STUDENT EXPERIENCES OF A DEVELOPMENTAL SHIFT IN REFLECTIVE JUDGMENT IN ONE INTERMEDIATE ACCOUNTING I CLASSROOM: A QUALITATIVE STUDY

A dissertation submitted to the Kent State University College and Graduate School of Education, Health, and Human Services in partial fulfillment of the requirements for the degree of Doctor of Philosophy

by

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The purpose of this qualitative study was to determine how a shift from the instruction paradigm to the learning paradigm (Barr & Tagg, 1995) contributed to the development of students’ reflective judgment. Barr and Tagg, scholars of teaching and learning, argued that a paradigm shift was needed in undergraduate instruction. Barr and Tagg offered an alternative to the lecture-based instruction paradigm, a paradigm they referred to as the learning paradigm. This study incorporated the learning paradigm into one Intermediate Accounting classroom and analyzed the impact of this approach on students’ experiences and the development of students’ reflective judgment.

This study was grounded in King and Kitchener's (1994) research on cognitive development with late high school to college students. King and Kitchener’s studies sought to answer the question How does the ability to construct reasonable solutions develop? Their research findings were based on over 1,700 student interview responses to ill-structured problems and culminated in the creation of the Reflective Judgment Model, a cognitive development model that represented stages of progressive reasoning from late adolescence to adulthood.

Analysis was conducted on students’ journals and submissions of ill-structured problem assignments. Findings revealed students made a cognitive developmental shift in
reflective judgment over one 16-week semester. Students’ expectations of the course were disrupted and a key finding of this study. Students credited in-class group discussions on ill-structured problem assignments, a structural change made possible by the adoption of the learning paradigm, in helping them recognize their peers as sources of knowledge.
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CHAPTER I

INTRODUCTION

“The primary learning environment for undergraduate students, the fairly passive lecture-discussion format where faculty talk and most students listen, is contrary to almost every principle of optimal settings for student learning.”

(Guskin, 1994, p. 16)

Something is amiss. Almost three decades ago, reports were published in leading accounting journals indicating trouble in the education of our accounting graduates (Accounting Education Change Commission [AECC], 1990, 1992; Albrecht & Sack, 2000; American Accounting Association [AAA], 1986; Big Eight White Paper, 1989). The reports said our current accounting education system was creating deficiencies with student intellectual skills. There was a discrepancy between what talents accounting graduates were entering the workplace with and what employers were hoping and expecting to see. Students were showing limitations in their abilities to think, analyze, and resolve complex problems that potentially had multiple possible solutions. From the authors’ vantage point, widespread consensus for changing how we educated and prepared our accounting majors for life after their academic studies was clear.

What is the purpose of accounting education? William Pinar, a curriculum theorist, provided a recommendation that may prove useful as accounting professors navigate change in their classrooms. He recommended that an understanding of verticality and horizontality could potentially inform intellectual advancement of a discipline (Pinar, 2007). Pinar defined verticality as understanding of the past. For accounting academics,
we need to know the history of accounting education. This gives us the ability to comprehend how we got where we are today. Pinar defined horizontality as an understanding of the current state of accounting education. His message was to gain a combined understanding of both elements and that would assist a discipline’s intellectual advancement. The promise of intellectual advancement for how we educate our students needs to be grounded in not only where we have been, where we are currently, but where we want to end up in the future.

Accounting has always been a very technical, content driven discipline, and historically, curriculum has been designed to satisfy the needs of the business community. The scope of disciplinary knowledge continues to expand at a rapid pace (Boyce, Williams, Kelly, & Yee, 2001) and provides a compelling reason to continue the primary mode of teaching—lecture (Albrecht & Sack, 2000). The need for efficiency in the transfer of this knowledge to the student continues to corroborate decisions made by accounting educators.

Proponents for change cite the lack of interaction in the classroom and limited use of unstructured problems are contributing to the inadequate student, intellectual skill development being witnessed by employers. One of the first reports on the future structure, content, and scope of accounting education was issued in 1986, by the American Accounting Association (AAA). The AAA’s Executive Committee (known as The Bedford Committee) special report, titled *Future Accounting Education: Preparing for the*
Expanding Profession (1986), was quick to detail the increasingly complex and evolving workplace that accounting graduates enter. Technology, the global marketplace, competition, social values, and overall business practices were just a few items mentioned in the report. The expanding and changing profession dictated the need for a broad based set of skills. It was unclear the magnitude of change that students would face once they entered the workplace and throughout their accounting careers. However, the report indicated the current state of accounting education, especially continuing the primary use of lecture, was not contributing to the development of students’ skills needed in the workplace.

