. Each statement leads to the selection of two options (Appendix H). Then each option directs the participant to "another box which either instructs the respondent to proceed to another page with an additional item on it or which provides information about the respondent's correct group placement" (Conti, 2007, p. 32). After one's group placement is identified, one is then directed to review a description of the school of philosophy that pertains to the group placement and philosophical orientation. Essentially, a respondent's educational

philosophy can be signified by the PHIL survey in 5 to 10 minutes, depending on one's reading speed.

Conti's PHIL was beneficial not only because it was efficient, but it also helped the participants to clarify their worldviews and better understand the relationship between theory and practice in adult education. When faculty members improve in these areas, scholars agree that the results include better communication, more effective planning and decision making, and a more comprehensive understanding of how to teach adult learners (Conti, 2007; Fries, 2012). Conti (2007) also noted, "Although PHIL appears to be a very simple instrument, its contents are based on powerful multivariate statistical procedures" (p. 32).

Validity and Reliability. According to L. Cohen et al. (2018), *reliability* is a precondition of validity in helping to establish a credible research agenda and instrument(s). The authors reported, "Reliability is essentially an umbrella term for dependability, consistency and replicability over time, over instruments and over groups of respondents" (p. 268). As its correlate, the term *validity* describes the extent to which an instrument actually measures what it claims or intends to measure and the suitability of the inferences and interpretations derived from the information it yields (Ravid, 2014).

Conti (2007) established validity and reliability for PHIL based upon the same items used in Zinn's PAEI that are detailed in Chapter Two. Conti wrote that the terminology in PHIL and its content validity were determined "by using the results of a series of discriminant analyses with a data base of 371 adult education practitioners" (2007, p. 23). To establish criterion-related validity for his innovation, Conti compared the classification on the PAEI for 46 adult educators to their placement on PHIL. He

reported, “The correlation between the highest score on the PAEI and the placement on the PHIL survey was .785 ($p < .001$)” (p. 30). He claimed that 91.3% of the participants agreed that PHIL had situated them in the correct school of educational philosophy. The multivariate protocols used to develop the PHIL survey resulted in the criteria-related validity being assessed many times. Based on the strength of the results in these areas and the “extremely high testimony by respondents of the accuracy of the group placement by PHIL, it was judged that PHIL has criterion-related validity” (p. 31). Reliability was evidenced by the test-retest method. It involved 39 practitioners. The field testing done to establish PHIL involved 527 participants. Conti (2007) reported that the PHIL survey was administered to these participants with an interval of two weeks. He went on to claim that the “coefficient of stability for these two tests was .742 ($p < .001$). This is above the generally accepted minimum coefficient of .7 for assessment instruments” (pp. 31-32).

Data collection methods for this study included semi-structured interviews as its *primary* tool and Conti’s (2007) PHIL survey as a *secondary* data collection tool. The PHIL survey helped the author to achieve a greater degree of validity in the interviews. L. Cohen et al. (2018) reported that interviews can be further validated by comparing them with another measure that has been shown to be valid. As such, the qualitative case study supported by semi-structured interviews and Conti’s PHIL survey form the architecture of the research design that was used to gather data in order to address the research questions created for this study. Also, the methodological approach and design outlined for this study allowed the author to provide a detailed description of the experiences, practices, and contributions of the community college faculty members who participated.

Data Collection Procedures

The data collection procedure for this study began with the author's receiving an approval letter to conduct the research from the University of Missouri's Institutional Review Board (IRB) (Appendix A) and an approval letter from the Institutional Review Board (IRB) at St. Louis Community College (Appendix B). The author informed the Campus President and the Division Dean of the Liberal Arts at STLCC about the study and presented copies of the approved IRB letters and the name of his dissertation chair and supervisor in the Department of Education at the University of Missouri. He notified the president and dean of his plan to contact the full-time and part-time faculty members at St. Louis Community College who had taught one or more IDS courses between 2016 and 2021, as identified by information in the Interactive Course Schedule archives. After notifying the president and the dean about the study and gaining IRB permissions to complete it, the author contacted the faculty members who qualified for participation. To contact the faculty, the author reached out via telephone and an email letter to explain the goals and significance of the study (see Appendix C). In the email, the author asked the faculty if they would be willing to participate in his study by completing a consent form, a short demographic questionnaire, the self-administered PHIL survey, and an interview. The interview focused on the survey results and the experiences that faculty have had teaching interdisciplinary studies in the community college and its relationship to any professional activities or practices that help to advance interdisciplinarity in higher education. Three business days after the initial email was sent, the author sent a second or follow-up email to remind those who did not respond to the original request for participation (see Appendix D).

For faculty who agreed to participate, the author sent them an email to thank them for agreeing to participate, as there is no compensation provided for their participation. Also, in this email, the author informed the faculty participants of the protocols and instructions for completing the consent form (Appendix F), the short demographic questionnaire (Appendix G), the PHIL survey (Appendix H), and scheduling their interviews. It was important to note that the consent form stipulated that faculty members' participation was completely voluntary (with no compensation) and that they had the right to discontinue their involvement in the study at any time that they wished. After one week, a follow-up email was sent to remind faculty to complete the questions and survey and schedule an interview, if they had not done so already (Appendix J).

To make participation as efficient as possible and facilitate easy access to all of the key documents for data collection, the author uploaded the documents to Microsoft Forms and provided the participating faculty with the link to the information via email. Microsoft Forms is an online survey and data collection resource for organizations and researchers. It was used in order to make it easier for faculty to participate and respond to the demographic questions and PHIL survey in a timely fashion. In the email instructions and follow-up correspondence, faculty participants were provided with a link to the consent form, the demographic questions, survey, and interview information.

However, before the faculty members accessed and completed these documents, they were asked to enter their names and complete a consent notice. All names were made anonymous after the interviews were completed (see below). Many of the faculty had similar experiences and had taught several of the same IDS courses on various

campuses. However, the goal of this study's author was to ensure as much anonymity as possible for the data collected during the process. In doing so, the author had the participants use their names in order to relate their demographic and survey data. After the surveys and interviews (discussed below) were completed, the author assigned each participant a faculty number (i.e. Faculty 1, Faculty 2, etc.) before analyzing the data and reporting the results. Again, this ensured the anonymity of the participants in relation to the information that they shared with the author of this study. Demographic data were collected in the following areas: gender, race and/or ethnicity, years of experience teaching IDS courses at STLCC, campus location, highest advanced degree completed, subject area of the degree, and faculty rank.

After providing their demographic information, the faculty participants were asked to complete the PHIL survey in Microsoft Forms. After responding to the five statements on the PHIL survey, the participants were able to determine the general orientation of their philosophy of adult education (Appendix H), which was discussed more during their scheduled interviews. Microsoft Forms helped to keep the demographic and survey data organized for the author. For example, the questions and surveys were arranged in Microsoft Forms so participants were not able to proceed to the next page until they responded to all of the questions or statements on the current page. According to Fries (2012), this makes it less likely that data is missed or incomplete. All of the data collected from Microsoft Forms was downloaded and kept in password-protected digital files on the author's password-protected personal computer. The link to the survey material expired after the interviews were completed.

Once the PHIL survey in Microsoft Forms was completed, the faculty participants were provided with opportunities to present a list of available interview days and times. Some appointments had to be rescheduled in order to accommodate changes in a participant's schedule or unforeseen circumstances. The faculty members also shared an email address so the author could confirm the interview day and time and send them the link to access the meeting in Zoom. Zoom is an online communications platform that allows one to create and record digital meetings via one's computer or other multimodal devices with access to the Internet. Once the faculty participants scheduled an interview session, the author confirmed the appointment within three business days and sent the link that allowed them to access Zoom for the scheduled interview session.

Faculty members were asked for their permission to record the interview in order to facilitate transcription afterwards. After the interview session, the recordings were translated using Otter.ai, a software program designed to transcribe digital audio and video content. Once the author transcribed the interviews and checked them for accuracy, he shared the information with the faculty participants who requested a copy for their records. If the interviewees found discrepancies in the material or required a follow-up interview for clarification or additions, revisions were made to the material and noted accordingly (Calentine, 2020; Roberts, 2020). Once the interviews were transcribed, reviewed, and/or corrected, the author assigned each of them a faculty number (i.e. Faculty 1, Faculty 2, Faculty 3, etc.), before starting the analysis of the data. As with the demographic data, survey data, and contact information, all interview recordings, transcripts, and related materials were saved in password-protected files on the author's

personal computer. All of the information related to and collected for this study will be destroyed two years after the completion of the study (Patton, 2014).

The development of the interview questions for the semi-structured interviews were created using a conceptual framework provided by Roberts (2020) and the template provided by Lattuca (2001) for the questions that she used in her interviews with faculty who teach interdisciplinary courses in higher education. According to Roberts, there is a protocol that researchers can use to improve the quality of the questions used in a qualitative interview. In fact, the value of the details and experiences of the data gathered during an interview is dependent on the strength of the questions that researchers ask their interviewees. Roberts (2020) claimed, “Novices and sometimes even seasoned researchers can inadvertently negatively impact the data collection process and therefore the value of the findings” (p. 3186). To develop the most effective questions possible to ask the faculty participants, the author considered the recommendations for developing semi-structured interview questions in Roberts’s Interview Protocol Refinement Framework:

Recommendation 1: Adopt a qualitative attitude and mindset

Recommendation 2: Craft questions for the interview with the support of a mentor or guide with methodological expertise or useful experiences to share

Recommendation 3: Develop a protocol for guidance and support during interviews

Recommendation 4: Test the interview questions and practice strategies for interviewing

Recommendation 5: Review and reflect on the effectiveness of the questions and strategies used for the interviews

Recommendation 6: Apply what is learned from these reflexive practices and use it to improve the interviewing process

To operationalize these recommendations, the author turned to the interview protocol that Lattuca (2001) used to interview 38 faculty members from two selective research universities and two selective liberal arts colleges in order to learn about their experiences as teachers and researchers in interdisciplinary studies. For Lattuca, the interview questions that she asked were significant because they led to her developing an alternative typology and philosophical framework for interdisciplinary teaching and research that was based on the kinds of questions and issues that faculty pursue and explore. While Lattuca could not provide a copy of the original list of questions that she used for her interviews, she shared information about her interview process that was equally helpful to the author of this study. In fact, the information that Lattuca (personal communication, June 6, 2022) shared about her interview process shaped the development of many of the interview questions that the author created for this study (see below).

According to Lattuca (2001), she typically began her interviews by asking participants to describe their teaching and research experiences. Asking this kind of question created a sense of relevance and familiarity that provided Lattuca with an opportunity to gauge the teaching and research experiences of the faculty and the role interdisciplinarity plays in these activities. For Lattuca (2001), it was important to ask questions that placed an emphasis on the interdisciplinary experiences of the faculty that

she interviewed and what they deemed important about those experiences. She claimed that this approach fostered a richer conversation about how the faculty defined and accomplished interdisciplinary work related to teaching as well as research. During her interviews, Lattuca also reported that she asked the faculty questions about their experiences participating in collaborations and interdisciplinary conversations. She also asked questions that allowed interviewees to shed some light on their view of disciplinary and departmental politics with respect to the perceptions of interdisciplinary teaching and research in higher education. The outcomes of interdisciplinarity were another important topic in her conversations with faculty members (also see Lattuca et al., 2017). This included outcomes related to teaching and learning as well as professional activities related to conference presentations, articles, books, etc.

Lattuca reported that the last question that she usually asked faculty was about their perceptions of the relationship between disciplinarity and interdisciplinarity. She also stated that before ending the interview, she asked faculty if there were other issues or concerns that they would like to discuss. In several cases, this question inspired more conversation and richer material to use for inductive analysis used in her study, which eventually led to her development of an alternative philosophical framework and typology for understanding teaching and research in interdisciplinary studies (2001, pp. 271-272). The author of this study also asked one scholar in interdisciplinary studies and one community college instructor at a different institution to review a draft of the questions after they were developed using Lattuca's protocol. Based on their recommendations, the author applied the following considerations. Instead of asking faculty to provide definitions of interdisciplinarity in Question 1, the reviewers suggested

that he ask them to *describe* their understanding or interpretation. They also suggested that the author of this study offer a more specific definition of the word *power* for Question 4. This clarification would prevent participants from misinterpreting the question. For Question 6, one reviewer suggested that the author provide participants with an opportunity to discuss their personal philosophy of education, which would provide a richer context for understanding the results of the PHIL survey and their interdisciplinary practices. Finally, the reviewer from the community college thought the author might gain richer data if he provided the participants with a list of the questions before their scheduled interviews. Framed by the protocol used by Lattuca (2001) and the suggestions from the two reviewers, the author of this study developed and used the following interview questions:

Question 1: How would you describe your teaching and research experiences as a community college professor?

Question 2: Can you describe some of the ways an interdisciplinary approach has enriched your work in teaching and research?

Question 3: How would you describe your understanding or interpretation of interdisciplinarity?

Question 4: Can you discuss how the word *power* (asymmetrical or dominant worldviews, structures, and/or actions designed to coerce or control) has or has not influenced your understanding or interpretation of interdisciplinarity?

Question 5: What do you see as the major difference between an interdisciplinary and a disciplinary approach to teaching and research?

Question 6: After completing Conti's PHIL survey, can you describe your personal philosophy of education and how it informs what you do or do not do in the classroom?

Question 7: Can you describe one example of an interdisciplinary assignment that reflects your personal philosophy of education?

Question 8: Can you discuss some of the ways that you think community college students benefit from interdisciplinary studies?

Question 9: Can you discuss the outcomes of your interdisciplinary work and/or interests, particularly in terms of any conferences, papers, journal articles, books, and/or pedagogical innovations used to improve the way that you teach?

Question 10: Are there any other thoughts about your experiences with interdisciplinarity that you would like to share?

Data Analysis

Because of the subjectivity and diversity associated with discussions on the influence of philosophy on the pedagogical practices of faculty, the author used *thematic analysis*, a flexible research tool that helps researchers to provide a detailed account of data. According to scholars such as Braun and Clarke (2006), thematic analysis is considered a “foundational method for qualitative analysis” (p. 78). They went on to claim, “Thematic analysis is a method for identifying, analyzing and reporting patterns (themes) within data. It minimally organizes and describes your data set in (rich) detail” (p. 79). Data for this case study also used coding to identify important ideas and patterns in the data collected from faculty participants at St. Louis Community College that address the research questions introduced above. *Coding* is the process of labeling or tagging particular categories of collected data based on a defined unit of analysis. In qualitative research studies, coding helps researchers to organize and evaluate the data that they collected in order to discover relationships between the various groupings of information (Hays & Singh, 2012). In this sense, coding allows one to identify and analyze important themes, ideas, and patterns in the data that would illuminate the research questions posed by the researcher.

Therefore, using thematic analysis with inductive coding, the author was able to categorize key themes, ideas, and patterns found in the data collected from the semi-structured interviews. The data from the PHIL survey was used to help faculty members signify and discuss their philosophy of education. It was also used to help the author to substantiate information gathered from the interviews, broaden his understanding of the data collected from them, and highlight any new insights or inconsistencies in the information provided by the participants. According to Braun and Clarke (2006), there are a variety of ways to analyze the interrelations among the varying bits of data collected for case studies. However, thematic analysis is the framework and method that they proposed to help researchers to contemplate, organize, and assess the philosophical beliefs, experiences, related practices, and other subjective material that the participants provide using interviews, surveys, and other research tools. To analyze the data for this study, the author used the process that Braun and Clarke developed to help researchers to understand and organize their data. The authors provided a data analysis framework for performing thematic analysis. It served as the framework that guided the analysis for this study. The following phases represent the steps in the process (detailed further below):

- (1) familiarizing oneself with one's data
- (2) generating initial codes
- (3) searching for themes
- (4) defining and naming themes
- (5) producing the report

Phase 1: The researcher must become familiar with the data. The author of this study transcribed the interviews and assessed them with respect to the results of the

PHIL survey. According to Braun and Clarke, transcription is time-consuming. However, it is an excellent way to become familiar with one's data. In this initial stage, the author immersed himself in the data in order to deepen his understanding of the material. Braun and Clarke (2006) wrote, "Immersion usually involves 'repeated reading' of the data, and reading the data in an active way—searching for meanings, patterns and so on" (p. 87). It was during the immersion process that the author began to recognize and trace particular patterns in the data. He took notes and listed potential ideas that would help him to code the data patterns found in the transcriptions and survey data.

Phase 2: The researcher must generate the initial codes. The ideas and notes created in the first phase helped the author to generate his initial codes for the data. According to Braun and Clarke (2006), the initial codes are building blocks for assessment. They help one to identify the general properties associated with the data that appear of interest to the analyst. The coding process helped the author to organize the data collected from the interviews (transcriptions) and surveys into meaningful categories for further analysis. More specifically, in coding, the author reviewed the material carefully in order to locate representations in the collected data that he found interesting and relevant to his investigation. For example, he used the various tables, searching and tracking tools, and other features in Microsoft Forms and Microsoft Word to list and code the data that related to the participant's philosophy of adult education and examples of their activities and practices as adult educators. Using the transcripts of the interviews, the author listed and coded the data from the participants based on the identification of key words and ideas in his review. Also, activities and practices that were interrelated to these items were listed and coded as well.

Phase 3: The researcher then uses the codes to search for themes and patterns. According to Braun and Clarke (2006), this part of the process is where the analyst begins to translate the list of codes created in the second phase into *themes*. Themes tend to be broader than codes, thus facilitating the interpretative analysis of the data. The authors reported, “Essentially, you are starting to analyze your codes and consider how different codes may combine to form an overarching theme” (p. 89). During this phase, the author looked for general terms, concepts, phrases, practices, and/or experiences seen in the various lists of coded data from Phase 2 that could be used to identify themes and patterns that related to the research questions the author wanted to address. To sort the different codes into categories according to particular themes and their correspondence to one or more of the research questions, the author used tables, color-coding, and tracking in Microsoft Word and thematic maps to create the kind of visual representation that Braun and Clarke (2006) recommended at this stage. First, the author identified, grouped, and color-coded the themes and patterns in the data gathered from the interviews (transcripts) and surveys that related to the research questions about the participant’s educational philosophy and any examples of correlating activities and practices. Next, the author grouped and color-coded the data from the survey and interview transcripts that corresponded to instrumental, conceptual, or critical interdisciplinarity. Again, he used the tables, tracking tools, and editing features in Microsoft Word.

The point of the author’s collating the data was to provide a detailed consideration of the similarities and differences in the major themes discovered in the data and how they might be interpreted and prioritized in terms of main themes and sub-themes. It was

important to consider this organizational prerogative, according to Braun and Clarke (2006), because some of the initial codes may work better as main themes or sub-themes and vice versa. Also, the author created a category called *miscellaneous* themes to account for the fact that, at this stage, there were codes that did not seem appropriate as main themes or sub-themes. However, Braun and Clarke noted that this could change as new insights emerge and themes are added, refined, or discarded in later phases of the process. Therefore, the author treated the themes created in this phase as preliminary. Braun and Clarke (2006) reported, “You end this phase with a collection of candidate themes, and sub-themes, and all extracts of data that have been coded in relation to them. At this point, you will start to have a sense of the significance of individual themes” (p. 90).

"

The researcher must review the themes' In this stage, the author refined the candidate themes. This step was important because some themes had to be revised or discarded due to the fact that there was not enough data to support them. Braun and Clarke (2006) also noted that some themes may actually need to be broken into separate categories while others may need to be combined. They wrote, “Data within themes should cohere together meaningfully, while there should be clear and identifiable distinctions between themes” (p. 91). With this in mind, the author carefully reviewed the data for each theme in the tables created for them. If a coherent pattern was not decipherable and related to one or more of the research questions posed, then the author revised the theme or created a new one to ensure that all of the candidate themes “adequately capture the contours of the coded data” (Braun & Clarke, 2006, p. 91). The whole point of this stage of the data analysis process was to ensure that the candidate

themes were valid and viable for the study, establishing an accurate representation of the data set. Therefore, the author needed to ask an important question during this stage of the process: Do the themes reflect the data set and help address the research questions? If not, then Braun and Clarke (2006) suggested that the researcher further review and refine the codes and themes for the study before moving to the next phase of the process.

Phase 6: The researcher must define and name the themes. According to Braun and Clarke (2006), in this phase, the researcher should conduct a detailed analysis of each theme to ensure that each theme captures the aspects of the data needed to address the problem and research questions for the study. In other words, the researcher must understand the story that the themes communicate individually and as a cohesive set. One must be able to define what one's themes are and what they are not, according to the authors. To test the validity of this claim, the author determined that if he could not describe the character of individual themes in a few sentences, then he would have to refine them before giving them a definitive title. According to Braun and Clarke (2006), "Names need to be concise, punchy, and immediately give the reader a sense of what the theme is about" (p. 93).