Barr and Tagg (1995) offered a paradigm shift for higher education institutions, specifically undergraduate instruction that is both relevant to accounting education and this study. The traditional, dominant paradigm was what they referred to as the instruction paradigm. In the field of education, the instruction paradigm is often referred to as the standardized management paradigm (March & Peters, 2008), and shares many similarities. A more detailed discussion of this paradigm is included in the following chapter, but overall the “mission of a college is to deliver instruction” (Barr & Tagg, 1995, p. 13). The paradigm’s purpose is to transfer knowledge from faculty to the students. This paradigm coincided with what is happening in accounting education.

Barr and Tagg (1995) offered an alternative to the instruction paradigm and called it the learning paradigm. In the field of education, the learning paradigm is often referred to as the constructivist best practices paradigm (Wiggins & McTighe, 2005). A more detailed discussion of this paradigm is included in the following chapter, but the mission
of the college shifted from delivering instruction to “producing learning with every student by whatever means works best’’ (Barr & Tagg, 1995, p. 13). This did not mean that lecture was prohibited, but rather it should only be one of many methods used to create student learning.

Accounting education, not unlike other disciplines, aimed to prepare students to think critically and independently when faced with complex issues in the field. Lecturing to students who sit passively while faculty tell them what they need to know is not helping students’ intellectual skills development in thinking critically and independently (Albrecht & Sack, 2000; AAA, 1986; Big Eight White Paper, 1989).

**Statement of the Problem**

The dominant paradigm of accounting education is the instruction paradigm (Barr & Tagg, 1995; Ornstein & Hunkins, 2009). Past curriculum decisions and teaching methods, based on the instruction paradigm, are not suitable to adequately prepare the college accounting major for the multifaceted, uncertain, and dynamic workplace and are failing to keep up with the changing milieu of the workplace (Albrecht & Sack, 2000; AAA, 1986; Big Eight White Paper, 1989). Richard Paul, director of the Center for Critical Thinking, stated, “critical thinking is taught in the same way that other courses have traditionally been taught, with an excess of lecture and insufficient time for practice” (as cited in Barr & Tagg, 1995, p. 14). The continued lecture-driven mode of teaching and lack of usage of ill-structured problems jeopardizes the students’ ability to excel and succeed after graduation.
Purpose and Objective of the Study

Undergraduate education, including accounting education, is dominated by the instruction paradigm (Barr & Tagg, 1995; Ornstein & Hunkins, 2009). Outcomes expected by accounting practitioners will not be realized by continued usage of the instruction paradigm (Albrecht & Sack, 2000; AAA, 1986; Big Eight White Paper, 1989). The purpose of the study is to determine how a shift from the instruction paradigm to the learning paradigm (Barr & Tagg, 1995) may contribute to the development of students’ reflective judgment. Adapting instruction and incorporating ill-structured problems with high levels of contextual support is illustrative of the learning paradigm. High levels of contextual support include providing students time for practice and providing students assistance in thinking of ways to construct and defend a reasonable problem solution to assignments associated with this study. Therefore, this study incorporated the learning paradigm into one accounting classroom and analyzed the impact of this approach on students’ experiences and the development of students’ reflective judgment.

Research Questions

The following research questions framed this study:

1. What are students’ experiences in an accounting classroom that intentionally employs a learning paradigm, with specific emphasis on incorporating ill-structured problems and providing high direct contextual support?

2. How does the classroom environment contribute to the development of students’ reflective judgment?
Definitions

*Contextual support:* The idea of contextual support came from Fischer and Yan’s (2002) research on the development of social roles. They assessed development under conditions having “little direct support versus high support” (p. 290). For purposes of this study, high contextual support was given when students were first introduced to assignments associated with this study. This support included providing tools and feedback to assist in the identification of uncertainty in an ill-structured problem and steps that assisted them in the construction and defense of a reasonable solution for the problem.

*Development:* The progression of skills over time that is context-based and task-specific (Fischer & Yan, 2002). Skills are defined as the ability, capacity, and way of knowing over time. Based on student assimilation and accommodation that takes place during an experience (Perry, 1970), lower level skills build and merge with higher level skills enabling a person to deal with more complex problems (King, 2009). “As individuals use their new reorganizations, they apply these new ways of thinking to new problems and in new contexts, and in the process of applying and practicing these new skills, consolidate a new way of understanding” (pp. 598-599). King went further and stated, “development is defined as increasingly complex and adaptive forms of seeing, knowing” (p. 599). She posited that “developing more complex ways of organizing what and how one knows is tantamount to changing one’s worldview” (p. 599). The development focus for this study was on students’ reflective judgment (see definition).

*Developmental model:* King and Kitchener’s (1994) Reflective Judgment Model (RJM) provided a cognitive development framework for students’ progression of
reasoning when responding to ill-structured problems. The progressing patterns of developmental sequences in cognitive development are represented by stages in the RJM.

*Ill-structured problems:* Wood (1983) described problem structure by degrees of completion and certainty of a solution being identified as true or correct. Ill-structured problems “cannot be described with a high degree of completeness” (King & Kitchener, 1994, p. 11). Ill-structured problems “cannot be resolved with a high degree of certainty and experts often disagree about the best solutions, even when the problem can be considered solved” (King & Kitchener, 1994, p. 11). Determining if artificial sweeteners are harmful to one’s health is an example of an ill-structured problem. Multiple perspectives and solutions, differing expert opinions, and inherent uncertainty manifest problem uncertainty. The reasoning goal of an ill-structured problem is to construct and defend reasonable solutions.

*Reflective judgment:* The definition of reflective judgment is based on King and Kitchener’s (1994) extensive research analyzing study participants’ responses to ill-structured problems. Forming a reflective judgment involves fact, formula, and theory identification, determining relevancy to the problem, re-evaluating new evidence, generating potential solutions, and justifying those solutions through reasonable inquiry. King and Kitchener stated reflective judgment is the “ultimate outcome” (p. 13) of an individual’s cognitive developmental progression and represented by stage 7 on their Reflective Judgment Model (see definition). For purposes of this study, this investigation focused on the critical reasoning process that students employed in working with ill-structured problems towards their development of reflective judgment.
Reflective Judgment Model (RJM): This cognitive development model was created by King and Kitchener (1994) and was based on interview responses to ill-structured problems from over 1,700 study participants. The seven-stage model represents a developmental progression in reasoning and is “described by seven distinct sets of assumptions about knowledge and how knowledge is acquired” (p. 13). This progression of reasoning shows individuals go from believing that knowledge simply exists and needs no justification (stage 1) to the final stage of reflective judgment where knowledge is constructed and defended based on reasonable inquiry (stage 7).

Well-structured problems: Wood (1983) described problem structure by the degree of completion and certainty of a solution being identified as true or correct. Well-structured problems can be solved with a high degree of completeness and certainty (Churchman, 1971) and often have only one correct answer. King and Kitchener (1994) stated that “experts usually agree on a correct solution” (p. 11) with well-structured problems and “do not require considering evaluating the reliability of data and sources of information” (Kitchener, 1983, p. 224). A puzzle is an example of a well-structured problem with the goal to reason to the correct answer.

Conceptual Framework

This study is informed by the work of Barr and Tagg (1995), scholars of teaching and learning, who argue that a paradigm shift is needed in undergraduate instruction. Undergraduate education, including accounting education, is dominated by the instruction paradigm’s focus on instruction (Barr & Tagg, 1995; Ornstein & Hunkins, 2009). Barr and Tagg offered an alternative to the instruction paradigm, a paradigm they referred to as
the learning paradigm that focuses on student learning. This shift may provide the classroom environment that allows for the development of accounting students’ intellectual skills, deficiencies that are currently not being realized based on current teaching practices (Albrecht & Sack, 2000; AAA, 1986; Big Eight White Paper, 1989).

Accounting curricular and teaching practices share a rich and long history in academia dating back to the first accounting course offered in the 1880s at a higher education institution (Van Wyhe, 1994). Characteristic of the instruction paradigm (Barr & Tagg, 1995), faculty are primarily lecturers and learning is teacher centered and controlled. Past accounting curriculum decisions and teaching methods have failed to keep up with the changing milieu of the workplace, and specific to this study, are not suitable to adequately prepare the accounting student for the multifaceted, uncertain, and dynamic workplace (Albrecht & Sack, 2000; AAA, 1986; Big Eight White Paper, 1989). Outcomes expected by accounting practitioners have not been realized due to the continued usage of the deeply rooted instruction paradigm (Albrecht & Sack, 2000; AAA, 1986; Big Eight White Paper, 1989).

In contrast to the lecture-driven mode of teaching that Barr and Tagg (1995) referred to as the instruction paradigm, the fundamentals of the learning paradigm appear to allow better preparation of accounting students to think critically and independently when faced with complex issues in the field. The shift from teaching to learning is central to the learning paradigm. The paradigm’s focus on the student, her experience, knowledge construction, and active classroom learners are all indicative of the learning paradigm. Learning now becomes student centered and controlled and classrooms
become active, collaborative environments. This shift may provide the greatest chance for adopting learning modules that will help prepare our accounting graduates for life after the classroom, including the uncertainty they will face in their lives, workplace, and community (Lynch, 1996; Wolcott & Lynch, 1997).