Phase 7: The researcher must produce the report. The final stage of a thematic analysis begins when one has an established set of themes that help to facilitate the final analysis and reporting of the data collected for one's study. The task of writing a thematic analysis is to tell "the complicated story of your data in a way which convinces the reader of the merit and validity of your analysis" (Braun & Clarke, 2006, p. 93). The author communicated the results of this stage of the process in Chapter Four of this study,

where the thematic data have been presented in tables and used to answer the research questions posed for this study.

Limitations

The author is a senior faculty member with over 20 years of experience at STLCC. He has taught a variety of courses, including interdisciplinary studies. There were potential limitations in this dynamic. One of the concerns was the potential for bias. Therefore, as much as possible, every effort was made on the part of the author to be objective and prevent biases that might result in misrepresentations of a respondent's philosophical beliefs and experiences. With this in mind, it was important for the author to do follow-up interviews with the participants to ensure that the translation of their interviews and survey results were accurate representations and consistent with their understandings of the expressed goal of the study and the purpose of their participation.

Also, Conti (2007) has permitted researchers to reproduce and use his PHIL survey for their studies. However, the PHIL survey did not include *postmodernism* as a philosophical consideration. Conti did include postmodernism's kin, *reconstructionism*. Elias and Merriam (2005) noted that postmodern adult education philosophy and reconstructionism share many of the same values and prerogatives. For example, the authors reported that (constructive) postmodernism is "decidedly liberational and critical of social injustices" (p. 224). It celebrates personal autonomy and greater equality for all marginalized communities. This particular view of postmodernism calls for a revision of dominate social, political, and economic paradigms that have been underwritten by Western thought and correlating practices. Furthermore, the author relied on the self-reports that faculty provided about their experiences and involvement in interdisciplinary

teaching and research. Due to the author's limited knowledge of the diverse areas in which the participants specialized and taught, he did not collect sample syllabi or individual assignments used by the faculty in their courses.

Another limitation was the fact that faculty from the social and human sciences were overrepresented in the study. This may have been due to the fact that the interdisciplinary courses were housed under the division of liberal arts and social sciences. Therefore, the findings derived from this study should be considered descriptive, thus serving as a potential imprint for studies on this topic in the future.

Ethical Considerations

In order to ensure that this study was conducted in an ethical manner, the author informed the participants of the purpose of this research study and its protocols. He also informed them that there was no compensation and they were not obligated to participate. Their involvement was completely voluntary and they could withdraw at any stage of the data collection process. For those who decided to participate in this research study, the author provided them with all of the necessary material and an estimate of the time commitment involved to complete the survey questions and interview process. The author provided participants with a description of the study and its approval by the Institutional Review Board (IRB) at the University of Missouri and St. Louis Community College. Also, participants were provided with information about the protocols the author used to ensure that their information will remain private and secured. To ensure anonymity, each participant was assigned a faculty number to distinguish their data before data analysis. Finally, each participant was provided with contact information for the author/researcher and the dissertation chair for this study.

Summary

The chapter has assessed the ways in which a mixed methods approach can be used by researchers to investigate phenomena that are often too complex and nuanced to be captured by a single resource for collecting data. It focused on the descriptive and interpretive value that can be gained by investigating the nature of experience, beliefs, and theories associated with a particular subject or phenomenon. Mixed methods research can provide the kind of holistic view that inspires new insights and ways of thinking. The author has expressed why the case study, semi-structured interviews, and survey were selected as appropriate tools for addressing the research questions posed for the study. For the author, these were the key components that were used to collect and analyze data from the faculty participants. More importantly, they helped to generate the kind of data that the author needed in order to reveal how interdisciplinarity is conceived and practiced among community college faculty in ways that advance one's understanding of instrumental, conceptual, and critical interdisciplinarity in higher education.

CHAPTER FOUR

Results

In this chapter, the demographics of the faculty participants are described as well as the themes and subthemes found in the collected data. A mixed methods study was employed using thematic analysis to examine the collected data and help readers to understand the ways in which community college faculty contribute to interdisciplinary studies (IDS) in higher education. The primary research questions that condition the application of thematic analysis and contextualize the study's findings are the following:

1. What are the characteristics of the adult education philosophy and associated practices of faculty teaching courses in interdisciplinary studies in the community college?
2. What are the ways in which the adult education philosophy and practices of faculty support or contradict one another?
3. What are the ways in which the adult education philosophy and practices of faculty support instrumental, conceptual, or critical interdisciplinarity?

Participants' Demographics

There were a total of 12 qualified *faculty members* at the college who agreed to participate in the study. They were all full-time faculty members and tenured or on the tenure track. The demographic information pertaining to this group has revealed the following information about the participants in this study (see Table 1 and Table 2 below). Six identified as White (50%), three as African American or Black (25%), two as Asian American (17%), and one as Race and/or Ethnicity Unknown (8%). Seven identified as women (58%) and five identified as men (42%). Six (50%) held master's degrees and six held doctorates (50%). There were five participants (42%) who reported that they held their highest credential in the Humanities and Liberal Arts and a total of four faculty (33%) stated that they held their highest credential in the Behavioral and

Table 1*Participants' Demographics*

Demographic	Number	Percent of Sample
Gender		
Men	5	42%
Women	7	58%
Ethnicity		
White	6	50%
Black or African American	3	25%
Asian American	2	17%
Race and/or Ethnicity Unknown	1	8%
Highest Academic Credential		
Masters	6	50%
Doctorate	6	50%
Academic Area of Credential		
Humanities and Liberal Arts	5	42%
Behavioral and Social Sciences	4	33%
Education	3	25%
Current Rank		
Assistant Professor	1	8%
Associate Professor	2	17%
Full Professor	9	75%
Years Teaching IDS Courses		
1 to 5 years	1	8%
5 to 10 years	5	42%
10 to 15 years	5	42%
Over 15 years	1	8%
Campus Location		
Forest Park	5	42%
Florissant Valley	2	17%
Meramec	3	25%
Wildwood	2	17%

Social Sciences. Three (25%) faculty members held their highest credential in Education. A total of nine (75%) participants were ranked as full professors at the college. There was one (8%) faculty at the rank of assistant professor and two (17%) at the rank of associate professor.

Table 2

Faculty Descriptions

Faculty	Rank	Years Teaching IDS	Academic Area of Credential
Faculty 1	Full Professor	10 to 15 years	Behavioral and Social Sciences
Faculty 2	Full Professor	10 to 15 years	Humanities and Liberal Arts
Faculty 3	Full Professor	5 to 10 years	Education
Faculty 4	Full Professor	Over 15 years	Humanities and Liberal Arts
Faculty 5	Associate Professor	5 to 10 years	Humanities and Liberal Arts
Faculty 6	Full Professor	10 to 15 years	Behavioral and Social Sciences
Faculty 7	Full Professor	10 to 15 years	Education
Faculty 8	Associate Professor	1 to 5 years	Behavioral and Social Sciences
Faculty 9	Full Professor	5 to 10 years	Humanities and Liberal Arts
Faculty 10	Full Professor	5 to 10 years	Education
Faculty 11	Full Professor	10 to 15 years	Behavioral and Social Sciences
Faculty 12	Assistant Professor	5 to 10 years	Humanities and Liberal Arts

The majority of the faculty members have taught IDS courses for several years. Five (42%) have taught such courses between 5 to 10 years. Also, five (42%) have taught them between 10 to 15 years. One (8%) participant reported having a teaching range between 1 to 5 years and another (8%) with a range that span over 15 years. The campus

location of the faculty varied. The majority or five (42%) of the faculty taught at the Forest Park campus (Central St. Louis City). Three (25%) taught at the Meramec campus (West St. Louis County). There were two (17%) who reported that they taught at the Florissant Valley campus (North St. Louis County) and two (17%) who taught at the Wildwood campus (West St. Louis County).

Survey Results

In order to determine their philosophical orientations, the participants were asked to complete Conti's (2007) PHIL survey (see Appendix H). The results of the survey revealed that there were no faculty participants (0%) who held philosophical views that supported idealism, pragmatism, or reconstructionism (see Table 3 below). On the other hand, there were five (42%) who held philosophical views that aligned with existentialism. The results of the PHIL survey also revealed that seven (58%) of the faculty participants held philosophical views oriented toward realism. One discovers that there were only two (17%) faculty members who had philosophical perspectives that aligned with realism and considered the result to be completely accurate. Faculty 1, who has taught courses in interdisciplinary studies for 10 or more years, reported that she thought that realism reflected and supported the strategies that she used to address the needs of students and the training that she received in her area of specialization. With more than five years of experience teaching interdisciplinary studies, Faculty 9 confirmed that the tenets of realism were consistent with his philosophy of education, which included helping students to understand the world through critical thinking and teaching them things that are essential as well as practical. He claimed that it is important to teach book knowledge, but it has to be applicable to the real world.

Table 3*Results of the PHIL Survey*

Philosophical Orientation	Number	Percent
Idealism	0	0%
Realism	7	58%
Pragmatism	0	0%
Existentialism	5	42%
Reconstructionism	0	0%

However, there was one (8%) participant who remarked that she completely disagreed with the survey results that aligned her philosophical views with realism. When asked about the results of her survey, Faculty 12, an artist, stated that she thought the criteria were vague and did not sufficiently explain what realism entailed. The faculty member said that she thought that her philosophy of education was more aligned with pragmatism. The participant reported that she wants students to apply what they learn to their everyday lives and that she did not believe that reality exists outside of the human mind. The other four (33%) faculty members who the survey associated with realism expressed a more heterogeneous and multidimensional understanding of educational philosophy. For example, Faculty 2 claimed that, while many aspects of realism aligned with his views, he felt that there were elements of the other philosophical schools that were just as relevant, including elements of pragmatism and reconstructionism. He concluded that his philosophy does not fit neatly into any of the categories presented in the PHIL survey. Faculty 5, an associate professor, shared a similar sentiment. He reported that, in his interdisciplinary course, his approach and methods were probably

closer to reconstructionism more than realism. He said that he wanted his students to learn to think differently about many of the things that they knew well. Faculty 3, who holds a doctorate, contended that the description of realism in Conti's (2007) survey made sense in terms of describing her general approach to teaching as a community college professor. However, she revealed that she often subscribed to an existentialist approach to teaching and learning as a way to engage her students and prepare them to be citizens of the world. As someone who teaches on a diverse college campus, Faculty 11 discovered that the PHIL survey results characterized her as a realist, but she also associated her beliefs, values, and practices with several elements in the other philosophical areas in Conti's typology. She described the sense of fluidity in her philosophy of education as a *continual flow* that is contextually focused based on the dynamics that take place in the classroom and among the students in that particular space. With so much of her work being informed by interdisciplinary and intersectional lenses, Faculty 11 indicated that there was a need for a *both* option among the survey's statements. This additional feature would account for some of the overlappings that she saw among the philosophical schools and statements in the survey.

There were similar concerns among those participants who the survey associated with existentialism. As mentioned earlier, there were five (Faculty 4, 6, 7, 8, and 10) who held philosophical views that aligned with existentialism. When faculty members were asked to discuss their survey results during their interviews, only three faculty members (4, 8, and 10) completely agreed with their results. In one case, Faculty 10, a full professor, stated that he agreed with his suggested philosophy and the description seemed to fit his values, beliefs, and practices. However, this sentiment did not extend to the

other faculty. For example, Faculty 7, also a full professor, stated that she agreed with the PHIL survey's indicating that she is an existentialist. During her interview, she noted that she viewed existentialism as her foundational philosophy of education. She went on to report that pragmatism and reconstructionism also played important roles in shaping how she viewed teaching, learning, and students at the community college. Faculty 6, with nearly 15 years of experience teaching interdisciplinary studies, shared a similar disposition. When asked to discuss whether she agreed with the survey's suggesting that she values existentialism, Faculty 6 said that she agreed with the survey's characterization of her educational philosophy. However, she remarked that she also viewed aspects of pragmatism and reconstructionism as important components of her educational philosophy as an educator in IDS at a community college.

The notion of a more interrelated understanding of the various philosophies of education was expressed by Faculty 2, 3, 5, 6, 7, and 11. They appeared to prefer a more holistic and integrated understanding of educational philosophy in order to validate the realities of interdisciplinary education and the changing dynamics that they faced teaching at the community college. In fact, one of the themes reflects the fact that half of the faculty appeared satisfied with a single *philosophical framework*. However, the other half seemed to embrace the notion of *philosophical continuity* when describing their educational philosophies in relation to their classroom and professional practices in interdisciplinary courses.

Themes and Subthemes

The key themes are *philosophy as framework and continuum*, *alignment of philosophy and practices*, *purposes of interdisciplinary education*, and *postmodern*

epistemological sentiments. The key subthemes are *modern epistemological sentiments*, *teacher-centered approaches*, and *student-centered approaches*. Below, Table 4 reveals the organization of the themes and subthemes as they will be used to answer the research questions above. Their descriptions are detailed below. The *sample* examples used to support them are discussed in greater detail, along with others, in the paragraphs below.

Philosophy as Framework and Continuum

The theme *philosophy as framework and continuum* characterizes the ways in which philosophy often serves as a lens or worldview as well as a prism with multiple dimensions for more detailed analysis and reflection. Philosophy helps educators to rationalize their realities, thus setting the stage for their beliefs and actions. A framework is a paradigm or a way of interpreting and understanding complex phenomena. It helps one to perceive, identify, and register an infinite number of events (Goffman, 1986). As stated earlier, a framework shapes the discourse that contours the assumptions within which one develops and analyzes meaning. To account for the complex and constructivist nature of the assessment and interpretation of meaning, theorists have indicated that philosophical perspectives are fluid and interrelated (Szostak, 2015). They do not always fit into neat boxes because human experiences are often difficult to categorize. Faculty 11 illustrated this point when she described her philosophy of education as fluid, moving amongst a variety of philosophical schools of thought. She imagined it as “a continuum that is contextually focused based off of the dynamics of a specific classroom and the students within it.” To express and appreciate the complexity of interdisciplinary studies, Faculty 2, 3, 5, 6, and 7 also indicated that their philosophy of education rested on a continuum or network of interrelated features that may be congruent as well as

asymmetrical (also see Graff, 2015; Welch, 2011). The subthemes related to philosophy as a framework and continuum are *teacher-centered* approaches and *student-centered* approaches.

Table 4

Themes and Subthemes

Theme and Subthemes Used for Research Question 1	
<u>Name</u>	<u>Theme and Subtheme</u>
Philosophy as Framework and Continuum	Theme
Teacher-Centered Approaches	Subtheme
Student-Centered Approaches	Subtheme
Theme and Subthemes Used for Research Question 2	
<u>Name</u>	<u>Theme and Subtheme</u>
Alignment of Philosophy and Practices	Theme
Teacher-Centered Approaches	Subtheme
Student-Centered Approaches	Subtheme
Themes and Subtheme Used for Research Question 3	
<u>Name</u>	<u>Theme and Subtheme</u>
Postmodern Epistemological Sentiments	Theme
Modern Epistemological Sentiments	Subtheme
Purposes of Interdisciplinary Education	Theme

Alignment of Philosophy and Practices

The theme that describes the symmetry or asymmetry between the philosophical framework or continuum and the approaches discussed above is *alignment of philosophy*

and practices. Zinn (2004) noted that faculty can face challenges bridging the gap between the theory and practices that they use in adult education, often creating misalignment between their philosophy of education and their correlating methods. The theme *alignment of philosophy and practices* describes the importance of having one's practices correspond to one's school of adult education philosophy. The subthemes related to this theme are also *teacher-centered* approaches and *student-centered* approaches. Faculty 4 and 10 mentioned the importance of developing assignments and learning experiences that are student-centered, multimodal, and constructivist in ways that reflect existentialism, which they highlighted as their representative philosophy of education. For them, it is also important that these elements are consistent with one's understanding of interdisciplinary practices.

Teacher-Centered Approaches

Teacher-centered pedagogies are generally associated with modernism and more traditional beliefs, methods, and practices used in the field of education (Ozmon & Craver, 2008). In teacher-centered approaches, the teacher is considered the source of learning and legitimation and the students are often the passive recipients of knowledge in the form of classroom lectures. This approach focuses on learning objectives and their measurement through various assessment tools (Zinn, 2004). It is also characterized by the teacher being the center of authority in the learning process, less collaboration and interaction among students, and a less dynamic classroom. For example, Faculty 1 signaled a teacher-centered approach when she noted that her realistic philosophy of education is exemplified by her course policies. She remarked, "I don't think it's my assignments so much as my policies that capture my philosophy."

Student-Centered Approaches

However, another subtheme encapsulated for this study is the term *student-centered approaches*. These approaches require students to be much more active in the process of learning (Gutek, 2011). The student and teacher relationship is more collaborative. In fact, the role of the teacher is one in which *they* serve as facilitators rather than the source of learning and legitimation for students. Several faculty members in the study noted that they view students as collaborators in the learning process. As such, they value student creativity and group work in their courses. When educators use a student-centered approach, there tends to be more of a focus on promoting individuality, creativity, and agency among students as they help to direct the process and strategies used for teaching as well as learning (Zinn, 2004). Moreover, some argue that focusing too much on students can lead to instruction that may downplay the course objectives and the proper assessment of the kinds of skills that students need to be successful in higher education and the workplace (Giroux, 2015; Magennis & Farrell, 2005).

Postmodern Epistemological Sentiments

Student-centered approaches to teaching and learning are often valued by postmodern thinkers in education. The theme *postmodern epistemological sentiment* is an umbrella term for a wide spectrum of viewpoints, which accounts for its formation as an anti-foundational philosophical disposition and perspective. It comes in two key forms, according to Merriam and Elias (2005). They are described as *deconstructive* or *skeptical* postmodernism and *constructive* or *liberating* postmodernism. Deconstructive postmodernism questions and dismantles the scientism, absolutism, and authority often associated with the grand narratives of modernism. Elias and Merriam argued that

deconstructive postmodernists hold modernism and its associated concepts responsible for much of the inequality and *oppressive horrors* of the twentieth century. This indictment has caused many postmodernists to claim that reality and knowledge are inherently anti-foundational and compromised by the exercise of power.

Furthermore, Elias and Merriam (2005) went on to explain constructive or liberating postmodernism, which also expresses many of the values of reconstructionism. This elaboration of postmodernism supports a rearticulation and transformation of the dominant social, political, and economic paradigms that are legitimated by Western thought and reproduced by academic institutions. In one case, Faculty 12 pointed out the strong influence of Eurocentric ideas on education and their benefits and challenges. Elias and Merriam also stated that constructive postmodernism often critiques this influence as well as social injustices. It also champions personal autonomy and greater equality for all marginalized communities. It troubles epistemological worldviews that celebrate what Eagleton (1996) called *absolute values* and *metaphysical foundations*. Moreover, postmodernism esteems multiplicity, transgression, and cultural relativism. In clearer terms, Usher and Edwards (1994) characterized a postmodern philosophical sentiment as “a confrontation with epistemology and deeply embedded notions of foundations, disciplines, and scientificity” (p. 3). It privileges *and/with* thinking. Elias and Merriam (2005) noted, “The postmodern recognizes that there are many social contexts that call for different responses. There are many different groups whose voices need to be heard” (p. 239).

Modern Epistemological Sentiments

For many scholars, postmodernism is often at odds with the perspectives of modernism, yet it is conditioned by its basic premises and sentiments (Lyotard, 1984). The subtheme *modern epistemological sentiments* relates to postmodern epistemological sentiments. More specifically, Lyotard (1984) used the term *modernism* to signify the contemporary character of Enlightenment ideas. As such, modernism advances the idea that rationalism, instrumentalism, and scientific methodologies are integral to the constitution, legitimation, and management of knowledge and those credentialed to certify, teach, and advance its intellectual and practical properties (Menand, 2010; Wellmon, 2016). Unlike postmodernism, many scholars claim that modernism values classifications or *either/or* thinking. For instance, the organization of the disciplines and the differentiation of academic institutions illustrate the ways in which modernist thinking has manifested in higher education (Wellmon, 2016). When Faculty 1 and 11 supported the value and utility of the disciplines, they expressed a modernist sentiment. For example, both viewed the disciplines as useful ways to organize knowledge and contextualize unique perspectives and worldviews.