Shifting from the instruction to learning paradigm also changes the manner in which knowledge is constructed by our accounting graduates. The shift means that students will be instrumental in what and how they know (learning paradigm) versus the traditional way of the teacher informing students what they need to know (instruction paradigm). Understanding how college students construct knowledge is relevant to this study.

**Theoretical Framework**

This study is grounded in King and Kitchener's (1994) research on cognitive development with late high school to college students. King and Kitchener’s (1994) studies sought to answer the question *How does the ability to construct reasonable solutions develop?* Their research findings are based on over 1,700 student interview responses to ill-structured problems and culminated in the creation of the Reflective Judgment Model (RJM). The RJM is a seven-stage, cognitive development model that represents stages of progressive reasoning from late adolescence to adulthood. King and Kitchener stated the ultimate outcome of reasoning is stage 7, which represented reflective judgment. The RJM showed progression of reasoning individuals take from believing knowledge simply existed, needing no justification (stage 1) to the final stage of reasoning where knowledge was constructed, based on reasonable inquiry (stage 7).
The RJM has been validated by multiple studies (King & Kitchener, 1994, 2004). King and Kitchener stated it is common to see patterns of reasoning that fall between stages 3 and 4 during the students’ undergraduate education years. Limitations in recognizing uncertainty, struggling with how to address and resolve uncertain problem situations, and lacking the ability to weigh available evidence are just a few reasoning characteristics that may be observed throughout a student’s problem solving process. It is these limitations that theoretically frame this particular research study and design. King and Kitchener’s research provides the basis for this investigation in seeking to understand students’ experiences in an accounting classroom that intentionally employed the learning paradigm, while both incorporating ill-structured problems and providing high direct contextual support. In addition, this study investigated how the classroom environment contributed to the development of students’ reflective judgment.

Fischer’s (1980) skill theory research supported King and Kitchener’s (1994) research findings. Skill theory showed once less complex skills were mastered, an individual worked to master more complex skills. Skills synthesized as mastery continued, resulting in what Fischer called construction of a hierarchy of skills. This is similar to the Reflective Judgment Model’s progression of reasoning that was found to occur with individuals throughout King and Kitchener’s research. King and Kitchener (1994), Fischer (1980), and further research by Lynch (1996), Wolcott and Lynch (1997), and Wolcott (2006) informed this study and the design of the ill-structured problem assignments used during this study (see Appendices A, B, and C).
King and Kitchener’s (1994) research built upon a large body of work on students’ cognitive development. This literature is reviewed in the next chapter; however, as a point of introduction, research on students’ cognitive development, first articulated by Perry (1970) and extending from the work of Piaget, traced a progression from dualistic thinking, to an appreciation of multiplicity of views including one’s own voice, to relativism, where the objectivity of an academic discipline is respected as a way of knowing—not simply adopted but recognized as constructed knowledge. Many have extended Perry’s (1970) groundbreaking research with college students. For instance, Belenky, Clinchy, Goldberger, and Tarule (1986), critical of Perry’s sole focus on Harvard men, studied women’s ways of knowing; and Baxter Magolda (1992) launched a mixed gender longitudinal study investigating gender related patterns: one impersonal pattern that reflected knowing through separation and a relational pattern that reflected knowing through connection to the object of knowing. King and Kitchener (1994), in their Reflective Judgment Model, reported cognitive development moving from accepting knowledge from authorities to making one’s own evidence-based decisions. All these developmental models provided insight into college students’ meaning making and their worldviews (King, 2009).

Significance of the Study

The very nature of our accounting profession and degree programs highlight the substantial amount of rules, theories, and assumptions that guide what we do. The expectation is our college students’ graduate possessing a breadth of understanding and appreciation for this important foundation of knowledge. However, increased levels of
uncertainty facing them in the workplace, society, and at home warrant attention from accounting educators that are involved in the preparation of our graduates. Continued teaching within the framework of the instruction paradigm (Barr & Tagg, 1995) has exposed intellectual skills deficiencies with our accounting graduates (Albrecht & Sack, 2000; AAA, 1986; Big Eight White Paper, 1989).

Barr and Tagg (1995) offered accounting educators a possible alternative to the traditional instruction paradigm commonly found determining today’s accounting curricular and teaching practices. This alternative, referred to as the learning paradigm, may provide the support needed to create learning modules that can support the changes being requested to our accounting degree programs. In addition, King and Kitchener (1994) provided faculty a framework, through the Reflective Judgment Model, to better understand how students reason and how that reasoning may develop over time when working with ill-structured problems. Altering one accounting classroom to reflect the learning paradigm and incorporating ill-structured problems with high contextual support is this researcher’s way to investigate how she addressed the lack of students’ intellectual skills addressed in the published accounting reports (Albrecht & Sack, 2000; AAA, 1986; Big Eight White Paper, 1989).

What are the stakes if we disregard what the reports are telling us? What are the consequences of an ill-prepared accounting graduate? What are the ramifications of an individual ill-equipped to evaluate an ambiguous state of affairs? How does that impact the individual, employer, client, society, global marketplace? The AAA’s Bedford Committee’s Report indicated “the overall advancement of society must be given more
emphasis” (1986, p. 179). This report was a ground-breaking attempt to disrupt the accounting classroom as we have all known it to be. Shifting to the learning paradigm may present the best opportunity in preparing the type of student best able to manage our complex and changing society.

This study sought to disrupt the instruction paradigm in one accounting classroom. The study searched to understand and report on students’ experiences in an accounting classroom that intentionally employed a learning paradigm, while both incorporating ill-structured problems and providing high direct contextual support. In addition, this investigation sought to understand and report how the classroom environment contributed to the development of students’ reflective judgment. The choice of a qualitative study was specific to the researcher’s desire to capture a rich understanding of students’ experiences and developmental processes. This study’s snapshot may provide additional perspective for future studies, spark an initiative, or inform future teaching and curriculum decisions as more and more accounting professors heed the calls for change in the accounting classroom.

**Conclusion**

This chapter discussed the concerns with the current state of accounting education and the perception that our accounting graduates are entering the workplace with intellectual skill deficiencies. Students lack skills necessary to think, analyze, and resolve complex, dynamic problems (referred to in this study as ill-structured problems) and the transition from classroom to workplace has raised concerns throughout the accounting profession (Albrecht & Sack, 2000; AAA, 1986; Big Eight White Paper, 1989). The
purpose of this qualitative study was to examine students’ experiences enrolled in an accounting classroom that intentionally employed a learning paradigm, while both incorporating ill-structured problems and providing high direct contextual support. In addition, the investigation sought to understand how the classroom environment contributed to the development of students’ reflective judgment.

The forthcoming chapters include an expanded examination of the conceptual and theoretical framework relating to this study, a description of the research methodology design of this study, and a description of the analysis of data that found students experienced a developmental shift in reflective judgment. The final chapter discusses implications of the study’s findings as it relates to the literature. In addition, recommendations for practice, specifically to accounting educators, and recommendations for future research studies are discussed.
CHAPTER II
LITERATURE REVIEW

Introduction

There is a perception by practitioners and academic leaders that college graduates, majoring in accounting, are entering the accounting profession with a set of skills that is inadequate to manage the dynamic workplace (Albrecht & Sack, 2000; AAA, 1986). Students entering the workforce are finding that they are encountering complicated and diverse conditions. The type of classroom problems posed and the ability to memorize large amounts of data were not preparing the students for the ambiguity they were facing. They were stumbling and ill-prepared to navigate this very different landscape than the classroom setting they had just left.

Leading accounting journals have published reports calling for change in educating our future graduates (Albrecht & Sack, 2000; AAA, 1986; Big Eight White Paper, 1989). This chapter reviews relevant literature related to the investigation of students’ experiences and cognitive developmental changes in one accounting classroom that employed a learning paradigm and incorporated ill-structured problems into the classroom. The following is provided:

1. The first section delineates a historical literature review of what problems exist with both students and accounting education practices.

2. The second section discusses the conceptual framework for this study, specifically the literature on the instruction and learning paradigms.
3. The third section discusses the theoretical framework, specifically the literature on cognitive development of the college student that grounds this study and guides the study’s research design.

4. The fourth section discusses a postmodern critique to cognitive developmental theories as it relates to the theoretical framework presented for this study.

What Do the Reports Say?

1984–1986

The American Accounting Association’s (AAA) Executive Committee in 1984 convened a committee of public accounting academics and non-public accounting individuals to look into the future structure, content, and scope of accounting education. The Bedford Committee, as it became known, was tasked with studying the changing accounting profession and the current circumstances of accounting education.

In 1986, the Bedford Committee issued their special report titled *Future Accounting Education: Preparing for the Expanding Profession*. The Committee was quick to recognize the increasingly complex “state of flux” (AAA, 1986, p. 177) workplace that accounting graduates enter. Technology, the global marketplace, competition, social values, and overall business practices were just a few workplace elements mentioned in the report that were experiencing rapid change. The Committee predicted instability would linger and professionals would be required to work on emerging issues and increasingly diverse situations. There was uncertainty as to how and where the profession would develop.
Even with the knowledge of changes in the workplace, accounting education had not kept pace. The Bedford Committee (AAA, 1986) stated, “accounting education as it is currently approached requires major re-orientation between now and the year 2000.”