Purposes of Interdisciplinary Education

This characteristic might explain why educators who teach interdisciplinary courses often view the *purposes of interdisciplinary education* as having a philosophical and practical dimension that benefits faculty and students (Klein, 2010). The purposes or aims of interdisciplinary education is another theme identified in this study. The term *interdisciplinarity* is often used to describe the integration of two or more disciplines for a research project, educational program, or experience (Boix Mansilla, 2010; Frodeman,

2014). Several faculty members viewed interdisciplinarity as beneficial to teaching and learning because it helps them to reimagine the relationship between the disciplines in order to help students to integrate knowledge from various resources, develop their critical thinking skills, and negotiate dissonance. For example, Faculty 2 and 9 suggested that interdisciplinarity is a way of helping students to integrate the different discourses and conversations occurring in the disciplines in order to enhance the learning experience for students. More specifically, Faculty 2 reported that interdisciplinarity helps students to integrate knowledge and understand “the validity of their own experiences in crafting their own voices” as they explore various learning communities.

Findings for Research Question 1

The first research question asks, What are the characteristics of the adult education philosophy and associated practices of faculty teaching interdisciplinary studies in the community college? Below, Table 5 provides a sample review of the theme, subthemes, and codes used to respond to the first research question. For the complete list, see Appendix K. The theme and subthemes are *philosophy as a framework or continuum*, *teacher-centered approaches*, and *student-centered approaches*. The findings from the data provided by the participants suggested that the character of their philosophical framework or continuum and related practices appear to be informed by their interpretations of interdisciplinarity, its benefits to students, and the ways that it enriches professional development for teaching and research. As the PHIL survey results indicated above, there were a total of six faculty participants (50%) who valued a single philosophical framework and six (50%) who saw their philosophical views as being

Table 5*Sample Theme, Subthemes, and Codes (Categories) for Research Question 1**

Theme or Subtheme	Codes (Categories)	Faculty Member
Philosophy as Framework and Continuum (Theme)	Existential Beliefs and Practices	6, 7, 4, 10, 8, 11
	Pragmatic Beliefs and Practices	9, 12, 2, 11, 6, 7
	Realist Beliefs and Practices	3, 9, 2, 1, 5, 11, 12
	Reconstructionist Beliefs and Practices	5, 2, 7
	Improving Teaching Skills	6, 2, 5,
	Improving Research Skills	11, 4, 10, 7, 2
Teacher-Centered Approaches (Subtheme)	Positivist Pedagogical Strategies	1, 8
	Goals and Objectives Focused	2, 3, 1, 11, 9
	Skills Acquisition and Application	1, 9, 3, 8, 5
	Content Design and Development	11, 4, 7, 1, 2
	Focusing on Skills Needed in the Workplace	6, 5, 3, 12, 9, 1, 4
Student-Centered Approaches (Subtheme)	Antifoundational Teaching Strategies	10, 4, 9, 11, 7, 12
	Student Growth and Agency	6, 1, 8, 12, 2, 9, 7
	Focusing on Critical Thinking	2, 12, 4, 10, 7, 9, 5, 11, 3, 8
	Encouraging Creative Self-Expression	3, 12, 10, 4, 6
	Developing Students' Social Consciousness	5, 11, 6, 3, 9, 12, 1, 8, 2, 10, 4, 1
	Values Collaborative and Group Assignments	4, 10, 3, 7, 6, 8, 11, 2, 9, 12, 1

*See Appendix K for the complete list

more interrelated and continuous (see Table 7 and Table 8 below). More specifically, Faculty 2, 3, 5, 6, 7, and 11 held more interrelated or continuous views of their philosophy of education. However, Faculty 12 saw pragmatism and not realism as her primary philosophy of adult education. Faculty 4, 8, and 10 supported existentialism as their only philosophical framework. Faculty 1 and 9 affirmed realism as their main philosophical framework. First, profiles of the six who valued a single philosophical framework will be provided. Afterwards, profiles will be provided of those who valued a more interrelated or continuous view of their philosophy of education.

When asked to explain why pragmatism *exemplified* her philosophy of education, Faculty 12 reported that she hopes to teach her students things that are practical as well as applicable to their lives. She argued that students need to be able to see ideas and knowledge in action and their everyday lives should be where education can be made to manifest. Faculty 12 stated, “Well, I do not separate my students’ ideas from the world. I encourage critical thinking but also application in order to prove the claims that I put forth.” For her, the Socratic method is one of the main instructional tools that she used to achieve this goal. Faculty 12 stated that having quality discussions and interactions with her students was important in her student-centered approach to teaching. For her, education is not solely about grades. It is about the exploration and interrogation of “big ideas” and helping students to see and understand how “ideas from various disciplines and walks of life” can be connected and actualized in their everyday lives. For her, interdisciplinarity, which she described as combining subjects for teaching and learning, has been essential in helping students to make connections between what they learn in her

classes and their life experiences. When asked to elaborate, Faculty 12 mentioned that most of what students learn in the United States is rooted in Eurocentric notions of what it means to learn and what things are actually worth learning in a market economy. She went on to note that interdisciplinary studies has helped her students to explore the positive and negative implications of this predicament. More importantly, it helps them to broaden their view of the world and its complexities, challenges, and vast possibilities.

Moreover, Faculty 12 also shared that her development as an artist and teacher in interdisciplinary studies has given her the opportunity to make interesting connections among different ideas and practices that she can pass on to her students in the form of interesting Socratic discussions and assignments. She said, “If people don’t understand that everything works together, then they think that they’ve learned one thing and it’s just a separate thing and doesn’t have anything to do with anything else.” In her interdisciplinary course, Faculty 12 noted that she had students write an essay about whether they adhered to assigned gender roles and to explain why they did or did not. One of the goals of the assignment was to help students to develop their critical thinking skills about the benefits and hazards in examining complexity using binary thinking. Faculty 12 said that she wants students to “understand how film has influenced so much of this [binary thinking] throughout our lives, even when they don’t realize it.” Students also had an opportunity to improve their writing and critical thinking skills by reflecting on the ways in which film as well as writing can expand opportunities for them to make the kinds of interdisciplinary connections that enable a deeper and richer understanding of the nature of difference and its applicability beyond the classroom.

In their interviews, Faculty 4, 8, and 10 shared similar examples of how interdisciplinarity can be used to transform the classroom into an effective learning environment for students. All of these participants supported existentialism as their only philosophical framework. However, they contoured their viewpoints and practices in different ways. Faculty 4 reported that language and communication were important in his understanding of existentialism. He stated, “We cannot learn about subjects and issues that are beyond our ability to communicate.” For this participant, language shaped how students ultimately construct, interpret, and apply what they learn. This view helped one to understand why the faculty member championed the use of different modalities to address the needs of individual learners. Moreover, he noted that a student-centered approach to learning is an essential element in his work teaching interdisciplinary studies at the community college. When asked to elaborate on his experiences at the college, Faculty 4 described himself as being practical, patient, and productive in order to support the growth of students and help them to expand their opportunities for success. He argued that digital technology and advancements in artificial intelligence such as ChatGPT, a language model that uses special algorithms to generate texts from a vast array of disciplines and resources, are prompting a long overdue reassessment and reconceptualization of every element of teaching and learning, especially the way knowledge and expertise have been compartmentalized in education.

In fact, he imagined that students would benefit from a more integrated and interdisciplinary learning environment. Faculty 4 described interdisciplinarity as providing a more holistic and comprehensive learning experience for students. He also associated it with power. For him, “Power is inherently related to access-driven networks

of control and supervision. Interdisciplinary education allows for additional access points to and within such networks.” He noted that interdisciplinarity has helped him to expand disciplinary boundaries, which allows students to make connections between different knowledge communities and their tenets and practices. Faculty 4 also reported that his research and writing were a direct result of his background and work in interdisciplinary studies. He said that interdisciplinary research projects are the only kinds of projects that interest him. In his interview, Faculty 4 said that, in order to remain invested in research and writing, he needs to see some kind of overlap or intersection. He reported that he regularly presents his scholarship and ideas at professional conferences and co-authors journal articles and book chapters with writers from various fields and professions.

Table 7

Single Philosophical Orientations and Praxis

Faculty Member	Philosophy	Key Pedagogical Values
Faculty 1	Realism	Fostering development that inspires behavioral changes and applicable skills
Faculty 4	Existentialism	Integrating knowledge across different modalities, disciplines, and communities
Faculty 8	Existentialism	Negotiating complexity and connecting different cultures and human experiences
Faculty 9	Realism	Encouraging critical thinking and the practical application of knowledge
Faculty 10	Existentialism	Synthesizing information, applying research skills, and appreciating choices

In the classroom, Faculty 4 indicated that he fosters a similar collaborative spirit among the students and through the assignments that he creates for his courses in interdisciplinary studies. For example, in one class, he asked students to cook a recipe that appears in a media outlet and share it with the members of their household and members of the class. According to Faculty 4, one of the goals of the assignment was to have the students use writing and multimodal resources to interact with various food cultures and discourses across different generations. The skill that he wanted to use the assignment to assess was the students' ability to integrate and interact with content that crossed different disciplinary boundaries and different communities.

Faculty 8 provided a different example of the ways in which existentialism can be used to develop assignments in interdisciplinary courses. She indicated that her role in the classroom is to facilitate the growth and development of students as learners. Faculty 8 reported that it is important for her to help her students to understand themselves and others in order to make sustainable human connections. She stated, "My goal is to connect students to each other, to manage their anxieties about working with people who are different from them." This student-centered approach helps learners, particularly those new to higher education and social science fields, to manage their anxieties about working with others who are different. Helping students who are interested in the service professions to develop new levels of comfort with others often increases their capacity to empathize and care for people. Faculty 8 reported that human relationships and learning should be less transactional and more integrated.

Faculty 8 defined *interdisciplinarity* using a similar line of thinking. For her, interdisciplinarity is a way to establish partnerships, deeper understandings, and broader

perspectives among different communities. Interdisciplinarity makes it easier to recognize views and voices from different cultures and different communities. As a result, Faculty 8 thought that education needed to change, and the relationship between the disciplines should be reconceived as a way to transform society for the better. For her, education has become about checking boxes and ignoring its larger purpose and benefit to society. Faculty 8 even questioned if there was a larger purpose to academic decline. She wondered if elites who control many aspects of the economy and other resources appreciate an undereducated populace because, in their minds, “they seem to be a little more pliable.”

With these concerns in mind, Faculty 8 developed the kinds of assignments that help to create a sense of agency among her students. For example, she had students write an autobiographical essay detailing their opinions about their earlier reflections on the nature and role of a professional service worker who has to work with different cultures and social institutions. The skill that she said that she wanted to assess in this assignment was the students’ ability to make connections among their experiences with different people and how that impacted their judgments and rapport. It was also important that students learn how to negotiate complex relationships using multiple lenses for understanding the changing realities that they face inside and outside of the academy. Faculty 8 said that she has addressed these concerns and many others in presentations and workshops at several community college conferences.

What seemed to distinguish Faculty 10 from Faculty 8 and the existentialists mentioned above is that he referred to himself as a *constructivist* who creates learning contexts in which students can help to direct their learning experiences. He stated, “I’m a

constructivist, so I tend to create a framework for learning but then have students fill it in.” To further clarify, Faculty 10 stated that he tends to develop loosely structured assignments and activities where there isn’t just one right answer. His student-centered approach promotes an awareness of alternatives and the student’s commitment to choices. He noted how he hoped to establish a different power dynamic in his classroom, one in which one specific viewpoint or understanding is not dominant. He found that this approach creates the most conducive learning environment for community college students and the diverse backgrounds and experiences that they bring to the classroom. Therefore, Faculty 10 reported that he offers students various learning options, which inspires them to use learning to promote their growth and intellectual development. Interdisciplinarity is fundamental to this enterprise in that students are able to make connections that help them think and develop in ways they may not have in discipline-specific courses. He usually incorporates various disciplines when he teaches. For him, “Doing so adds layers to what students learn, how I’m able to approach course concepts, and how I can show the overall relevance and meaning of the course material.”

According to Faculty 10, having an interdisciplinary approach allows him to draw from several disciplines in order to understand problems, solutions, and different perspectives. He valued interdisciplinarity as a way to help him improve teaching and learning and not get stuck in a box. This attitude has been key to many of his experiences teaching interdisciplinary studies at a community college. He reported that his research activities are related to understanding how students learn and how faculty can develop quality educational experiences for students. He has done several conference presentations on

interdisciplinary studies and how faculty can use technology to develop different projects to accomplish their goals for teaching and learning.

In his interdisciplinary courses, Faculty 10 also reported that he tends to incorporate various discipline-specific tools and texts as a way to add layers to what students learn and how they approach core concepts in the course. For him, it is important that students understand the relevance of an assignment and other supporting course material. In one assignment, he said that he has students conduct a research study about the importance of social narratives around myths. Students had to interview people in order to be able to answer their research questions and report the findings. Then they had to present their findings as a digital story using multimedia artifacts such as essays or videos. The skill that Faculty 10 said that he wanted to assess in this assignment is the students' ability to synthesize research material and their application of the basic principles of social science research. He remarked, "In doing so, they [students] learn about how to be a social scientist in the process."

Faculty 1 and 9 helped their students to develop a complementary set of skills. Both participants stated that they supported realism as their main philosophical framework. However, their elaborations of their philosophies and their approaches to teaching appeared more different than similar. Faculty 1 described herself as a tool that students can use for learning. Her perception of that role resembled that of a manager, which appeared to signal a more teacher-content-centered approach. For example, she indicated that it was important that students are taught the fundamental theories presented in the course, and they were encouraged to apply the methods as a way to promote positive changes in their behavior as well as the growth and development of their critical

thinking skills and soft skills. Faculty 1 also emphasized the importance of student-accountability. She reported that she is less likely to accept late work in her courses. Faculty 1 also pointed out that the interdisciplinary courses that she teaches are designed for application and personal development. According to her, “the instructor brings the information that the students have the responsibility for learning.” It is up to the students to complete the work on time and practice the skills that they learn. For Faculty 1, the nature of the course and interdisciplinary subject matter require students to learn intentional activities and practice the behaviors that lead to the personal goals and outcomes that they establish for themselves in the course. Furthermore, she said that students are expected to adhere to the standards set in the course and take the necessary actions to achieve them. According to this faculty member, “The standards are set at the beginning and they are maintained for the duration of the class. Students have the choice to what degree they will participate and engage, learning and earning their grade based on the parameter set.”

It is in this context that Faculty 1 related her views of interdisciplinarity. She noted that it helps students to develop more depth and breadth of knowledge about the topics covered in the course and how it can be applied. For her, interdisciplinarity is the integration of disciplines and interdisciplinary courses involve two or more primary disciplines that overlap. She claimed that interdisciplinary courses broaden topics that might otherwise occur within a single discipline. However, she also reported that disciplines should not be dismantled without having a better system in place to replace them. In fact, she pointed out how disciplines such as the *humanities* already encapsulate multiple knowledge communities. When asked if interdisciplinarity had benefited her

own professional development, Faculty 1 noted that it had. Interdisciplinarity helped her to step outside of her discipline and consider content and issues from multiple perspectives. She found that interdisciplinary explorations also challenged her to find new material to use to update her courses to keep them fresh and interesting to teach. When asked about assignments and assessments in her course, Faculty 1 replied that her policies captured her philosophy of education more than her assignments. She said that her assessment is based on how much students increase their knowledge and adapt their behaviors in order to foster the kind of personal development and skill set that they can appreciate and actualize beyond a classroom setting.

Faculty 9 expressed a similar desire when he stated that he wanted his students to learn things in his course that could also be useful to them outside of the community college. More specifically, he argued that educators should not just teach students book knowledge. He agreed with the description of realism in the PHIL survey that claims that educators aim to help students understand the world through inquiry, and they teach things that are essential as well as practical. To elaborate further, Faculty 9 stated that what is taught in the community college classroom must have real world application, and students must be able to see real connections between their lives inside and outside the classroom. He reported that he introduces content that “will engage students with the world around them, as well as encourage students to become problem solvers and change agents in their generation.” For him, helping students to engage these kinds of initiatives is particularly important in courses where interdisciplinarity is the guiding approach used to facilitate teaching and learning.

Faculty 9 viewed interdisciplinary approaches as providing students with opportunities to develop the ability to merge academic disciplines without filtering out the uniqueness of individual disciplinary areas. Faculty 9 also mentioned that the challenges that interdisciplinarity and advanced technology present appear to indicate that the current arrangement of the disciplines may need to be reimagined. Faculty 9 reported that he approaches classroom instruction from an interdisciplinary background, and he hoped to use this training to encourage students to question the status quo. He viewed his approach as student-centered and his classroom as a space for collaboration between the teacher and students. However, he indicated that there are times when challenging content and difficult assignments may require a more teacher-centered approach until students are able to play a more agentic role in the learning process.

Faculty 9 went on to say that his philosophy of education and assignments are “designed to empower students” at the community college. He assigned books, films, and other texts to explore issues related to social justice, race, and class in America. Faculty 9 said that the skills that he hoped to assess in such assignments include the student’s ability to analyze interdisciplinary material using different contexts, lenses, and discourses. While popular buzzwords such as *integration*, *interaction*, *synthesis*, and *collaboration* dominate the field of interdisciplinary studies, Faculty 9 said that he preferred the use of the term *dialogue* or *conversation* to describe the interdisciplinary discourses and various activities that enable the processes of reformulation and innovation in interdisciplinary teaching, learning, and research. This is the approach to interdisciplinarity that he suggested was most useful in helping him to research and write a scholarly article, which was published in an interdisciplinary refereed journal in his

field of study. Those with a more coextensive view of the various philosophies of education shared similar professional development experiences.

Some of the faculty participants who proclaimed a more interrelated or continuous view of the philosophy of education appreciated and accepted many of the tenets of realism mentioned above (see Table 8 below). However, Faculty 2, 3, 5, 6, 7, and 11 all appeared to have more interdependent views of their philosophy of education. Faculty 6 and 7 both reported that they saw their philosophy of education as moving among schools of thought that included existentialism, pragmatism, and reconstructionism. Faculty 6 described her approach to teaching as student-centered yet practical. She said, “I do see myself as a facilitator of learning in the classroom and want the students to be at the center of their own learning.” It was important for her students to know things, but that knowledge must have a purpose in their lives. Faculty 6 placed the needs of students at the center of learning, providing opportunities for self-reflection, empowerment, practice, and problem solving. She remarked, “In reflecting on my personal educational philosophy, my teaching does focus on the individual, but also on *their* place within the larger society”

As a community college professor, Faculty 6 said that she found it deeply satisfying to see how much students grow in her classes. She viewed personal growth and development, critical thinking, and promoting democracy as important aims in interdisciplinary education. She indicated that interdisciplinarity played an important role in helping students to develop and apply various concepts covered in her courses and assignments. In one class, she said that she had students work in groups to develop a service learning project that benefited the community in some way and also helped them

to develop their leadership skills as well as their ability to work with others. Faculty 6 identified the skills that were important for assessment in this assignment. They included

Table 8

Multiple Philosophical Orientations and Praxis

Faculty Member	Philosophies	Key Pedagogical Values
Faculty 2	Realism Pragmatism Reconstructionism	Integrating knowledge for applicability and cultural awareness
Faculty 3	Realism Existentialism	Developing critical thinking skills for student growth and citizenship
Faculty 5	Realism Reconstructionism	Focusing on fundamental skills, diverse views, and critical reflection
Faculty 6	Existentialism Pragmatism Reconstructionism	Cultivating self-reflection and leadership through service learning
Faculty 7	Existentialism Pragmatism Reconstructionism	Connecting knowledge for lifelong learning and social consciousness
Faculty 11	Idealism Realism Pragmatism Reconstructionism Existentialism	Advancing intersectional thinking using diverse lenses and contexts

the students' understanding of important concepts, their ability to work collaboratively, and their leadership abilities.

Faculty 6 also found that interdisciplinarity inspired creativity and expanded the students' worldviews. It exposed them to new ideas and concepts from other disciplines. She described interdisciplinarity as an approach that provides the kind of flexibility that

is not always available in a single discipline. Its breadth gives students opportunities to explore and learn with a wider focus. In turn, they experience more growth. According to Faculty 6, her approach in the classroom is an expression and extension of her commitment to service learning. She reported that she has done conference presentations on service learning and its impact on teaching, learning, and the community. However, she stated that she no longer uses this approach because she no longer teaches courses in interdisciplinary studies.

What distinguished Faculty 6 from Faculty 7 is that Faculty 6 briefly mentioned that she could understand why someone would support realism as a philosophy of education. These are sentiments that Faculty 7 did not express when describing her philosophy of education. She said that existentialism is her foundational philosophy, but she interrelated pragmatism and reconstructionism. She reported that individuals are always in transition and they are agents in the (re)construction of reality and decision-making, which ultimately influences actions and outcomes. These are the kinds of features that Faculty 7 felt were important for helping students to become lifelong learners. She described her approach as student-centered and her courses provide students with the kind of flexibility that allows for creativity as well as interdisciplinary thinking. Faculty 7 understood interdisciplinarity to mean knowledge that can be framed and reframed to enrich teaching and learning and inspire innovation. It differs from disciplinarity in that there are more opportunities for utilizing theories, approaches, and practices from other disciplines. It benefits students in that it helps them to make connections across disciplines. She stated, “I do think it is important to be knowledgeable

in one discipline, but that does not mean that we cannot benefit by drawing from other disciplines because sometimes theories overlap between disciplines.”

Echoing a reconstructionist sentiment, Faculty 7 went on to report that using interdisciplinarity to make connections across disciplines also entails an examination of power structures. For her, “Examining power structures is a key part of interdisciplinary studies.” Whether political, economic, or both, she indicated that power structures influence one’s understanding of the disciplines and their conceptualization. For example, Faculty 7 claimed that more value and money are often given to disciplines perceived as beneficial to society. She reported that those disciplines perceived as political may receive less funding or lose funding altogether, depending on the will of the institution or legislature. This dynamic might explain why Faculty 7 determined that not everyone is comfortable with interdisciplinarity and its ethos and logic. She identified power and money as the reasons why disciplinarians and experts often resist reaching beyond the boundaries of their subject areas. Faculty 7 also pointed out that it can be intimidating for faculty to venture beyond their own field of expertise and learn new things.

To make interdisciplinary explorations more appealing to students, Faculty 7 designed assignments that help them make interdisciplinary connections that are relevant today. In one assignment, students had to read a fictional text and make connections between historical and contemporary events. Faculty 7 stated that the assignment was designed to help students build their knowledge about economic, political, and social events and the impact that they have on people and their communities. The skills that Faculty 7 wanted to assess include students’ research skills and their ability to make connections using information from different sources. These are the kinds of skills that

she thought would benefit students inside and outside the academy and as lifelong learners. In fact, she considered herself a lifelong learner. Faculty 7 noted that one of the outcomes of her work in interdisciplinary studies has been her enrollment in a graduate program to study history, which she believes will enhance her understanding and improve her ability to teach courses in a variety of areas in the future, including interdisciplinary studies.

Unlike Faculty 6 and 7, Faculty 2 suggested that his philosophy of education rested on a continuum that connected realism, pragmatism, and reconstructionism. He noted, “I would suggest that my philosophy does not fall wholly into any” of the categories mentioned above . For him, there were elements from all of these schools that mirrored his values and approaches. In his interview, Faculty 2 noted that working with diverse students at the community college and studying the Scholarship of Teaching and Learning (SoTL) require him to examine his philosophy of teaching and education. He stated, “My role working with a wonderfully diverse adult student population has challenged me to read and engage widely with theoretical and practical approaches to adult education.” Although he regularly attends and presents his ideas at professional conferences, Faculty 2 revealed that he is constantly developing his professional skills as a student of learning and instruction. Over time, he indicated that his philosophy of education has changed as his circumstances, disposition, and goals have changed. For example, Faculty 2 claimed that his philosophy of education was firmly planted in realism. However, it grew to include elements of pragmatism and reconstructionism. Faculty 2 characterized his courses as student-centered yet practical and reflective. He reported that he presents students with various modes of inquiry and practical options to

achieve the goals set for the course. According to Faculty 2, this approach encourages the students to develop agency in the learning process and assert their unique perspectives and voices.

Faculty 2 also mentioned that a part of the work of educators is to help students develop their voices and understand the dominant discourses that support the various disciplinary areas. While he could see some benefit in dissolving the current organization of the academic disciplines, Faculty 2 suggested there was just as much value in reconceiving their boundaries and helping students to understand the expectations and conventions of each discipline as well as the benefits of connecting them to solve complex problems and improve teaching and learning. He also claimed that understanding disciplinary discourses also encourages people to understand how dominant power structures operate and how subtle changes can be made by helping students to develop their own unique voice. Faculty 2 reported that these views are exhibited in his learner-centered pedagogy, where he helps students to explore what dominant discourse communities (groups with a common system of values and lexicon) look like and how to navigate and transform them.

According to Faculty 2, interdisciplinarity is an approach that allows educators, scholars, and students to enter into a wide array of discourse communities, including those that are hegemonic and discipline-specific, in order to learn how to bring about gradual changes in the status quo. Faculty 2 described interdisciplinarity as a mode of inquiry that helps one to examine the interfaces and interrelations among different disciplines and how they approach and address various questions, issues, and problems inside and outside of academe. Like Faculty 9, he said that interdisciplinarity puts

different disciplines in conversation with one another. He stated, “An interdisciplinary approach allows [for] the entrance into the widest range of discourse communities.” To help the diverse students at the community college appreciate interdisciplinary conversations, Faculty 2 said that he designed course activities and assessments that focus on synthesis as well as critical analysis. Like Faculty 7, he reported that he has students examine and contemplate cross-cultural historical and social events and their relationship to contemporary formulations.

However, Faculty 5 seemed to have encountered more challenges working with community college students than many of the other participants mentioned above. He reported that he had broad ideas about education; however, working at a community college has required him to adapt to the persistent and vast array of difficulties that students exhibit and experience. In his interview, the faculty member stated that, in some courses, he feels “like an ER doctor patching wounds.” He remarked, “I have broad ideas about education, but working at a community college requires me to continually adapt to a vast array of student difficulties.” Faculty 5 also remarked that he has had to reconfigure his courses and make them less content-based and more reliant on the fundamentals, which can sometimes warrant a teacher-centered approach. In his interdisciplinary studies course, Faculty 5 stated that his assignments tended to be readings from interdisciplinary thinkers that students discussed from a variety of perspectives. He described interdisciplinarity as a way to examine events from different silos, and his course seemed to reflect this approach. For example, his objective was to get the students to recognize and appreciate differences in perspective.

According to Faculty 5, the PHIL survey indicated that realism was his philosophy of education. However, he reported that, in his interdisciplinary courses, his philosophy was closer to reconstructionism, which allowed him to be more philosophical. In those courses, he said, “I wanted students to think differently about things they already knew pretty well.” Faculty 5 said the interdisciplinary courses gave him a little more license to get students to think more critically, ask deeper questions, and reconsider the different realities of the world from various perspectives. Faculty 5 also mentioned that he was always inspired by the work of Paulo Freire and the idea of using education to help students to transform their lives. As a result, he often thought about power and the role that it plays in the lives of his students. He said that he often encourages students to discuss their experiences and their majors or particular areas of study. He saw this approach as a way to engage students. He reported that he often thinks about the ways in which his students are directed into certain majors even though they prefer another pathway or career choice than the ones they settle on. Faculty 5 said that this reflects the operation of power in education and reminded him of his own positionality in these deterministic processes. He said that he feels conflicted because he wants to ensure that students have the practical skills that they need. However, he remarked that he also wants them to explore deeper concepts and engage their communities.

If possible, Faculty 5 wished that he could revise and rewrite many things in education. One of them would be the disciplinary boundaries that reinforce silos in teaching and learning. If he could snap his fingers and dismantle them, Faculty 5 said that he would, although he wouldn’t want to do the extra work that this would create for faculty and administrators. For him, interdisciplinarity represented the kind of approach

that really engages people, because it allows one to see the world from various perspectives. With so much time and effort invested in teaching his course load, Faculty 5 said that he does not have much time for research and writing activities that build on his interests in interdisciplinary studies.

Faculty 3 shared some of the concerns mentioned by Faculty 5, particularly the importance of helping students make connections and think critically about the world. However, Faculty 3 did not associate her philosophy of education with reconstructionism. The schools of thought that she said influenced her and reflected her worldview included realism and existentialism. She reported that the description of realism in the PHIL survey reflects her general approach to teaching. However, she claimed that she mostly used an existentialist approach to help students develop as engaged citizens and critical thinkers. She mentioned how she often subscribes to an “existentialist approach to teaching and learning as it better prepares students to be engaged citizens.” Faculty 3 synthesized the features of realism and existentialism that described her philosophy in the following way. She reported that teaching is a process of discovery and the world is the lab that people must use to observe, reflect, and investigate their experiences. In this philosophical context, Faculty 3 imagined interdisciplinarity as an essential pedagogical approach. An example of an interdisciplinary assignment that she shared required her students to complete a comparative study of the United States and another country. Her students had to apply the principles discussed in the course in two different contexts. Faculty 3 identified critical thinking as the skill that she hoped to assess in this assignment.

Faculty 3 stressed the importance of critical thinking in her pedagogy because it benefits students to be able to analyze content and make informed decisions. It is also empowering. When she characterized the role of power in interdisciplinary teaching and learning, Faculty 3 associated it with one having the basic knowledge and the ability to make connections among disciplines. She concluded that the possibilities for limitless discovery and reflection is what gives students power in interdisciplinary studies. The faculty member stated that interdisciplinarity is important because it helps to establish the kinds of pathways that students can use to make connections between ideas as well as disciplines. Faculty 3 defined interdisciplinarity using this same logic. She reported that the current arrangement of the disciplines should be reconceived to account for the vast opportunities that interdisciplinarity creates and digital technology enables. She found that disciplinarity is often limiting and it can create tunnel vision. She suggested that interdisciplinarity should be part of daily practice in education.

Faculty 3 also stated that interdisciplinarity keeps her engaged with her area of specialization, her students, and the community. She revealed that it has been a key feature in several presentations that she has given on interdisciplinary approaches to instruction in honors classes at the community college and beyond. Faculty 3 shared why she thinks interdisciplinary courses are so beneficial to students in the community college. She argued that these students are advantaged in the sense that they typically help to create a very diverse classroom experience based on age, race, gender, nationalities, social class, and work and life experiences. She determined that the logic of an interdisciplinary approach to teaching and learning is more consistent with these

demographics, and it encourages students to build connections based on the diversity that they find in the classroom and across campuses.

Faculty 11 also made note of the diversity found among the students at community colleges and its impact on her view of her teaching and research experiences. She said that there is substantial support for teaching from her colleagues and the college. However, she remarked that there is less support for discipline-based research, unless it is student-related or tied to grants. As a professor and prolific scholar with several books and articles in refereed journals, Faculty 11 noted that intersectionality is an important focus in her scholarship, and it is an important framework used in all of her courses, including those in interdisciplinary studies. She defined intersectionality as a concept that describes the unique identities that people have and how they intersect to condition one's experiences with oppression. She said, "our experiences with oppression...are directed towards our unique intersecting identities." As a result, Faculty 11 determined that, when applying an intersectional lens, one is likely to encounter power structures and the network of relations and conditions that they manifest, control, and reproduce. She went on to mention, "I think our disciplines should require us to view power structures through a theoretical lens and the theoretical lens that I prefer is intersectionality because of its inclusiveness."

In her purview, Faculty 11 indicated that interdisciplinarity complements intersectionality. The participant defined interdisciplinarity as the intersection of two or more disciplines. Faculty 11 argued that the disciplines should inspire educators as well as students to view power structures through various frameworks. She championed intersectionality because it is inclusive as well as applicable across many disciplines. She

questioned the idea that the disciplines should be dismantled or restructured. According to her, the organization of the academic disciplines represents different paradigms. She said, “I think that’s okay. I don’t think it necessarily needs to be restructured per se.” The faculty member preferred to work within the disciplines, helping students to learn how to negotiate their boundaries and exploit the interdisciplinary dimensions inherent in all subject areas. Faculty 11 suggested that students benefit from this understanding of interdisciplinarity because it also promotes holistic learning and new ways of imagining the world around them.

More significantly, Faculty 11 indicated that interdisciplinarity, as well as intersectionality, condition the way she perceives her philosophy of education. She suggested that one’s teaching philosophy and approach do not always fit in one school of thought because of the dynamics involved in teaching and learning and the changing needs of the diverse students in the community college classroom and elsewhere. She claimed that her philosophy of education moves along a continuum that is based on the dynamics and students in the classroom. As such, she seemed to support the idea that different philosophies and different pedagogical approaches are dependent on the circumstances and contexts in which educators find themselves. The participant’s interrelated view of educational philosophy seemed to be substantiated by her views and interpretation of intersectionality and interdisciplinarity. It was also consistent with the assignment that she discussed. In one of her interdisciplinary courses, Faculty 11 reported that she had students use narratives and research from databases. She noted that students synthesized the information that they found, related it to the course material, and reflected on its benefits and challenges. Faculty 11 went on to note that her students were

then asked to discuss their responses and reflections in small groups. The skill that Faculty 11 hoped to assess is the students' ability to synthesize information from different sources and perspectives and their ability to engage in critical thinking.

Findings for Research Question 2

The second research question asks, What are the ways in which the adult education philosophy and practices of faculty support or contradict one another? As Table 6 reveals below, the theme and subthemes used to respond to the second question are *alignment of philosophy and practices* (theme), *teacher-centered approaches*, and *student-centered approaches* (subthemes). The findings indicated that the ways in which the adult education philosophy and practices of faculty support or contradict one another depended on their views of interdisciplinarity and the symmetry or asymmetry between the general character of their philosophical framework(s) and the sample assignment and assessment priorities that the participants described. More specifically, the relationship between theory and interdisciplinary practices appeared stronger for Faculty 2, 3, 4, 6, 7, 8, 9, 10, 11, and 12 than it did for Faculty 1 and 5. Below, the tensions in the perspectives and practices of Faculty 1 and 5 are discussed, and then an assessment of the congruence between theory and practice for the other participants in the study are offered.

In her interview, Faculty 1 confirmed that her views aligned with realism. She went on to report that she believed that the relationship between the teacher and student should be an equal partnership in the classroom. However, some of the faculty member's policies and practices seem to be at odds with her proclamation. Her descriptions of her role seemed to characterize her more as a manager rather than a facilitator. For example,

she stated that the role of the instructor is to provide the information that the students must learn and apply. She also claimed that this approach reinforces the students’

Table 6

Theme, Subthemes, and Codes (Categories) for Research Question 2

Theme or Subtheme	Codes (Categories)	Faculty Member
Alignment of Philosophy and Practices (Theme)	Existential Beliefs and Practices	6, 7, 4, 10, 8, 11
	Pragmatic Beliefs and Practices	9, 12, 2, 11, 6, 7
	Realist Beliefs and Practices	3, 9, 2, 1, 5, 11, 12
	Reconstructionist Beliefs and Practices	5, 2, 7
Teacher-Centered Approaches (Subtheme)	Positivist Pedagogical Strategies	1, 8
	Goals and Objectives Focused	2, 3, 1, 11, 9
	Skills Acquisition and Application	1, 9, 3, 8, 5
	Content Design and Development	11, 4, 7, 1, 2
	Focusing on Skills Needed in the Workplace	6, 5, 3, 12, 9, 1, 4
Student-Centered Approaches (Subtheme)	Antifoundational Teaching Strategies	10, 4, 9, 11, 7, 12
	Student Growth and Agency	6, 1, 8, 12, 2, 9, 7
	Focusing on Critical Thinking	2, 12, 4, 10, 7, 9, 5, 11, 3, 8
	Encouraging Creative Self-Expression	3, 12, 10, 4, 6
	Developing Students’ Social Consciousness	5, 11, 6, 3, 9, 12, 1, 8, 2, 10, 4, 1
	Values Collaborative and Group Assignments	4, 10, 3, 7, 6, 8, 11, 2, 9, 12, 1

accountability for their education, thus depersonalizing the classroom. More notably, Faculty 1 emphasized the importance of her course policies rather than her assignments to evidence her philosophical approach in her interdisciplinary course. She stated, “I don’t think it’s my assignments so much as my policies that capture my philosophy.” This detail suggested that there was more importance placed on helping students transform their behaviors than helping them to appreciate interdisciplinary experiences. The contradictions or asymmetries discovered in the descriptions provided by Faculty 1 suggest there is tension between theory and practice.

A similar tension between theory and practice was discovered in the descriptions provided by Faculty 5. In his interview, he expressed reservations about his philosophy of education, which might account for the lack of clarity around his philosophical perspective and its actualization. For example, Faculty 5 reported, “I don’t know that I had a real philosophical vision.” However, he stated that reconstructionism appealed to him, particularly the ways in which it advances the ideas of thinkers such as Paulo Freire. The participant valued the idea that education can be used to empower students, help them meditate on their lives, and make the kinds of personal changes that transform them and their communities. However, he stated that his philosophical approach has to be more realistic in the introductory courses that he also teaches. In discussing his courses, Faculty 5 appeared to suggest that he would like to be more philosophical in all of them, but the challenges community college students experience, particularly in many introductory courses, limit what can be done. As such, it is possible that Faculty 5 expressed his philosophical view of his course in interdisciplinary studies in the context of the challenges that he encountered in his introductory courses, which might account

for the lack of clarity around how his philosophical views actually supported his practices in interdisciplinary studies. In his interdisciplinary course, Faculty 5 claimed that he has students read the works of interdisciplinary thinkers and discuss them from a variety of perspectives. However, it was unclear if his description of the assignment was supported by the interrelation of realism and reconstructionism or influenced by realism and reconstructionism separately. Faculty 5 did not elaborate on the purposes and aims of his assignment, outside of stating that he created it to help students appreciate different perspectives.

The relationship between theory and practice was more supportive or symmetrical in the data collected from all of the other faculty participants in the study. For example, Faculty 2 noted that his philosophy has expanded to incorporate realism, pragmatism, and reconstructionism as a result of his experiences, research, and professional development. The participant went on to report that he uses teaching to help students gain critical thinking skills, practical skills, and the kind of agency that hopefully inspires them to appreciate different worldviews, competing discourses, and the ways in which power permeates all of these relations. In his assignment, Faculty 2 said that one of the ways that he helped students to practice interdisciplinary integration was by having them compare and contrast historical and social events in order to discover and understand their larger social, political, and economic significance and how they challenge and reinforce the thinking that supports various discourse communities and their power dynamics. He noted that he presents students with a “variety of modes of inquiry and practical approaches” to achieve the goals he sets for his courses, thus allowing students

to gain a sense of agency over their own learning as well as developing their unique voices and perspectives.

On the other hand, Faculty 3 claimed that realism and existentialism influenced her view that students need to develop their critical thinking skills in order to become self-actualized citizens. The participant claimed that such practices empower students and help them to improve their decision-making skills. Faculty 3 suggested that an interdisciplinary approach gave her practices momentum and helped students to make connections among the diverse resources used for teaching and learning. She stated, “It’s all about making connections.” Her views are consistent with the assignment where her students had to complete a comparative study of two countries and apply particular principles in two distinct contexts. As someone who valued existentialism as his primary philosophy of education, Faculty 4 noted the importance of communication and the use of multiple modalities to meet the various learning needs of individual students. He supported this position by promoting group work among his students and by having them cook a recipe and use multimodal resources to interconnect different discourses and generational perspectives.

Faculty 6 reported that her philosophy of education is influenced by existentialism as well as pragmatism and reconstructionism. Her philosophy related to her use of a service learning approach to inspire the kind of growth and development that helped students to transform their lives and communities. She assigned a service learning project that her students could develop in ways that are beneficial to the community. She said, “For many years, I demonstrated a commitment to service learning as [a] pedagogical approach and I found it very effective for my students.” Faculty 6 noted the assignment is

also designed to help students develop their leadership skills and their ability to work with people from different backgrounds. Faculty 7 interrelated the same philosophical schools as Faculty 6. However, she attended to the relations of power in society and how they function. The assignment that she discussed appears congruent with this approach. Faculty 7 helped students to connect present and past historical events and interrelated the economic, political, and social contexts and consequences. She credited her interrelated philosophical views with helping her to operationalize these practices in the classroom. She said, “I was very student-centered in the IDS course as I am in all of my courses.” Faculty 7 reported that she can see her philosophical perspectives translated into practice when students apply their research skills and use interdisciplinary resources to construct learning experiences that they find meaningful and beneficial inside and outside the academy. For example, Faculty 7 also noted the importance of students being able to identify relations of power in society and how they function.