The Committee continued on making this bold statement:

There is little doubt that the current content of professional accounting education, which has remained substantially the same over the past 50 years, is generally inadequate for the future accounting professional. A growing gap exists between what accountants do and what accounting educators teach. (p. 171).

Even accounting academics questioned accounting education based on the frequency of complaints they were fielding from practitioners regarding recent graduates into the workplace. Examples of complaints included students’ lacking appropriate communication, problem solving, and logical reasoning skills. The Committee and educators cited the number and frequency of complaints as evidence that changes needed to be made in the way accounting students were educated.

The accounting classroom atmosphere appeared to be in direct contradiction to the report’s recommendation to create a classroom that would stimulate thinking, communication, and reasoning with ill-structured problems. The persistent use of the instruction paradigm (Barr & Tagg, 1995), based on a lecture-based teaching method, still dominated the accounting classroom. Many educators questioned “the effectiveness of traditional teaching and learning methods” (AAA, 1986, p. 177). The instruction

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2In the year 2000, the American Institute of Public Accountants (AICPA) will require 150 education credit hours for membership. This change being implemented resulted in graduate programs being designed and added to ensure that accounting majors would achieve the required amount of hours for membership into the AICPA. This also satisfied, in many states, the amount of hours required to sit for the Certified Public Accounting (CPA) exam.
paradigm eliminated the students’ need to communicate, critically think, or take an active role in the classroom. In addition, students primarily worked on well-structured problems that resulted in a single, correct answer, thus eliminating the need to analyze and deliberate alternative possibilities or perspectives.

Recommendations to devise educational experiences that obligated the students to be active, autonomous learners, communicators, and deep thinkers rather than receptacles of information are found throughout the reports (AECC, 1990, 1992; Albrecht & Sack, 2000; AAA, 1986; Big Eight White Paper, 1989). The Bedford Committee was advocating a shift to the learning paradigm. It was believed that with alterations in the classroom, students would develop a broader set of skills that could assist them in managing the rapidly expanding and changing nature of the accounting workplace. The predictable result from these classroom changes would be practitioners hiring a better prepared student upon graduation, resulting in educators hearing a reduced number of practitioner complaints.

1989

Three years after the issuance of the AAA’s *Future Accounting Education: Preparing for the Expanding Profession Special Report* (1986), another report was issued touting concerns of the quality and number of accounting graduates available to work in public accounting. This Big Eight White Paper (1989) was issued by the chief executives of the eight largest public accounting firms and titled *Perspectives on Education: Capabilities for Success in the Accounting Profession*. Two major points, student competencies and accounting education reforms, were highlighted throughout the report.
The focus of the report was not to dictate how and what should be delivered inside
the accounting classroom. Instead, the executives centered their report on the
competencies individuals needed in order to be successful in public accounting. By
identifying competencies and pledging $4 million over a five-year period, they were
looking for a commitment from higher education institutions to design curricula that
would be innovative, inspiring, and germane to the needs of the profession.

What were the competencies that the executives identified? Three categories of
skills were highlighted. Communication, interpersonal, and intellectual skills were
believed to be of such importance that inclusion within the accounting curriculum would
need to be deliberate. The abilities for students to “solve diverse and unstructured
problems in unfamiliar settings . . . comprehend an unfocused set of facts; identify and, if
possible, anticipate problems; and find acceptable solutions” (Big Eight White Paper,
1989, Ch. 1, p. 3) were highly desired.

Even though the Certified Public Accountant (CPA) credential was highly valued
in public accounting, the executives declared that educating the student to pass the CPA
exam should not be the aim of accounting education. Instead, developing a student’s
ability to conceptualize and analyze unstructured problems should replace large doses of
accounting rule memorization. Further, the executives declared that continuing to keep
students docile and inactive in the classroom would not address the quality and number of
students available to both the academic programs and future employers.

The executives acknowledged certain barriers that existed in academia that
prohibited or limited change efforts. One barrier was the current evaluation system for
faculty that existed at many higher education institutions. Promotion and tenure decisions in accounting were based primarily on the quality of empirical research, especially quantitative studies, and publications in leading accounting journals. Curriculum and teaching efforts were secondary to research and time and efforts expended were not valued as highly. Considerable time would be needed to address the multitude of issues addressed in the reports and the sweeping curriculum changes that would be necessary to integrate the proposed recommendations. If faculty members spent time with curriculum and teaching matters at the expense of research, faculty may find themselves at risk in their journey of promotion and tenure. Faculty may not be willing to take this risk.