Faculty 8 also embraced existentialism as her main philosophy of education because it encouraged human connections and a sense of community among those with contrasting life experiences and perspectives. Her practices appeared to reflect her sentiments. Faculty 8 noted the importance of having her students develop self-awareness, community awareness, and their ability to understand the perspectives of those who come from different backgrounds. In the assignment that she discussed, Faculty 8 described how she used autobiographical writing and reflection to help students appreciate the differences among people from different cultural backgrounds. However, Faculty 9 emphasized a different approach to teaching and learning. As a realist, he stated that it is important that students learn things that are useful and relevant to their lives.

Helping students to make connections proved to be an essential focus for Faculty 9. His practices appeared to reflect his philosophy. He reported, “My philosophy [realism] is one that informs, challenges, and empowers students. I view the classroom as a space for collaboration between the teacher and student(s).” More specifically, he used a variety of texts and resources to help students understand their connections and enter the conversations that fostered collaboration and advanced the study of interdisciplinary topics such as the character and function of race and class in America.

As an existentialist, Faculty 10 took a constructivist approach to interdisciplinary education. He said that this perspective supported his quest to encourage students’ awareness of alternatives and commitment to their choices. To reveal what this looks like in practice, Faculty 10 discussed an interdisciplinary assignment in which students do research and interview various people in order to understand and assess their different descriptions of social narratives. His students can select and present their results using a number of multimedia resources. The benefit is that this allows “students to make connections they may not have otherwise made. It makes for a richer learning experience.” However, Faculty 11 preferred that her students relate their learning experiences and reflections using an intersectional lens. She claimed that her philosophy of education essentially integrates several schools in Conti’s (2007) typology based on the needs of the students, the dynamic in the classroom, and other factors. She also highlighted the fact that much of her research and pedagogy is informed by intersectionality. Faculty 11 remarked that she wanted students to use the disciplines and different lenses to be socially conscious, critical thinkers, and transformative agents in their own lives and communities. In order to realize these aims and support her views,

Faculty 11 described how she has her students synthesize different narratives and research sources and use group work to contemplate the larger social, political, and practical significance of their findings.

In her interview, Faculty 12 placed considerable focus on the practical benefits of interdisciplinary education. She claimed that students need to see ideas and knowledge in action in their lives. With this in mind, she reported that she values Socratic discussions and the kind of collaborations that support the integration and analysis of ideas from various disciplines and their effectiveness as intellectual spaces for expressing and sharing one's thoughts, experiences, and engagements with the world in a welcoming learning environment. She revealed how her approach is illustrated by her assignment on gender, where students use expository writing and film to understand the nature of differences and their larger impact on social (in)equality.

Findings for Research Question 3

The third research question asks, What are the ways in which the adult education philosophy and practices of faculty support instrumental, conceptual, or critical interdisciplinarity? Below, Table 9 provides a sample review of the themes, subtheme, and codes used to respond to the third research question. For a complete list, see Appendix L. The themes are *postmodern epistemological sentiments*, *modern epistemological sentiments* (subtheme), and *purposes of interdisciplinary education*. As such, the findings from the data provided by the faculty members indicated that their support for instrumental, conceptual, or critical interdisciplinarity could be determined based on their perceptions of the role of interdisciplinarity and how it relates to the

current organization of knowledge and disciplines in higher education. For added clarity here, the author has privileged the ways in which Salter and Hearn (1996) have distinguished the more dominant appreciations of interdisciplinarity in the field. More importantly, they help readers to situate the philosophical orientations of *instrumental* interdisciplinarity (conservative), *conceptual* interdisciplinarity (liberal), and *critical* interdisciplinarity (radical). A brief review is in order, because these orientations often inform how interdisciplinarians view the relationship between disciplinarity and interdisciplinarity.

For example, Salter and Hearn (1996) claimed that instrumentalists overlook critiques of the structure of disciplinarity in favor of borrowing across their boundaries to achieve their goals for integrative teaching, learning, and research in education. In other words, instrumentalists do not challenge disciplinarity and specialization. They hope to integrate or hybridize the disciplines in order to address complex problems and other phenomena (see Newell, 2001a, 2013). As a result, instrumental interdisciplinarity is often described as a pragmatic or modernist endeavor favored by those who work in research, industry, and government (Klein, 2001; Lattuca, 2001). On the other hand, conceptualists tend to champion the reconceptualization of the organization of knowledge and disciplines to support a more unified view of knowledge, particularly for teaching and learning (Klein, 2017; Bradshaw, 2021). Salter and Hearn (1996) indicated that conceptualists view interdisciplinarity as an epistemological activity that inspires educators to work across their disciplinary boundaries and consider phenomena that instrumentalists often overlook. This effort advances a more democratic and integrated understanding of the different worldviews, protocols, and experiences that inform various

Table 9*Sample Themes, Subtheme and Codes (Categories) for Research Question 3**

Theme or Subtheme	Codes (Categories)	Faculty Member
Postmodern Epistemological Sentiments (Theme)	-Disciplinary Dialogue	2, 9, 8, 11, 12
	-Understanding Networks of Power	2, 11, 9, 8, 4, 12
	-Reconstructionist Beliefs and Practices	5, 2
	-Intersectional Discourse Communities	11, 12, 7, 6, 5, 9, 10, 4
	-Networks of Power and Control	4, 8, 9, 12, 2, 11, 7
	-Revision of Traditional Education	7, 9, 1, 4, 2
	-Challenging Hegemony and Inequality	3, 2, 9, 11, 5, 8, 7, 12, 4
Modern Epistemological Sentiments (Subtheme)	-Focus on Assessment of Core Objectives	8, 1, 2
	-Mastery Learning and Application	5, 8, 1
	-Designing Courses around Course Goals	1, 2, 8, 11
	-Value Lecturing and Skills Training	1, 8, 9
Purposes of Interdisciplinary Education (Theme)	-Aims of Interdisciplinary Integration	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
	-Improving Teaching and Learning	10, 4, 2, 3, 6, 11, 7, 8, 12, 9, 1, 5
	-Applying Knowledge to Life Situations	5, 3, 6, 8, 1, 12, 9
	-Support Professional Development	2, 10, 4, 7, 11
	-Connecting Experiences	12, 3, 8, 9, 7, 5
	-Integrating Academic Silos	11, 5, 3, 10, 1, 9
	-Creating Disciplinary Dialogue	2, 9, 11, 12, 3, 7

*See Appendix L for the complete list

knowledge communities in education and beyond (Klein, 1996, 2021). Salter and Hearn (1996) also noted that conceptual interdisciplinarians depend on the disciplines, because the interdisciplinary process cannot exist without them and the rationalist logic that supports them. In other words, the disciplines provide both conceptual and instrumental interdisciplinarians with a foundation and a starting point for interdisciplinarity.

On the other hand, critical interdisciplinarians often aspire to dismantle and transfigure the disciplines and the relations of power that they support. According to Salter and Hearn (1996), dismantling the disciplines or *disappearing* them altogether threatens the foundational logic on which disciplinarity is built and the ways in which it reproduces inequality and differentiation in education and the larger society. For many scholars, critical interdisciplinarity aligns with the skepticism and liberatory rhetoric associated with reconstructionism and postmodernism (Elias & Merriam, 2005). In one example, Klein (2017) reported that proponents of radical approaches often challenge the organization and management of knowledge in academe and demand that interdisciplinarity address the problems of oppression and inequality in society as a whole.

However, none of the study's participants used or made specific references to instrumental, conceptual, or critical approaches to interdisciplinarity in their interviews. As a result, the participants' views could not be determined to be conclusive. In fact, the participants' views of interdisciplinarity appeared to live on a continuum in which different elements of the various conceptualizations are noticeable. However, some qualities and methods are more perceptible than others, depending on the faculty participants' views of interdisciplinarity and their pedagogical values. Therefore, to

answer the third research question, the author privileged the epistemological insights that signaled the participants' understanding of disciplinarity in relation to interdisciplinarity. More specifically, the faculty members in the study appeared to exhibit modern and postmodern epistemological sentiments that leaned more toward a conceptual approach to interdisciplinarity, often with inflections that sometimes aligned with the character of instrumental or critical interdisciplinarity.

For example, Faculty 5 stated that, if he could, he would like to dismantle all disciplinary boundaries for teaching and learning. He said, "If I could just rewrite it all... Yes, I would love that. I'd love to...to kind of break apart those silos." This represents a postmodern approach that orients toward critical interdisciplinarity. However, Faculty 1 presented a more modernist sentiment when she expressed her support for the disciplines. In fact, she argued that the disciplines reflect humans' natural tendency to compartmentalize information in order to make it manageable and operational for teaching and learning. She said, "I mean...I think it's a natural thing for us to categorize. I mean...that's what the mind does." Faculty 1 also noted, "I'm never going to say dismantled without seeing, because I also don't believe we remove something without something to replace it." According to Faculty 1, interdisciplinary integration helps students imagine how multiple perspectives can be used to foster learning and transformation. The views of the faculty seemed to lean more toward conceptual interdisciplinarity with inflections from instrumental interdisciplinarity.

Faculty 11 seemed to substantiate the perspective offered by Faculty 1 when she mentioned that she thought the disciplines should be left alone, with the understanding that the academic areas represent schools of thought as well as lenses for understanding

the complexities of the world. As such, she imagined interdisciplinarity as a process for solving complex problems associated with research as well as teaching and learning. Her statement appeared to represent both modern and postmodern sentiments in support of conceptual interdisciplinarity. Moreover, Faculty 11 noted that it is important to teach within disciplines and draw from them as needed in order to help students discover interdisciplinary connections and appreciate the intersectional nature of power and its social and political implications. For these reasons and others, she reported that an educator should want *their* content to be as interdisciplinary as possible so that students can see interdisciplinarity actualized and practiced for complex as well as critical thinking.

Faculty 3 stressed the importance of critical thinking in her understanding of the purpose of interdisciplinary education. She noted that a disciplinary approach is often limiting, and called for a reconceptualization of the disciplines as a way to improve teaching and help students to make the kind of interdisciplinary connections that foster critical thinking and citizenship. This postmodern perspective seemed to support a conceptual understanding of interdisciplinarity. Faculty 8 also shared these same supporting characteristics and, like Faculty 3, she agreed that technology can support interdisciplinary integration. However, both agreed that there are pros and cons. For example, Faculty 3 noted teachers have to help students learn to use technology effectively in academe, particularly for media literacy and making connections. For her, “it is all about making connections.” Faculty 8 suggested how digital technology reflects the postmodern logic of interdisciplinarity, and it separates educators and students as

much as it allows them to connect to one another and different resources in new and profound ways across space and time.

Faculty 9 mentioned that the interrelationships that interdisciplinarity permits are imbued with components that inspire complex as well as critical thinking. He used the term *conversation* to characterize the nature of these connections and the fluidity of knowledge in interdisciplinary as opposed to discipline-based education. This postmodern view of interdisciplinarity aligns with conceptual interdisciplinarity. For example, Faculty 9 also reported that, for him, interdisciplinary education is the process of putting disciplines in dialogue and bringing those conversations to the classroom in order to enrich teaching and learning for students. He claimed that these conversations are happening all of the time whether educators recognize them or not. However, Faculty 6 contended that the conversations that permeate one's life may be interdisciplinary as well as political in nature. To clarify, she noted that disciplinarity signifies different orientations to knowledge, power, and prestige, particularly among the natural and technical sciences and liberal arts. While reconceptualizing the way knowledge and disciplines are arranged and managed could change this postmodern understanding, Faculty 6 suggested that such ideas may be too complicated and incendiary to entertain in higher education because they challenge the foundational logic on which education is built. This view also seemed to support conceptual interdisciplinarity.

Faculty 7 echoed many of the points made by Faculty 6. She claimed that not everyone in education supports interdisciplinarity because it troubles the status quo and illuminates the ways in which power and money underwrite disciplinary divisions in higher education. According to her, "Examining power structures is a key part of

interdisciplinary studies. Power structures, whether political, economic, or both, help divide our disciplines.” She went on to argue that this particular disposition, which reflects postmodernism, also helps one to understand why many disciplinarians and experts find it uncomfortable and burdensome to learn and work across disciplinary boundaries. Faculty 7 described interdisciplinarity mainly as a way to solve problems. However, it is inseparable from teaching and learning. Her perspective reflected the sentiments of instrumental and critical interdisciplinarity, but ultimately conceptual interdisciplinarity due to her support for the reconceptualization of the disciplines and not their dissolution.

In his interview, Faculty 2 expounded on the complexities associated with interdisciplinarity. He indicated that using an interdisciplinary approach to educate students will always raise complicated questions in terms of course design and implementation. In an interdisciplinary course, he noted that it is important that students understand the dominant discourse communities associated with the disciplines being integrated for teaching and learning. He appeared to recognize the postmodern appeal to dissolve the disciplines and deconstruct their supporting discourses, but he claimed that understanding these discourses and their protocols is how one begins to gradually transform them and put them firmly in the service of improving the society as well as teaching and learning in all areas of education, especially interdisciplinary studies. This view aligns with conceptual interdisciplinarity. However, inflections from critical interdisciplinarity are also noticeable.

This assessment appears to apply to Faculty 12, who viewed disciplinary connections as a way to foster deeper understandings of a world modeled on differences

and (in)equalities. As such, her position signals a postmodern and conceptual view of interdisciplinarity. Furthermore, Faculty 4 and 10 also posited what appeared to be a postmodern and conceptual understanding of interdisciplinarity as integral to the operationalization of interdisciplinary dialogues and alternative learning approaches based on the individual learning needs of students. In their interviews, both also agreed that improvements in teaching are directly and indirectly related to helping students appreciate complexity. Faculty 4 reported that, if educators are not giving students the intellectual tools and resources to develop critical awareness, acquire various proficiencies, and negotiate networks of power, then they are wasting their time and that of their students. However, Faculty 10 went even further when he insinuated that gaps in the relationship between theory and practice in the classroom might very well reproduce the results that interdisciplinarity claims to challenge and transform. If instructors are not developing assignments and learning experiences that are student-centered, multimodal, and constructivist, then Faculty 4 and 10 seemed to question whether these practices were truly aligned with the ethos of interdisciplinarity. Both found little value in dismantling or restructuring the academic disciplines if interdisciplinary practices ultimately mirror those associated with disciplinarity. In fact, Faculty 4 argued that not everything in education needs to be reimaged or dismantled. He remarked that some aspects of the system are fairly solid and efficient. However, Faculty 4 claimed that the compartmentalization and silos in which knowledge is produced and disseminated in education seem antiquated in the age of digitalization and artificial intelligence. He stated, “the way we compartmentalize and create little silos of expertise is definitely antiquated.” In his interview, Faculty 4 also seemed to foreshadow the central role that

advanced technology such as ChatGPT will play in advancing the inclusive logic of interdisciplinarity and substantiating its various approaches to teaching, learning, and research.

Summary

This chapter reviewed the primary research questions and how the data were analyzed using thematic analysis to answer them. The themes and subthemes revealed that the characteristics of the adult education philosophy and associated practices of faculty teaching interdisciplinary studies in the community college involve single as well as multiple philosophical frameworks and positionalities for teaching and learning. One also discovers how these perspectives condition the symmetrical and asymmetrical alignments between theory and practice in interdisciplinary education. The majority of the participants presented practices that were consistent with their philosophical positions. However, some practices were less congruent. A similar trend was evident in the ways in which the participants' philosophical views and practices supported instrumental, conceptual, and critical interdisciplinarity. The majority of the philosophical perspectives and practices supported conceptual interdisciplinarity, with inflections from instrumental and critical interdisciplinarity. Moreover, many features discovered in the findings appear to support key aspects of Lattuca's (2001) postmodern view of interdisciplinarity as a continuum and challenge other areas. These areas will be reviewed and discussed in the final chapter of this study.

CHAPTER FIVE

Conclusion

In this chapter, an overview of the study and its results will be presented. Additionally, a discussion of the study's key postulations and recommendations for further research are provided. Finally, the chapter will end with a few concluding thoughts about the future of interdisciplinary studies (IDS) in the digital age.

The purpose of this study was to explore the diverse ways in which community college faculty contribute to an understanding of interdisciplinary theory and practice in higher education. This study introduced three primary research questions to address the gaps in Lattuca's (2001) study and enrich it with the kind of inclusiveness that reflects the democratic discourse and interdisciplinary imperative signified in many schools of adult education philosophy, particularly postmodernism, and the mission of the community college. To address the goals of this study, the following research questions were explored:

1. What are the characteristics of the adult education philosophy and associated practices of faculty teaching interdisciplinary studies in the community college?
2. What are the ways in which the adult education philosophy and practices of faculty support or contradict one another?
3. What are the ways in which the adult education philosophy and practices of faculty support instrumental, conceptual, or critical interdisciplinarity?

Summary of Study

For many years, the term *interdisciplinarity* has been conflated with reform and innovation. In higher education, it continues to be treated as a remedy for many of the ills in teaching, learning, and research created by the hierarchization of knowledge and the division of the academic disciplines (Frodeman, 2014). In her assessment, Klein (1990)

claimed that scholars and practitioners have defined interdisciplinarity as “a methodology, a concept, a process, a way of thinking, a philosophy, and a reflexive ideology” (p. 196). In a later study, Klein (2014) also noted that the differences, animosities, and conflicts that interdisciplinarity often excites should not be glossed over or ignored in its appreciation and application (also see Fairclough, 2005).

Klein’s (2014) assessment helps to explain why educators tend to differ in how they appropriate and operationalize interdisciplinarity to achieve their goals for teaching, learning, and research. As noted in Chapter One, the more dominant political and epistemological conceptualizations typically associated with interdisciplinarity are *instrumental* interdisciplinarity (conservative), *conceptual* interdisciplinarity (liberal), and *critical* interdisciplinarity (radical). Leading figures such as William H. Newell, Julie Thompson Klein, and Stanley Fish have helped to illuminate these three appreciations of interdisciplinarity in higher education. For example, their associations to interdisciplinarity are instrumental (Newell), conceptual (Klein), and critical or radical interdisciplinarity (Fish).

However, Salter and Hearn (1996) helped readers to distinguish the character of instrumental (conservative) interdisciplinarity, conceptual (liberal) interdisciplinarity, and critical (radical) interdisciplinarity. They claimed that instrumentalists view knowledge as a problem-centered activity that does not necessarily challenge disciplinary boundaries or the epistemological assumptions associated with disciplinary paradigms. Instead, instrumentalists eschew criticism of the structure of disciplinarity in education and elsewhere in favor of borrowing across disciplines to achieve their interdisciplinary goals and objectives. In other words, instrumental interdisciplinarity is often described as a

pragmatic and modernist enterprise that tends to cater to the priorities associated with research, industry, and government (Klein, 2001; Lattuca, 2001). In one example of instrumental interdisciplinarity, Newell (2001b, 2013) introduced a process that can be used for teaching, research, and solving complex problems. The key steps are defining, determining, developing and gathering, searching, generating, integrating disciplinary insights, identifying and evaluating, resolving and constructing, creating, producing, and testing.

Unlike instrumentalists, conceptualists tend to support the reconceptualization of the organization of knowledge and disciplines in education and other institutions that value their fragmentation. In other words, they favor a more holistic and unified view of knowledge for teaching and learning and a more diverse understanding of complex phenomena (Bradshaw, 2021; Lattuca, 2001). In this context, interdisciplinarity is essentially an epistemological activity in which the development of new conceptual categories and methodological formulations tend to be paramount. In one illustration, Klein (2021) described conceptual interdisciplinarity as an epistemic approach that transcends disciplinary boundaries. She offered the notion of *boundary work* as a manifestation of conceptual interdisciplinarity. The concept further illuminates Klein's (1996, 2021) dialogic or socio-linguistic view of interdisciplinarity as a form of communicative action. In other words, the various forms of boundary crossing or interactions across disciplines require language to condition action, evoking many of the tenets described in analytic philosophy, pragmatism, and postmodernism.

Unlike many scholars in interdisciplinary studies, Salter and Hearn (1996) distinguished critical interdisciplinarity under the rubric of conceptual interdisciplinarity.

They reported that conceptual interdisciplinarians also maintain a dependence on the integrity of the disciplines because the interdisciplinary process cannot exist without them. For them, dismantling the disciplines would harm interdisciplinarity itself. In this respect, ironically, interdisciplinarity often reinforces disciplinarity in order to maintain and justify itself. According to Salter and Hearn (1996), critical interdisciplinarians often challenge the foundational logic on which disciplinarity is built, which suggests an ethos often associated with postmodernism and reconstructionism. Moreover, its proponents tend to excite alarm by calling for the deconstruction and/or reconfiguration of the status quo and the academic system that supports it. Therefore, critical interdisciplinarians often accuse disciplinarians and some instrumental interdisciplinarians of cosigning the division of knowledge in ways that reproduce modernism and the unequal socio-economic relations of power found in the larger society (Frodeman, 2014). In his polemic, Fish (1989) rejected this position, suggesting that postmodern and radical interdisciplinarians tend to challenge the social hierarchies and power structures on which disciplinary boundaries are maintained and reproduced. In Fish's understanding, radical interdisciplinarity signifies as a form of cultural critique, pedagogic activism, and challenge to the status quo in society.

For many scholars in interdisciplinary studies, these three approaches to interdisciplinarity and their philosophical underpinnings are not mutually exclusive. They exist on a continuum because their various applications always depend on the contexts and objectives for their use (Welch, 2011). To illustrate this point, Graff (2015) argued that there are many forms of interdisciplinarity and their explanations are always marked by conflicts, contradictions, contingencies, and (a)symmetries. This might explain why

Graff concluded that interdisciplinarity expresses the simultaneity of differences, as it is advanced and thwarted by its cultural and political associations as well as its operationalization in different contexts (discussed below). In her evaluation, however, Lattuca (2001) identified conceptual interdisciplinarity as the fullest form of interdisciplinarity, and this study appears to substantiate her assessment. It also supports her claim that faculty in the humanities and social sciences tend to use interdisciplinarity to deconstruct disciplinary boundaries and blur the line between epistemology and politics. Furthermore, Lattuca introduced a novel philosophical framework for understanding interdisciplinary teaching and research in higher education. More specifically, Lattuca (2001) privileged interdisciplinarity as an *interactive* process more than an *integrative* process, which is considered the distinguishing feature or *hallmark* in the more traditional definitions of interdisciplinarity. Graff (2015) seemed to support Lattuca's position, arguing that interdisciplinarity is defined by questions and problems associated with theory and practice and the various means created to address them in innovative ways. Relying on this logic and its postmodern epistemological underpinnings, Lattuca (2001) reported that she used her alternative conceptualization to guide the selection of faculty members or *informants* for her study.

More significantly, Lattuca (2001) selected and interviewed 38 faculty members in order to understand their attitudes toward interdisciplinarity as a philosophy and practice. The four institutions represented in the study included one research university, one doctoral university, and two selective liberal arts colleges. To explain her delimitation for the study, Lattuca (2001) stated, "institutional affiliation was limited to faculty in research/doctoral universities and selective liberal arts colleges where faculty

are generally assumed to be actively involved in research as well as teaching” (p. 269). When asked about the omission of community college faculty in her study, Lattuca (personal communication, June 6, 2022) replied, “I limited the study to tenure track faculty who were in research universities and selective liberal arts colleges because they could be assumed to be research-active.” She went on to report that “the assumption was that the reward system for faculty in four-year institutions is different than in most two-year colleges, with an emphasis on both research and teaching at the four-year institutions whereas community colleges would be more teaching-focused.” She concluded, “Since my sample was limited to tenure-line/tenured faculty, rather than contingent/contract faculty, that was a safe assumption” (L. Lattuca, personal communication, June 6, 2022).

Lattuca’s (2001) omission of community college faculty in her study is concerning, as well as her interpretation and application of the term *postmodernism* that she used to support her appreciation of interdisciplinarity. Lattuca claimed that interdisciplinarity appears to accommodate different and even conflicting theories of interdisciplinarity. As such, she introduced *postmodern interdisciplinarity* to signify a broader and more inclusive understanding of the term. As mentioned in previous chapters, Lattuca (2001) defined *postmodernism* as a critique of the values and doctrines that emerge from Enlightenment thinking (positivism, rationalism, scientism, etc.). She claimed that advocates for postmodernism value pluralism, heterogeneity, and contingencies. It appreciates the inclusive nature of knowledge, thus signaling the kind of liberatory ethos that supports the redistribution of “power to individuals who would otherwise be powerless” (Lattuca, 2001, p. 16). However, Lattuca’s (2001) definition appears to undervalue the dynamic of *asymmetrical power* as a key property in the logic

of postmodernism. In his study, Burbules (2009) claimed that asymmetrical power is one of the defining features of postmodernism. For Elias and Merriam (2005), postmodern thinkers often argue that knowledge is antifoundational and always permeated by the exercise of power. The authors also reported, “Postmodernism makes a deliberate attempt to unsettle assumptions and presuppositions. It refuses to accept boundaries or hierarchies in ways or things” (p. 229). The research questions for this study have been inspired by the fact that features in Lattuca’s (2001) study appear at odds with the interpretations of postmodernism that have been articulated above.

Findings

A mixed methods approach was used to collect data from 12 faculty members from St. Louis Community College (STLCC) who taught at least one course in interdisciplinary studies between 2016 and 2021. STLCC has four locations in the St. Louis area. The information collected using Conti’s (2007) PHIL survey and semi-structured interviews was used to discover the philosophy of education and associated practices of the faculty participants. Conti described the major schools of thought in his typology of adult educational philosophy as the following: *Idealism, Realism, Pragmatism, Existentialism, and Reconstructionism*. More specifically, Conti (2007) claimed that the five categories in his paradigm represent descriptive frameworks or lenses that characterize the various beliefs, values, and practices that influence how they view and understand teaching, learning, and students. The results of the PHIL survey revealed that there were no faculty participants who held philosophical views that supported idealism, pragmatism, or reconstructionism. However, there were five (42%) who held philosophical views that aligned with existentialism. The results of the PHIL

survey also revealed that seven (58%) of the faculty participants held philosophical views oriented toward realism. There were only two (17%) faculty members who had philosophical perspectives that aligned with realism and considered the result to be completely accurate. Only one (8%) participant remarked that she completely disagreed with the survey result that aligned her philosophical views with realism.

After the PHIL survey and interviews were completed, thematic analysis was used to assess the data and respond to the three primary research questions listed above. Thematic analysis helped to illuminate the character and symmetry in the relationship between the adult education philosophy and practices of the participants who teach IDS. Furthermore, the analysis also highlighted the ways in which the philosophical frameworks and practices support instrumental, conceptual, or critical approaches to interdisciplinarity. The themes used to organize and manage the data included *philosophy as framework and continuum*, *alignment of philosophy and practices*, *purposes of interdisciplinary education*, and *postmodern epistemological sentiments*. The subthemes included *modern epistemological sentiments*, *teacher-centered approaches*, and *student-centered approaches*.

Philosophical Characteristics and Associated Practices

The findings from the data revealed that there were a total of six faculty participants (50%) who valued a single philosophical framework and six (50%) who saw their philosophical views as being more interrelated and continuous. More specifically, Faculty 2, 3, 5, 6, 7, and 11, who all have at least 5 to 10 years of experience in interdisciplinary education, expressed more interrelated or continuous views of their philosophy of education. However, Faculty 12 claimed pragmatism and not realism as her

primary philosophy of adult education. Faculty 4, 8, and 10 supported a student-centered approach and accepted existentialism as their only philosophical framework. As full professors, Faculty 1 and 9 confirmed realism as their main philosophical framework. Furthermore, most of the participants described approaches that were student-centered, emphasizing assignments and practices that promote critical thinking, integrative processes, and student empowerment and development. However, there was one faculty who exhibited a more teacher-centered approach that focused on the application of knowledge and skills for behavioral adaptations.

Philosophy and Practices: Support and Contradictions

The findings from the data indicated that the ways in which the adult education philosophy and practices of faculty support or contradict one another seemed to depend on the symmetry or asymmetry between the general character of their philosophical framework(s) and the sample assignment that the participant described. The relationship between theory and interdisciplinary practices appeared stronger for Faculty 2, 3, 4, 6, 7, 8, 9, 10, 11, and 12 than it did for Faculty 1 and 5.

Moreover, the majority of the faculty described approaches and practices that were consistent with a single or multiple philosophical framework. Those who valued realism or pragmatism as a framework described assignments and practices that emphasized the practical application of knowledge and critical thinking. Those who valued an existentialist view discussed assignments and practices that focused on student growth and agency in the learning process. Their learning environments were collaborative, constructive, and dialogic in nature. On the other hand, faculty participants who valued multiple philosophical frameworks supported assignments and practices that

included many of those discussed above and others. What is most distinguishing is the different ways in which these participants characterized the role of power in their pedagogy and how learning opportunities were often designed to address its manifestation, operationalization, and/or transfiguration.

Instrumental, Conceptual and Critical Interdisciplinarity

The findings from the data revealed the ways in which the participants support instrumental, conceptual, or critical interdisciplinarity, which was determined implicitly based on their perceptions of interdisciplinarity as it relates to the current organization of knowledge and disciplines in higher education. The findings suggested that the majority of the participants' views and practices align with conceptual interdisciplinarity. The results appear to substantiate Lattuca's (2001) claim that conceptual interdisciplinarity is the fullest form of interdisciplinarity and faculty in the humanities and social sciences tend to use it to deconstruct disciplinary boundaries and blur the line between epistemology and politics. However, what is paradoxical is that the results from this study seem to paint a more complex and nuanced reality. For example, the findings indicate that the majority of the participants exhibit both modern and postmodern epistemological sentiments that lean more toward a conceptual approach to interdisciplinarity. However, within this conceptualization, I discovered inflections that appear to align with features often associated with instrumental or critical interdisciplinarity. As such, the paradoxical and interconnected character of these relations reflects the pluralist logic of *architectonics* (Watson, 1993).

Discussion

The evidence from the academic literature and collected data suggests that the philosophical views and practices of the study's participants are explicable as *architectonic* relations (see Chapter Two). To reflect on the study's research questions and findings, I will use an architectonic philosophical perspective to illuminate what the views and practices of community college faculty can teach readers about the nature of interdisciplinarity and its praxis.

As I noted in Chapter Two, the term *architectonics* has deep roots in the logic of modernism as well as postmodernism (Boje, 2008; Derrida, 2004; Watson, 1993). For scholars such as Manchester (2003), architectonics operates as a master trope in Western thought. For centuries, leading philosophers such as Kant (2007) have used it to elaborate the dynamic relationship between theory and practice and how the interaction of different elements in complex systems express complementary as well as contradictory phenomena, particularly in education. In simpler terms, I imagine architectonics as a conceptual tool for meditating on the construction of knowledge and the heterogeneous and (para)logical relations that condition every canyon and crevice of life and learning (Bakhtin, 1990; Manchester, 2003; Watson, 1993).

According to Peirce (1955), *continuity* plays an important role in architectonic thought. For him, continuity or *synechism* is a key relation in the triadic logic that he uses to advance his appropriation of Kantian architectonics. He developed this term to characterize the interactive and interdependent nature of all semiotic and disciplinary relations and the conflicts and convergences that these relations often entail. Synechism also plays an important role in Peircean pragmatism and semiology, thus helping to

establish the groundwork on which postmodernism has flourished. For Joullié and Spillane (2015), postmodernism and pragmatism are connected. For postmodernists as well as pragmatists, knowledge and truth are contingent and conditioned by power and outcomes. Like many pragmatists, proponents of a postmodern worldview celebrate pluralism, interdisciplinarity, and the play of meaning in knowledge, texts, and reality. Postmodernism redefines the “boundaries of human thought that once seemed so clear now appear to be fading, including the knowledge boundaries between the academic disciplines” (Ozmon & Craver, 2008, p. 318).

With this context in mind, Peircean architectonics anticipates Lattuca’s view of postmodern interdisciplinarity as a continuum on which a range of conversations and other interactions coexist, including those informed by modernist epistemologies and postmodernist epistemologies. However, Fairclough (2005, 2018) and Garnar (2006) might argue that it is Foucault’s work on discourse and power that bridges the gap between the ideas of Peirce and Lattuca. For example, in Foucault’s (1982, 2010) purview, semiotic and (inter)disciplinary activities are expressed in terms of *discourse* and *discipline*. For him, the term *discipline* also doubles as a form of power and a way to describe the branches of knowledge. Foucault (1995) merged the two descriptions using one word to express the dual character of the concept and the ways in which it signifies how knowledge and power are entwined. Foucault (1980) wrote, “Knowledge and power are integrated with one another, and there is no point in dreaming of a time when knowledge will cease to depend on power” (p. 52). One engenders the other because power creates knowledge and vice versa. According to Foucault (1978), *power* is the force that preconditions and permeates all social formations and interactions. It is both

productive and destructive as well as modern and postmodern. As a result, it can take several forms that are often contradictory or *asymmetrical*.

Foucauldian Architectonics

As a result, Foucault (1978, 1980) argued that power must be understood as a network of relations that exist in a multiplicity of forms, choices, and strategies. It is exercised through a network of social relations characterized by inequalities and imbalances as well as symmetries and supplementations (Boyne, 1990; Garnar, 2006). More importantly, he argued that the academic disciplines, as branches of knowledge, are imprints of power and inherently interdisciplinary. For example, Foucault (1994) claimed that “the human sciences interlock and can always be used to interpret one another: their frontiers become blurred, intermediary and composite disciplines multiply endlessly, and in the end their proper object may even disappear altogether” (p. 358). As such, relations of power as well as disciplines and *interdisciplines* can be understood as architectonic processes and products that are actualized through agonistic (constructive) strategies as well as antagonistic (deconstructive) strategies (Barry et al., 2008; Elias & Merriam, 2005; Garnar, 2006; Klein, 2014). In discussing the role of architectonics in interdisciplinary studies, Klein (1990) also concluded that “interdisciplinarity is an architectonic, productive process, something constructed rather than given” (p. 84).

As mentioned in Chapter Two, Foucault (2010) appropriated the term *architectonics* using the ideas of Martial Gu eroult, a Kantian scholar (also see Boje, 2008; Foucault, 2011). To elaborate the logic of (dis)continuity and its challenge to the idea of linear knowledge and disciplinarity, Foucault referenced “the architectonic unities of systems...which are concerned not with the description of cultural influences,

traditions, and continuities, but with internal coherences, axioms, deductive connexions, compatibilities” (2010, p. 5). In this context, architectonics appears to be a key starting point for imagining what a systematic understanding of Foucault’s ideas might look like in interdisciplinary studies. This is an important point to consider since critics such as Allan (2013) have argued that Foucault’s concepts are complex and rather unsystematic. Niesche and Gowlett (2019) also conceded that Foucault offers researchers “no comprehensive method or theory” (p. 45). However, these scholars also claimed that the interdisciplinary appeal and force of Foucault’s ideas in higher education are profound. In fact, Niesche and Gowlett reiterated that Foucault wanted to put his ideas into practice as an interdisciplinary *toolbox* that illuminates the complex ways in which power conditions theory as well as practice.

To advance this effort, I introduce the term *Foucauldian architectonics* here as an inaugural formulation and explanatory tool for reflecting on the asymmetry of power in all epistemological and social episodes and the ways that it conditions the relations between theory (thought) and practice (action) in interdisciplinary studies and beyond. This dynamic is fundamental to understanding how discourse and disciplines get *authored* and *authorized* as truth and/or knowledge and put in the service of the exercise of power by subjects as well as agents (Boje, 2008). For example, Foucault (1980) claimed, “The exercise of power perpetually creates knowledge and, conversely, knowledge constantly induces effects of power.” He also noted, “The university hierarchy is only the most visible, the most sclerotic and least dangerous form of this phenomenon” (p. 52). Therefore, Foucauldian architectonics expresses how systematic pluralism is conditioned by the contingencies of knowledge and power, thus

characterizing how a network of symmetrical and irreconcilable worldviews and practices form a larger reality and rationality (Boje, 2008; Foucault, 2010, 2011; Watson, 1993).

In clearer terms, Foucauldian architectonics describes how the symbiotic relations realized through the *simultaneity of differences* are constructed and mediated by knowledge and power as a network or *system*. For example, different ideas, texts, disciplines, people, institutions, and nation states may coexist in space and time, but not without the asymmetrical relations, conflicts, struggles, and *violences* caused by the marginalization or subjugation of one entity over another (also see Derrida, 1997; Marx, 2008; Scheidel, 2017; Takacs, 2004; Wolin, 2008). Allan (2013) indicated that Foucault used a number of concepts to express this phenomenon and its impact (archeology, genealogy, biopolitics, etc.). However, the master trope in Foucault's collection is his idea of the ubiquity of power in the (de)construction and maintenance of all social, political, and economic relations. As such, Foucauldian architectonics serves as a worldview and an umbrella term that characterizes the ways in which Foucault's ideas and concepts reflect and/or support the *simultaneity of differences* as a complex system of heterogeneous elements, paradoxical dynamics, and interdependent relations in which the various forms of power are recognized as a creative, coercive, and/or constraining force that permeates the constitution of meaning, the order of knowledge and texts, and all social, digital, and institutional relations that may be *visible* or *invisible* in nature (Foucault, 1981, 1995, 2010).

With Foucauldian architectonics as an imperative and explanatory tool, I have identified three postulations or reasoned assertions to federate the research questions and themes for further reflection, thus helping readers to understand the ways in which this

study's results express the complex anomalies inherent in architectonic relations and processes. The postulations will focus on the following key features in the study's findings and how they enrich and challenge certain viewpoints in the academic literature:

(1) *Philosophical Orientation(s) and Positionality*

(2) *Pedagogical and Professional Applications*

(3) *(Post)modern Epistemologies of Interdisciplinarity*

First Postulation

The first expression of architectonic relations illustrates the complexity in the philosophical orientation(s) and positionality of the faculty participants. This feature characterizes the complex system of values, choices, and perspectives exhibited by the faculty participants when they elaborated their philosophy of education and its correlates. For instance, several potential factors could have influenced whether a faculty member valued a single philosophical framework or multiple philosophical perspectives or positions. As mentioned, these factors might be conditioned by *their* interpretation of interdisciplinarity and the content and activities selected for its actualization. Other important factors might include their perceptions of its benefits to students as a democratizing agent. In short, the faculty appeared to value different philosophical components and positions based on what they imagined to be the important factors or goals in their praxis. For some, their goals and visions could be achieved with a single philosophy of education. However, others required a more dynamic philosophical spectrum or continuum to realize their pedagogical trajectories and practices.

For example, after completing the PHIL survey, Faculty 1 and 9 valued realism as their main philosophy of education, prioritizing the need for students to learn skills and

behaviors that will help them in the real world. Generally, Faculty 12 shared this perspective, even though she reported that her philosophy aligned with pragmatism and not realism. On the other hand, Faculty 4, 8, and 10 valued existentialism as their primary philosophy of education. What they appeared to have in common is that they seemed to focus on interdisciplinarity as a way to transform the classroom into an effective site for integrative teaching and learning experiences that foster the students' intellectual and personal growth. However, Faculty 2, 3, 5, 6, 7, and 11 valued a more interrelated understanding of the various philosophies of education, which often included some mix of realism, existentialism, pragmatism, and reconstructionism. The value of these schools of thought and their combinations among the faculty seemed to depend on the participants' preferences for a more holistic understanding of educational philosophy that accounted for the wider range of goals that they had for their courses and students, including using interdisciplinarity to make connections, negotiate different worldviews, strengthen critical thinking skills, and inspire the students' sense of agency and empowerment in the classroom and the communities that they inhabit.

In a study done by Fries (2012), she also found that several faculty members (13%) had mixed philosophical orientations. After the author administered Zinn's (2004) survey to 45 faculty members, Fries discovered that over half of them (53%) showed support for progressive adult education philosophy and 17% advocated a humanistic philosophy. None of her participants identified radical and critical philosophy as their strongest philosophical preference. However, in this current study, Faculty 2, 5, 6, 7, and 11 did consider radical and critical philosophy or reconstructionism to be an important articulation in their assorted philosophical positions and pedagogical practices.

More importantly, they often elaborated these values through the lens of power, developing assignments and activities that explored its political and social prerogatives and implications (see Chapter Four).

Second Postulation

The second expression of architectonic relations illustrates the dynamism in the pedagogical and professional applications of the philosophical framework(s) of the faculty participants. This feature characterizes how the philosophical frameworks of the study's participants support or contradict their use of a teacher-centered or student-centered approach to interdisciplinarity and its influence on their professional growth and development as it relates to activities such as their pedagogical insights and innovations, conference presentations, and/or publications. For example, the majority of the participants seemed to appreciate a student-centered approach to interdisciplinary studies. Again, this preference appeared to be influenced by the goals and benefits that they associated with interdisciplinarity as a form of knowledge integration, critical thinking, and student empowerment.