A second barrier was funding for curriculum efforts. Many institutions had monies for research, but funding and time for curriculum activities was sparse. With research being the predominant reward and monies more easily attainable, the chief executive’s pledge of $4 million assisted efforts in implementing changes to both the degree programs and accounting classrooms.

A third barrier was raised regarding knowledge transfer between faculty and practitioners. There has always been a natural distance between work and the accounting classroom, but the issue was never a problem until the 1960s. Up until the 1960s, accounting educators actively worked as practitioners. This all changed when scholarly research was emphasized over teaching (Sundem, 1999; Van Wyhe, 1994). Top leaders in the AAA led efforts to increase education and research requirements for accounting professors. Individuals with the dual role of faculty member and practitioner were found
now devoting time solely to academia. Accreditation standards and faculty evaluation systems quickly aligned to these changes.

The question is how best to bridge this gap. To incorporate classroom changes, it is necessary for faculty to have an awareness of not only the output of financial data to the external community, but also the input process it takes to accumulate, test, and synthesize financial data. Without faculty awareness, textbooks often become the primary and possibly the sole source of knowledge for the student. This alone is insufficient for the students’ understanding and preparation for the workplace (Albrecht & Sack, 2000).

The executives fully acknowledged the need for confidentiality of financial data and restrictions of information for public record. Even with the World Wide Web and company web-sites being plentiful today, the transparency of how that data was formulated is not apparent. Integration of workplace scenarios may not occur due to this lack of knowledge. Purposeful conversation, classroom visits, and sabbatical leaves are just a few mechanisms that may allow faculty to stay in touch with the changing workplace and incorporate this knowledge into their classrooms.

With the issuance of the Big Eight White Paper (1989), *Perspectives on Education: Capabilities for Success in the Accounting Profession*, and pledge of $4 million came conditions set forth by the chief executives. The first condition required formation of a new and temporary AAA committee to handle the pledge distribution process and guide the curriculum change process. The committee’s limited life was tied to either completing its mission or failing to guide the curriculum change process. The
second condition was tied to the accounting firm’s promise to provide leadership, guidance, and financial resources to the newly formed committee (Sundem, 1999).

The formation of the committee was swift and became known as The Accounting Education Change Commission (AECC). The AECC’s responsibilities included managing and monitoring the education change process through workshops or conferences, distributing the $4 million pledge, and maintaining transparency by keeping academia informed with the initiatives outlined in both the *Future Accounting Education: Preparing for the Expanding Profession* (AAA, 1986) and *Perspectives on Education: Capabilities for Success in the Accounting Profession* (Big Eight White Paper, 1989) reports.

**1990–1992**

In its effort for transparency and direction, the AECC formed multiple sub-groups to work on goals identified by the committee. Creating action in implementing change was forefront in the AECC’s goals. They were sanctioned as the catalyst to make educational change in the broader academic community.

Presentations, workshops, symposiums, documentation, and published reports were all used to promote understanding of the Committee’s direction and support of the recommendations outlined in the Bedford Committee report (AAA, 1986). Two of these reports—*Objectives of Education for Accountants: Position Statement Number One* (AECC, 1990) and *The First Course in Accounting: Position Statement No. Two* (AECC, 1992)—are discussed due to the reports’ relevancy to this study.
The most widely distributed report, *The Objectives of Education for Accountants: Position Statement Number One*, outlined what the AECC felt should be the overall purpose of accounting education. Accounting education should be geared towards preparation for a lifetime of learning and development of the accounting professional. Changing a classroom from a *transfer of knowledge* (instruction paradigm) to students *learning to learn* (learning paradigm) was vital to the educational shift being requested. The report implied that shifting education’s focus to *learning to learn* would provide the impetus for broad development of intellectual, communication, and interpersonal skills.

It is important to note the profession did not expect a new graduate to have the skills that a seasoned, working individual possessed. However, activities that assist student skills development should be routine throughout the accounting degree program. With the issuance of the AECC’s 1990 report came the hope that it would provide clarity for the changes to be implemented and that accounting education would provide a higher preparedness for the graduating accountant.