However, the relationship between philosophy and practice seemed more asymmetrical in the articulations offered by Faculty 1 and 5. Faculty 1 embraced realism and Faculty 5 noted that his philosophy was influenced by realism and reconstructionism. Yet, there appeared to be less clarity around whether reconstructionism or realism influenced his interdisciplinary courses or the courses he taught in general studies. In her interview, Faculty 1 claimed that she saw her role and that of her students as a partnership. However, her policies and practices frustrate this view. Her assessment suggested a more teacher-content-centered approach that focused on skills application

and normalizing student behavior. While Faculty 1 related that interdisciplinarity challenged her to look at the world differently and develop more innovative content for her courses, Faculty 5 reported that the pressures and challenges of teaching in a community college left little time for professional development activities that involved research and writing.

The experience of Faculty 5 differed from that of Faculty 2, 4, 9, and 11. These faculty members reported that interdisciplinarity has had an impact on their growth and professional development as well as their pedagogical efforts. For example, Faculty 2 and 9 indicated that the different disciplines establish various approaches and discourses that often conflict. As a result, interdisciplinarians must learn to integrate these elements or *conversations* for teaching and learning. Faculty 2 associated this kind of work with the Scholarship of Teaching and Learning (SoTL). Also, Faculty 4, 10, and 11 indicated that their scholarly work is inherently interdisciplinary because it often focuses on topics that require the inclusion of research and perspectives that inspire dialogue and cross multiple disciplines.

These perspectives are consistent with the work that scholars such as Klein (1996, 2021) have done on the complex roles that communication and boundary crossing play in actualizing interdisciplinarity. In her work, Klein used the metaphor *boundary crossing* to characterize the dialogism and social constructivism at the center of the integrative processes associated with interdisciplinary practices. For example, she echoed the logic associated with postmodernism and analytic philosophy when she indicated that interdisciplinarity is an integrative process that is always entwined with the philosophy of language and human agency. The term *boundary crossing* also reflects Klein's

understanding of conceptual interdisciplinarity. Her philosophical approach to interdisciplinarity emphasizes the rhetorical and architectonic nature of interdisciplinary processes that rely on disciplinarity.

In many ways, boundary crossing illuminates how the integration of disciplinary activities allows the borders of one academic area to interact with another. It enables disciplines to borrow or combine content, techniques, and tools to address a problem or (re)conceptualize an idea or issue. However, Klein (1996) also pointed out that sometimes boundary crossing does not always support the kind of boundary work that educators associate with interdisciplinarity. In fact, Klein (2014) noted that conflicts can arise for many reasons, including differences in methods, approaches, professional rank and authority, gender, race, and discourses. As a result, interdisciplinarians must often overcome what Klein called the *boundaries of reticence* in the practice of boundary work.

Third Postulation

The third expression of architectonic relations illustrates the paradoxical relationship between the participants' frameworks and practices and their orientation toward both modern and postmodern epistemologies of interdisciplinarity. This feature characterizes how support for instrumental, conceptual, or critical interdisciplinary approaches among the faculty participants appear to be conditioned by the role that *power* plays in shaping the organization of knowledge in academe and their orientation toward a modern and/or postmodern understanding of the purposes of disciplinarity and interdisciplinarity. While the majority of the faculty evidenced views and sentiments that aligned with a conceptual approach to interdisciplinarity, it was discovered that some aspects of instrumental and critical interdisciplinarity were also noticeable. For example,

most of the participants accepted disciplinarity as a reality of academic life, thus supporting the reconceptualization of the disciplines instead of their dismantling.

What was also illuminating in the data was the number of faculty who saw the exercise of power as a factor in their understanding of the interdependent relationship between disciplinarity and interdisciplinarity and their relationship to teaching and learning. In her interview, Faculty 3 reported that power did not factor into her conceptualization of disciplinarity or interdisciplinarity. However, Faculty 2, 4, 5, 7, and 11 suggested that power was inseparable from one's understanding of disciplinarity and interdisciplinarity and its impact on the sense of agency among students. According to Faculty 11, interdisciplinarity entails a study of the structures of power because the disciplines are also lenses for understanding identity and social structures from a variety of perspectives. Faculty 2, 4, and 5 suggested that raising awareness of these structures as networks of power and the ways they can be negotiated and transformed can play an important role in interdisciplinary discourse and education. To illustrate these points even more, Faculty 7 argued that examining power structures is a significant part of interdisciplinary studies. For her, courses in interdisciplinary studies highlight the ways in which power legitimates disciplinary divisions, thwarts the incentives that inspire faculty to work and learn across disciplinary boundaries, and privileges particular academic identities and practices in certain academic areas at the expense of others.

The insights that Faculty 7 and others have outlined above appear to support a view of postmodern interdisciplinarity that is at odds with the attitude toward postmodernism expressed by thinkers such as Newell (1997, 2001b) and Fish (1989, 2015). For example, Payne (1999) and Chettiparamb (2007) claimed that Newell (1997)

acknowledged that he wanted to divorce interdisciplinarity from its association with views that were deemed radical and subversive. To realize this goal, Payne (1999) and Chettiparamb (2007) reported that Newell sought to disassociate interdisciplinarity from any paradigm that he felt would threaten the development and future of interdisciplinary studies or provide critics of the field such as Fish (1989) with cause to associate it with radicalism or a postmodern orientation. More specifically, Fish suggested that a postmodern or radical understanding of interdisciplinarity challenges the organization of knowledge and disciplines in the academy in ways that pose a threat to the social order. In Fish's purview, radical interdisciplinarity signifies as a form of pedagogic activism and hostility that can lead "not simply to a revolution in the structure of the curriculum but *to revolution tout court*" (p. 17).

However, these are the kinds of sentiments that Lattuca (2001) prefigured when using postmodernism to advance her understanding of interdisciplinarity. She defined *postmodernism* as a critique of the values and doctrines that emerge from Enlightenment thinking. As stated above, it values pluralism, heterogeneity, and contingency (also see Condee, 2016). With this perspective in mind, Lattuca posed the question, "Should we propose a definition of interdisciplinarity that discriminates against faculty on the basis of epistemology or is it possible to develop a definition that would allow disparate epistemologies to coexist?" (2001, p. 17). To accommodate the pluralism in interdisciplinarity, she defined and mapped interdisciplinary work on "a continuum from modern, or discipline-based, interdisciplinarity to postmodern, or adisciplinary, interdisciplinarity" (2001, p. 18).

For Welch (2018), these are the kinds of associations that often alarm influential scholars in interdisciplinary studies such as Newell. Welch offered more insight into Newell's goals as a theorist and leader in the field. He argued that Newell advanced his complex theory of interdisciplinarity and its substantiation through pragmatism in order to achieve legitimacy for the field based on empirical evidence. Newell's theory would serve as "a bulwark against accusations that interdisciplinary studies is an incoherent field associated with counter-cultural experimentation, haphazard in its approach to teaching and research, and thus insusceptible to evaluation" (Welch, 2018, p. 194). Despite the challenges associated with his conservative project, many of Newell's advocates continue to advance the idea that interdisciplinary integration is a form of complex systems theory with steps that can be applied to transform teaching, learning, and research (Newell & Arvidson, 2018). However, Graff (2015) questioned how beneficial formulaic approaches are as catalysts for the kinds of innovations and breakthroughs often attributed to interdisciplinary collaborations and practices. The findings discussed in the postulations above suggest that the influence of Newell's work and those who champion it may require reassessment, particularly as the logic of advanced technology and artificial intelligence continues to challenge instrumental approaches to teaching, learning, and research in higher education (see Bradshaw, 2021; Tessaro, 2022).

Significance of the Implications

In many ways, Lattuca's (2001) postmodern understanding of interdisciplinarity plays an essential role in inspiring a reassessment of instrumental interdisciplinarity and the other dominant approaches in the field. However, the findings discussed in the

postulations above suggest that some areas of her postmodern approach to interdisciplinarity may be incomplete. As stated earlier, the areas of concern identified in Lattuca's study of interdisciplinarity in higher education include her omission of community college faculty in her final study as well as her undervaluing the role of asymmetrical power in her consideration of the term *postmodernism*.

However, I argue that the findings reviewed in my postulations challenge these areas in Lattuca's study, revealing how the perspectives of community college faculty actually help to enrich the theoretical contributions that she has made to the study of interdisciplinarity in higher education. In fact, the data discussed in the third postulation indicated that community college faculty members help to fill the gap in Lattuca's postmodern understanding of interdisciplinarity. Also, their experiences and practices add more support to the observations and critiques of a growing list of scholars who evoke Foucauldian themes related to knowledge and power in their call for changes in the conceptualization of interdisciplinarity. In Chapter Two, I have noted how such themes are elaborated in the writings of authors such as Barthes (1989), Gunn, (1998), Callard and Fitzgerald (2015), MacMynowski (2007), and Tessaro (2022). However, Foucauldian themes in interdisciplinarity are also recognized in Lattuca's (2001) study.

In her assessment of Foucault, Lattuca (2001) reported that he complicates and clarifies the ways in which power impacts agents and their social relations inside and outside of academic institutions. She explained how this can affect how certain agents recruit members for collaborations and the ways they negotiate rules to advance certain practices. Lattuca (2001) stated, "The role of power becomes particularly salient when one considers the possibility that individuals and collectives, such as departments or

institutions, can reward or penalize interdisciplinary scholarship” (p. 28). Lattuca’s point highlights the kind of asymmetrical relations in academe that have inspired scholars such as Barry et al. (2008) to advance an alternative understanding of interdisciplinarity as a (dis)continuous space that illuminates the politics of power as well as the relational unities and differences among disciplines.

In their account of interdisciplinarity, Barry et al. (2008) claimed that it is a mistake to assume that interdisciplines do not involve hypostatization and closure, thus limiting the possibility for reformation and transformation. They also argued that it is a mistake to assume that the closure of disciplines is what differentiates them from the openness associated with interdisciplinarity. They claimed that disciplines are not homogeneous. Disciplines often have internal asymmetries and divisions that eventually turn into subdisciplines. Like interdisciplines, they represent multiplicities and heterogenous unities of differences. However, the scholars claimed that the literature on interdisciplinary theory tends to privilege and advance interdisciplinarity as the integration or synthesis of two or more disciplines that are assumed to be relatively symmetrical in authority, prestige, and form. Echoing Lattuca (2001), Barry et al. (2008) reported, “In our view, interdisciplinarity should not necessarily be understood additively as the sum of two or more disciplinary components or as achieved through a synthesis of different approaches” (p. 28).

To explain the paradoxical relationship between disciplinary and interdisciplinary research practices, Barry et al. (2008) provided educators with a paradigm that they can use to enrich their own philosophical positions and those introduced by scholars such as Lattuca (2001). Inspired by Foucauldian themes and advancements in science and

technology, Barry et al. (2008) offered readers three modes or understandings of interdisciplinary relations. More importantly, I argue that these modes advance my notion of *Foucauldian architectonics* as the additive that enriches Lattuca's postmodern understanding of interdisciplinarity as a pluralistic process. As mentioned earlier, Foucauldian architectonics describes how the symbiotic relations realized through the *simultaneity of differences* are constructed and mediated by knowledge and power as a network or *system*. The modes identified by Barry et al. operationalize Foucauldian architectonics as a novel interdisciplinary praxis for adult educators. The modes are noted as the following: (a) the *integrative-synthesis* mode, (b) the *subordination-service* mode, and (c) the *agonistic-antagonistic* mode.

The integrative-synthesis mode reflects the orthodox view of interdisciplinarity as the integration or synthesis of different disciplines, methods, approaches, etc. However, the subordination-service mode is an alternative view. In this mode, disciplines are organized based on their subordination or service to other correlating disciplines. This mode reflects the oppositions, hierarchies, and divisions of labor that condition the various kinds of interdisciplinary endeavors and arrangements among researchers and educators. Barry et al. (2008) found that the subordination-service mode tends to favor disciplinarity and resists epistemic critiques and transformations. They wrote, "In this mode the service discipline(s) is commonly understood to be making up for or filling in for an absence or lack in the other, (master) discipline(s)" (p. 29). However, in the agonistic-antagonistic mode, one finds that interdisciplinarity is not imagined in terms of integration or disciplinary divisions. In this mode, Barry et al. claimed that interdisciplinarity emerges from "a self-conscious dialogue with, criticism of or

opposition to the intellectual, ethical or political limits of established disciplines or the status of academic research in general” (p. 29). In other words, this particular view of interdisciplinarity recognizes the politics of knowledge and power in academe and how they are conditioned by the existing cultures and practices among the faculty in the various academic disciplines and their agonistic (combative) and/or antagonistic (oppositional) relations.

Recommendations for Further Research

To bridge the gaps among the disciplines in the future, there needs to be more studies that examine artifacts that evidence interdisciplinary theory in practice across the various academic communities in higher education. Future research in this area should not be limited to faculty who teach in universities and liberal arts colleges. Faculty should be represented from all levels of higher education, including those who teach in the community college sector. Also, more qualitative studies are needed on the philosophical origins and epistemological relationships that connect instrumental, conceptual, and critical interdisciplinarity.

There needs to be more research on the philosophical and pedagogical heritage of interdisciplinarity in architectonic thought, with particular attention to the groundbreaking contributions that thinkers such as Foucault have made to postmodern adult education and technology studies (see Brookfield, 2005; Usher & Edwards, 1994; Usher et al., 1997; Zuboff, 1984). To encourage a move in this direction, this study has provided an inaugural outline of *Foucauldian architectonics* and its governing modes in order to inspire future considerations of what a more systematic understanding of

Foucault's oeuvre might look like as a paradigm for understanding the promise and problem of teaching and learning in the digital age.

Conclusion

Advancements in digital technology and artificial intelligence such as ChatGPT suggest that Foucauldian architectonics may be the kind of paradigm that educators will need in the future (see Zuboff, 1984, 2019). Technology has made the world and education increasingly intertextual and interdisciplinary. In many respects, the logic of postmodern interdisciplinarity mirrors that of digitalization or the electric infrastructure that creates and maintains the interconnections and interactivity between computerized devices and the Internet. As learning management systems such as Canvas, Blackboard, and Moodle continue to serve as support systems for teaching and learning and online education in a post-pandemic academy, the logic of technology and power will come to play an increasingly important role in the philosophy of education and how its practices are realized, assessed, and (de)valued by stakeholders in higher education and beyond. As such, adult educators may find themselves continuously negotiating the architectonics of their philosophical framework(s) in order to bridge the gap between the disciplines as well as the digital learning experiences that artificial intelligence and algorithms will inspire and ultimately control.

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Appendices

Appendix A: UMSL Institutional Review Board Approval



March 27, 2023

Principal Investigator: Jeremy Dennis (UMSL-Student)
Department: Education EDD-Doctorate

Your IRB Application to project entitled (Post)Modern Asymmetry: Calibrating the Adult Education Philosophy and Practices of Faculty Teaching Interdisciplinary Studies in the Community College was reviewed and approved by the UMSL Institutional Review Board according to the terms and conditions described below:

IRB Project Number 2096008
IRB Review Number 390365
Initial Application Approval Date March 27, 2023
IRB Expiration Date March 27, 2024
Level of Review Exempt
Project Status Active - Exempt
Exempt Categories (Revised Common Rule) 45 CFR 46.104d(2)(ii)
45 CFR 46.104d(2)(iii) with limited IRB review
Risk Level Minimal Risk

Approved Documents This is the informed consent letter for participation in research activities.
This is a copy of my IRB approval at St. Louis Community College, where the faculty participants will be selected for the study.
This is the survey that I plan to use to identify the adult education philosophies and practices of the faculty participants.
These are the questions that I plan to use to gather demographic data.
This is evidence of permission to use Conti's (2007) PHIL Survey. On page 35 in the appendix, the author grants researchers the right to reproduce and use his survey for research studies.
This document lists the interview questions that I plan to use for the semi-structured interviews via Zoom.
This is the email message that I plan to send to recruit faculty members.

The principal investigator (PI) is responsible for all aspects and conduct of this study. The PI must comply with the following conditions of the approval:

1. Enrollment and study related procedures must remain in compliance with the University of Missouri regulations related to interaction with human participants at <https://jlu.edu>

[www.umsl.edu/ums\(rules/collected_rules\(research/ch410/410.010_research_involving_hllnlin_experiments](http://www.umsl.edu/ums(rules/collected_rules(research/ch410/410.010_research_involving_hllnlin_experiments)

2. No subjects may be involved in any study procedure prior to the IRB approval date or after the expiration date.
3. All changes must be IRB approved prior to implementation utilizing the Exempt Amendment Form.
4. The Annual Exempt Form must be submitted to the IRB for review and approval at least 30 days prior to the project expiration date to keep the study active or to close it.
5. Maintain all research records for a period of seven years from the project completion date.

If you are offering subject payments and would like more information about research participant payments, please click here to view the UM Policy: http://www.umsl.edu/ums/finance/payments_to_research_study_participants

If you have any questions or concerns, please contact the UMSL IRB Office at 314-516-5972 or email to irb@umsl.edu.

Thank you,
UMSL Institutional Review Board

University of Missouri–St. Louis Informed Consent for Participation in Research Activities

Project Title: *(Post)Modern Asymmetry: Calibrating the Adult Education Philosophy and Practices of Faculty Teaching Interdisciplinary Studies in the Community College.*

Principal Investigator: Jeremy Dennis

Department Name: College of Education

Faculty Advisor: Dr. E. Paulette Isaac-Savage

IRB Project Number: 2096008

You are invited to participate in a research study. The purpose of this qualitative case study is to identify the adult education philosophy and practices of faculty at the community college and examine how they support or contradict instrumental, conceptual, or critical conceptualizations of interdisciplinarity.

Your participation will involve your completing a brief demographic questionnaire, a semi-structured, and a recorded interview via Zoom. Also, you will be asked to complete a survey by Gary Conti (2007), entitled the Philosophies Held by Instructors of Lifelong-Learners (PHIL).

There is a loss of confidentiality risk associated with this research, as the interviews will be done via Zoom for transcription. I will make every effort to minimize the risk to participants by using faculty identification numbers (i.e. Faculty 1) to ensure the privacy of faculty identities and data. All records will be kept in a password-protected file.

There are no direct benefits for your participation in this study.

Your participation is voluntary and you may choose not to participate in this research study or withdraw your consent at any time. You will NOT be penalized in any way should you choose not to participate or withdraw.

We will do everything we can to protect your privacy. As part of this effort, your identity will not be revealed in any publication that may result from this study. In rare instances, a researcher's study must undergo an audit or program evaluation by an oversight agency (such as the Office for Human Research Protection) that would lead to disclosure of your data as well as any other information collected by the researcher.

If you have any questions or concerns regarding this study, or if any problems arise, you may call the Investigator, Jeremy Dennis at [REDACTED] or the Faculty Advisor, Dr. E. Paulette Isaac-Savage at [REDACTED]. You may also ask questions or state concerns regarding your rights as a research participant to the University of Missouri–St. Louis Office of Research Compliance, at 314-516-5972 or irb@umsl.edu.

Appendix B: STLCC Institutional Review Board Approval



November 18, 2022

Dear Mr. Dennis:

This is to inform you that your research proposal titled *Post Modern Asymmetry Calibrating the Adult Education Philosophy* submitted to the HSRB at St. Louis Community College on October 27, 2022 as an Application for Exemption Review has been approved.

As the principal investigator on this project, you are responsible for the welfare of any human subjects affected by your research. Any proposed deviation from the proposed research project that might affect the welfare of participants or might change the level of review required by STLCC should be communicated to the STLCC HSRB and approved prior to implementing changes.

Also note that HSRB approval only ensures that minimal standards for human subject protection have been proposed and approved. HSRB approval is not institutional endorsement, permission, or promise of support for the research project. Securing permission and/or resources for a research project is the responsibility of the principal investigator(s).

A *Research Project Progress Report/Application for Annual Renewal* is due at least fifteen days prior (but not more than 30 days prior) to the quarterly HSRB meeting one year from now or at the quarterly meeting following completion of the project. **Failure to comply will result in a suspension of the project.** A copy of the form may be obtained from STLCC's HSRB online documentation.

Sincerely,

Casey Whalen

Co-Chair, STLCC Human Subjects Review Board

Appendix C: Email Request for Faculty Participation

Dear STLCC Faculty Member,

My name is Jeremy Dennis and I am a faculty member at St. Louis Community College (STLCC). Also, I am a doctoral candidate at the University of Missouri, St. Louis (UMSL). I am collecting data for my dissertation, which is entitled *(Post)Modern Asymmetry: Calibrating the Adult Education Philosophy and Practices of Faculty Teaching Interdisciplinary Studies in the Community College*.

I am contacting you because you have been identified as a faculty member who has taught one or more courses in Interdisciplinary Studies (IDS) at STLCC. As such, I would like to invite you to participate in my study on the relationship between adult education philosophy and interdisciplinary practices among community college faculty. Why is this study significant? In so much of the scholarship and academic discourse on the theory and practice of interdisciplinarity in higher education, one finds that the perspectives of community college faculty tend to be undervalued or excluded.

If you are interested in participating in this project, please respond to this email within the next three business days. I will send you the links to the approved Institutional Review Board (IRB) applications, the informed consent notice, and survey materials.

Thank you,

Jeremy Dennis

Appendix D: Follow-up Email Request for Faculty Participation

Dear STLCC Faculty Member,

My name is Jeremy Dennis and I am a faculty member at St. Louis Community College (STLCC) and a doctoral candidate at the University of Missouri, St. Louis (UMSL). Recently, I contacted you to request your participation in the research study that I am conducting in order to complete my dissertation, which is entitled *(Post)Modern Asymmetry: Calibrating the Adult Education Philosophy and Practices of Faculty Teaching Interdisciplinary Studies in the Community College*.

This is a follow-up email to encourage you to consider participating in the study.

If you are interested in participating in this project and sharing your experiences as a faculty member who has taught interdisciplinary courses at STLCC, please respond to this email within the next three business days. I will send you the links to the approved Institutional Review Board (IRB) applications, informed consent notice, and survey materials.

Thank you,

Jeremy Dennis

Appendix E: Email with Instructions for Participating Faculty

Dear Faculty Member,

First, I want to thank you for agreeing to share your experiences and help me to collect data to complete my dissertation, which is entitled *(Post)Modern Asymmetry: Calibrating the Adult Education Philosophy and Practices of Faculty Teaching Interdisciplinary Studies in the Community College*. My dissertation chair is Dr. E. Paulette Isaac-Savage, Professor of Adult Education at the University of Missouri, St. Louis. She can be reached on campus at [REDACTED]. At St. Louis Community College, the research sponsor is Dr. Julie Fickas, Campus President and Chief Academic Officer. She can be reached at [REDACTED]

Attached to this email, you will find the approved Institutional Review Board application information from UMSL and STLCC. Below, I have provided the link to the informed consent notice, all survey materials, and the interview appointment schedule in Microsoft Forms.

Survey link:

[REDACTED]

Again, faculty participation is voluntary, as no compensation is provided. You can decline to participate at any time. If you have any questions about the study, please contact me at [REDACTED].

Thank you,

Jeremy Dennis

Appendix F: Consent Notice

Dear Faculty Member,

You have been invited to participate in a study being completed by Jeremy Dennis, entitled *(Post)Modern Asymmetry: Calibrating the Adult Education Philosophy and Practices of Faculty Teaching Interdisciplinary Studies in the Community College*. This dissertation will help to advance interdisciplinarity in higher education as well as an understanding of the contributions made by community college faculty. The chair for this dissertation is Dr. E. Paulette Isaac-Savage, Professor of Adult Education at the University of Missouri, St. Louis. She can be reached at [REDACTED]. At St. Louis Community College, the research sponsor is Dr. Julie Fickas, Campus President and Chief Academic Officer. She can be reached at [REDACTED].

Your participation will involve the completion of a short demographic questionnaire, a short survey, a set of questions, and an interview about the results of your survey and your responses to the questions. Faculty information will be confidential, as all faculty will receive faculty identification numbers after the data is collected and related (i.e. Faculty 1). There are minimal risks to participants and a short time commitment. Also, there are no direct benefits or compensation for one's participation. Participation is voluntary and faculty may withdraw at any time. For more information, you can contact Jeremy Dennis at [REDACTED].

○ **Agree:** I have read the description of the research study mentioned above, and I agree to participate. I understand that my participation is voluntary and there are no direct benefits or compensation for my participation. I understand that the information that I contribute to this study will be confidential. I understand that I can withdraw my participation at any time and my data and contributions will be excluded from the study. By agreeing to this consent notice, I acknowledge that I have read and understood this statement before beginning the survey.

Faculty Signature: _____ Date: _____

Appendix G: Demographic Questionnaire

Question 1: Which category describes your gender affiliation?

- A. Male B. Female C. Non-binary D. Prefer Not to Say

Question 2: Which category describes your race and/or ethnic affiliation?

- A. White B. Black or African American C. Hispanic/Latino/Latinx
D. Asian American E. American Indian or Alaska Native
F. Native Hawaiian or Other Pacific Islander G. Race and/or Ethnicity Unknown

Question 3: What is your highest academic credential?

- A. Bachelors B. Masters C. Doctorate

Question 4: What is the general academic area in which you earned your highest academic credential?

- A. Humanities and Liberal Arts B. Behavioral and Social Sciences
C. Natural and Physical Sciences D. Education E. Law

Question 5: What is your current academic rank?

- A. Adjunct Instructor B. Instructor C. Assistant Professor
D. Associate Professor E. Professor

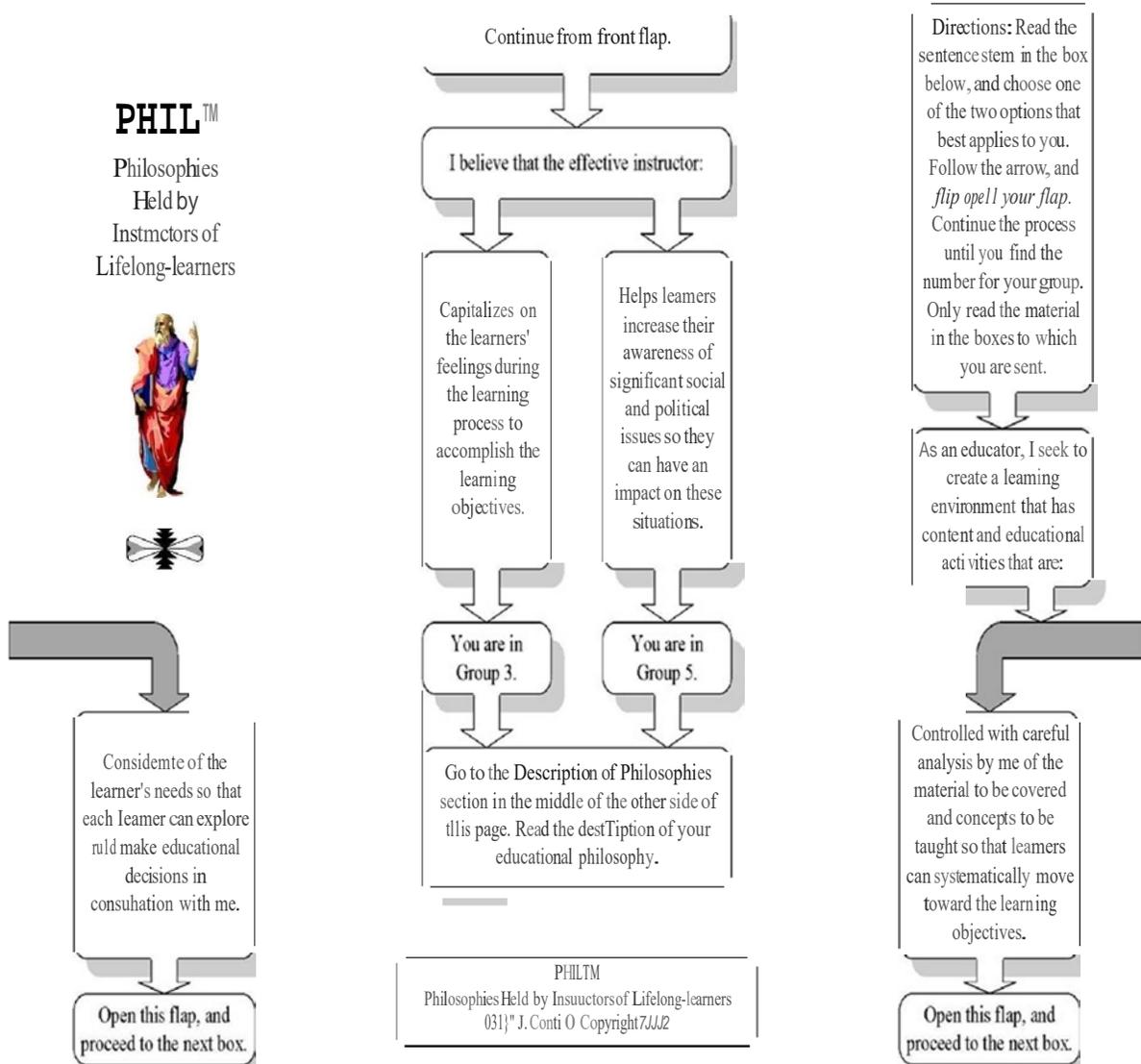
Question 6: How long have you taught courses in interdisciplinary studies at the college?

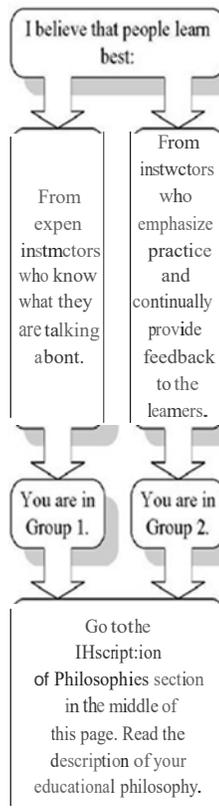
- A. 1 to 5 years B. 5 to 10 years C. 10 to 15 years D. Over 15 years

Question 7: What is the name of your current campus location?

- A. Forest Park B. Florissant Valley C. Meramec D. Wildwood

Appendix H: PHIL Survey





Description of Philosophies

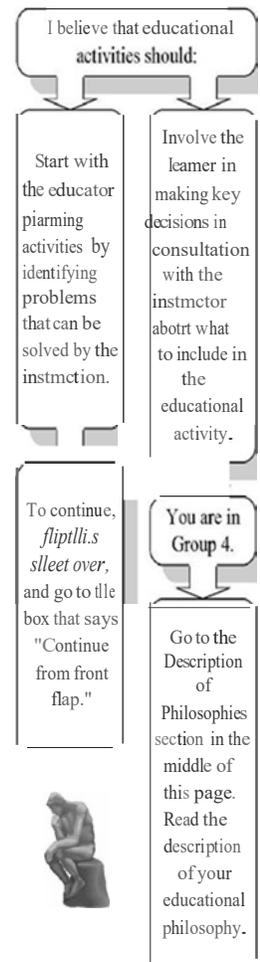
Group 1 is Idealism which holds that *ideas* are the only true reality. This philosophy goes back to ancient Greece and claims greats such as Socrates and Plato. This school seeks to discover true knowledge rather than create it. The aims of the philosophy are to search for truth and further the character development of learners. The role of the teacher is to serve as a guide for immature learners, judge important material, and model appropriate behavior. The instructional process is holistic, seeks to develop critical thinkers, and deals with broad concepts rather than specific skills. This is a content-centered approach to education with a heavy emphasis on seeking universal truths and values and with a strong and defined role for the teacher.

Group 2 is Realism which holds that reality exists independent of the human mind; matter in the universe is *real* and independent of man's ideas. This philosophy grew out of the Age of Enlightenment and strongly supports the use of the scientific method. It aims to understand the world through inquiry, verify ideas in the world of experience, teach things that are essential and practical, and develop the learners' rational powers. The instructional process seeks to teach fundamentals, encourage specialization, and teach the scientific method. The role of the teacher is to present material systematically, encourage the use of objective criteria, and be effective and accountable. Idealism is congruent with this broader teacher-centered philosophy.

Group 3 is Pragmatism or Progressivism and is associated strongly with the works of John Dewey. It seeks to inquire and to then do what works best; that is, it seeks to be *pragmatic*. However, everything centers on the human experience. It seeks to promote democracy by developing strong individuals to serve in a good society. It supports diversity because education is the necessity of life. Its aims are to seek understanding, coordinate all environments into a whole, teach a process of inquiry, and promote personal growth and democracy. The instructional process is flexible with a concern for individual differences and for problem solving and discovery. In this learner-centered approach, the role of the teacher is to identify the needs of the learner and to serve as a resource person.

Group 4 is Existentialism or Humanism and draws heavily from the ideas of Carl Rogers. This philosophy focuses on the individual and believes that individuals are always in transition. People interpret the world from their own perceptions and construct their own realities. Its aims are to promote self-understanding, involvement in life, an awareness of alternatives, and the development of a commitment to choices. Learning is viewed as a process of personal development which seeks to provide learners with options. The role of the instructor in this learner-centered philosophy is to be a facilitator. The cornerstone of this philosophy is trust between the teacher and learner.

Group 5 is Reconstructionism. It strongly believes that education can be used in reconstructing society. In order to achieve social justice and true democracy, change rather than adjustment is needed. This philosophy is futuristic and takes a holistic view of problems. Its aims are to encourage social activism and the development of change agents. Its purpose is to empower people to think critically about their world, develop decision-making abilities, get involved in social issues, and take action. The role of the teacher in this learner-centered philosophy is to help learners develop problem-posing skills and lifelong-learning skills. This school of thought has been greatly influenced by the work of Paulo Freire and Myles Horton.



Appendix I: Interview Questions

Question 1: How would you describe your teaching and research experiences as a community college professor?

Question 2: Can you describe some of the ways an interdisciplinary approach has enriched your work in teaching and research?

Question 3: How would you describe your understanding or interpretation of interdisciplinarity?

Question 4: Can you discuss how the word *power* (asymmetrical or dominant worldviews, structures, and/or actions designed to coerce or control) has or has not influenced your understanding or interpretation of interdisciplinarity?

Question 5: What do you see as the major difference between an interdisciplinary and a disciplinary approach to teaching and research?

Question 6: After completing Conti's PHIL survey, can you describe your personal philosophy of education and how it informs what you do or do not do in the classroom?

Question 7: Can you describe one example of an interdisciplinary assignment that reflects your personal philosophy of education?

Question 8: Can you discuss some of the ways that you think community college students benefit from interdisciplinary studies?

Question 9: Can you discuss the outcomes of your interdisciplinary work and/or interests, particularly in terms of any conferences papers, journal articles, books, and/or pedagogical innovations used to improve the way that you teach?

Question 10: Are there any other thoughts about your experiences with interdisciplinarity that you would like to share?

Appendix J: Follow-up Email

Dear Faculty Participant,

You should have received a link to the consent form and a link to complete a few questions and a short survey in Microsoft Forms, as well as schedule a time for an interview.

I am sending a friendly reminder to request that you complete the questions and survey and identify the best time for you to complete a short interview to discuss your experiences as a teacher and/or researcher in interdisciplinary studies at the community college.

The feedback from community college faculty is a key resource for this project and your participation is greatly appreciated. Below, I have provided the link to the informed consent notice and all survey materials in Microsoft Forms.

Survey link:



Thank you,

Jeremy Dennis

Appendix K

Complete List of Themes and Codes for Table 5

Philosophy as Framework and Continuum (Theme)	
Codes(Categories)	Faculty Member
-Existential Beliefs and Practices	6,7,4,10,8, 11
-Pragmatic Beliefs and Practices	9,12,2, 11,6,7
-Realist Beliefs and Practices	3,9,2, 1,5, 11,12
-Reconstructionist Beliefs and Practices	5,2,7
-Improving Teaching Skills	6,2, 5,
-Improving Research Skills	11,4, 10,7,2
-Advancing Student Learning	5,3,2,6,7, 12,10, 1,8, 4, 11
-Student Accountability	8, 1,3,9,6, 12
-Fluid Philosophical Systems	2,6, 11,7,3,4
-Role of Technology in Teaching and Learning	10,4,9,8
-Integrated Philosophical Perspectives	5,2,7,3,6, 11,
-Situational Learning and Flexibility	11, 1,7, 12,2, 8
-Various Needs of a Diverse Student Body	5,8, 1,6, 11,3,2,4
-Community College Challenges	10,6,7,3,11,4, 1
-Creative Assessment and Assignments	3,6, 10, 12,8, 1, 4
-Traditional Assessment and Assignments	5, 11 2 9,7
-Published Books and Refereed Articles	9,2, 11, 4,10
-Presented at Professional Conferences	8,12,3,4,6, 10, 1, 7, 11, 2
-Active Artists with Creative Works	7, 10, 12
-Community Leadership and Engagement	3, 12,6, 11,7

Teacher-Centered Approaches (Subtheme)	
Codes(Categories)	Faculty Member
-Positivist Pedagogical Strategies	1,8
-Goals and Objectives Focused	2,3,1, 11,9
-Skills Acquisition and Application	1,9,3,8, 5
-Content Design and Development	11 4 7 1,2
-Focusing on Skills Needed in the Workplace	6,5,3, 12,9,1,4
-Developing Problem-Solving Skills	2,6, 11, 1,3,8,7,4,9,12
-Monitoring Student Behavior	8,6, 1
-Transfer Knowledge and Expertise	9,1,3,8, 11,5

Student-Centered Approaches (Subtheme)	
Codes(Categories)	Faculty Member
-Authentic Teaching Strategies	10,4,9, 11,7, 12
-Student Growth and Agency	6, 1,8, 12,2,9,7
-Focusing on Critical Thinking	2, 12,4, 10, 7,9,5, 11,3,8
-Encouraging Creative Self-Expression	3,12, 10,4,6
-Developing Students' Social Consciousness	5, 11, 6,3,9,12, 1,8, 2, 10, 4, 1
-Values Collaborative and Group Assignments	4,10,3, 7,6,8, 11,2,9, 12,1
-Multimodal Teaching Strategies	7,4, 11,10
-Mentorship Opportunities	11,6,8,1,4
-Student Empowerment	9,2, 12,5, 11,8, 1, 10, 7,4

Appendix L

Complete List of Themes and Codes for Table 9

Postmodern Epistemological Sentiments (Theme)	
Codes (Categories)	Faculty Member
-Disciplinary Dialogue	2, 9, 8, 33, 12
-Understanding Networks of Power	2, 33, 9, 8, 4, 12
-Reconstructionist Beliefs and Practices	5, 2, 33
-Intersectional Discourse Communities	11, 12, 7, 6, 5, 9, 10, 4
-Networks of Power and Control	4, 8, 9, 12, 2, 11, 7
-Revision of Traditional Education	7, 9, 1, 4, 2
-Challenging Hegemony and Inequality	3, 2, 9, 33, 5, 8, 7, 12, 4
-Discourse Communities and Integration	2, 10, 4, 9
-Students as Sources of Knowledge	4, 7, 6, 8, 1, 12, 9, 2, 5, 10
-Influence of Technology and ChatGPT	8, 4, 2, 7, 2, 4
-Disciplines as Forms of Power	7, 2, 4
-Classrooms as Sites of Power	10, 3
-Reorganizing the Disciplines	9, 4, 11, 7, 8, 3, 10, 6, 12
-Dismantling the Disciplines	2, 5
-Miscellaneous Insights	4, 5, 10, 6, 2, 1

Modern Epistemological Sentiments (Subtheme)	
Codes (Categories)	Faculty Member
-Focus on Assessment of Core Objectives	8, 1, 2,
-Mastery Learning and Application	5, 8, 1
-Designing Courses around Course Goals	1, 2, 8, 11
-Value Lecturing and Skills Training	1, 8, 9
-Benefits of Disciplinarity	6, 33, 4, 1, 7

Purposes of Interdisciplinary Education (Theme)	
Codes (Categories)	Faculty Member
-Aims of Interdisciplinary Integration	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 33, 12
-Improving Teaching and Learning	10, 4, 2, 3, 6, 33, 7, 8, 12, 9, 1, 5
-Applying Knowledge to Life Situations	5, 3, 6, 8, 1, 12, 9
-Support Professional Development	2, 10, 4, 7, 33
-Connecting Experiences	12, 3, 8, 9, 7, 5
-Integrating Academic Silos	33, 5, 3, 10, 1, 9
-Creating Disciplinary Dialogue	2, 9, 11, 12, 3, 7
-Developing Better Students/Humans	10, 8, 6, 5, 7, 9, 12, 3, 10
-Transforming Learning Environments	5, 7, 11, 4, 2, 12, 1, 3, 8, 2, 10, 9
-Fostering Holistic Learning Experiences	10, 8, 6, 11, 7, 3, 4, 2
-Challenging Power and the Status Quo	7, 2, 11, 4, 12, 9, 5, 8, 10
-Advancing Social Justice	12, 11, 5, 7, 2, 9, 3, 6