The second report, *The First Course in Accounting: Position Statement No. Two* (AECC, 1992), focused on a single course in the curriculum—the introductory accounting course. This particular course is noteworthy for its relevancy within most business degree programs. The college introductory accounting course is often the first exposure to accounting for many students. The course is viewed as a pivotal and critical marker in the decision of becoming an accounting major. This report supported the concerns highlighted by the chief executives of the Big Eight accounting firms regarding the quality and the declining number of students enrolling as accounting majors. This course shapes
Building on the 1990 report, the AECC (1992) outlined what they believed to be of importance and the overall objective of the introductory accounting course. Teaching the course should spotlight student interaction with both the professor and peers and emphasize the need for the student to learn on his or her own. The 1992 report stated “students’ involvement should be promoted by methods such as cases, simulations, and group projects” (p. 250). Classrooms needed to be designed to implement problem sets that had students engaged in ill-structured problem solving. Once again, moving out of the instruction paradigm into the learning paradigm where there is increased student engagement may offer a formula to augment accounting students’ intellectual development.

Even though this particular research study does not take place in the introductory accounting classroom, the 1992 report is relevant for multiple reasons. One, it addresses the first course of accounting that is often required of all majors in business. For those continuing on with a major in accounting, students’ first glimpse of accounting can be realized by participating in an action oriented classroom. The use of cases, simulations, and group projects are the types of activities that Barr and Tagg (1995) indicated are representative of the learning paradigm. Highlighting interaction with peers and the professor along with students beginning the process of learning assists professors’ efforts who teach core, accounting major courses.
2000

In 2000, Albrecht and Sack’s *Accounting Education: Charting the Course Through a Perilous Future* report was published. This study was conducted primarily due to the perception of a lack of response to the previous calls to actively address and implement substantial change in accounting curriculum. It was noted that there was also a deep concern for the future health of many accounting degree programs. Albrecht and Sack asked without change, how would accounting degree programs continue to survive?

Four major organizations—the Institute of Management Accountants (IMA), The American Institute of Certified Public Accountants (AICPA), the American Accounting Association (AAA), and the Big 5\(^3\) accounting firms—joined together to sponsor the study. Even though each organization regularly conducted their own studies and issued reports, collectively they felt not enough attention was being directed to the problems the organizations saw with the current state of accounting education. Albrecht and Sack’s (2000) charge was to “write a high-level thought piece, backed by empirical evidence when possible, that would motivate serious change in accounting education” (Ch. 1, p. 3).

What was fueling the concern? Albrecht and Sack’s (2000) report cited the business domain propelling the need for education change. The business community was experiencing rapid change. Globalization of the marketplace, companies facing increased competition, and the acceleration of change for both accounting firms and companies they assisted were a few factors driving change. This dynamic state of affairs demanded the

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\(^3\)The Big Eight that existed in 1989 is now the Big 5 largest professional accounting firms.
call for individuals who possessed an aptitude for working in a dynamic setting that
routinely managed uncertainty and complexity.

Without delay, the Albrecht and Sack (2000) report quickly pointed out serious
problems. The decline in both the quality and numbers of students majoring in accounting
continued. Practitioners were still claiming the present state of accounting education was
obsolete and in need of extensive rehabilitation. Deficiencies persisted in accounting
graduates’ abilities to manage the diversity of the workplace.

In addition, an accounting degree was no longer perceived in the manner it once
was by people working in the field. Practitioner survey respondents indicated a master’s
degree in business administration or information systems would be their selected career
track if they had a chance to return to college and do it all over again. Practitioners cited
factors such as the need for a broader understanding of business, the increased usage of
information systems to handle the transaction complexity they faced on their jobs, and the
change in their overall job responsibilities driving their responses.

If practitioners stated they would not major in accounting again, then it should not
be a surprise when one looked at the decline and quality of accounting students over the
years. Albrecht and Sack’s (2000) survey responses shed light on possible reasons why
these conditions existed. Salaries for business and information system majors were now
competitive or exceeding salary offers for graduating accounting majors. Increased
opportunity cost, the cost of forgoing one opportunity for another, existed for acquiring

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4An opportunity cost is the cost of forgoing one opportunity for another. For example, if the student stays in
school longer to complete the 150-semester hour requirement, she may be forgoing an opportunity such as a
job offer.
the required 150-semester hours for application into the AICPA and ability to sit for the CPA exam. Survey responses confirmed the perception of accounting was “most often associated with money, numbers, math, and taxes” (Ch. 3, p. 28). The attractiveness of earning more money in alternative fields than accounting, the increased opportunity cost to obtain the CPA credential, and persistent perception of accounting collectively may be combining to be detriment in convincing students to pursue a career in accounting.

What suggestions did the report make for educating our accounting majors? The findings suggested that our curriculum was too narrowly focused and heavily dependent upon student memorization. Albrecht and Sack (2000) surveyed various pedagogical approaches used by faculty. Findings revealed:

- Lecture was used by over 90% of respondents
- Almost 60% of respondents did not utilize real companies for classroom assignments
- 84% of the respondents used textbooks
- Almost 85% of respondents did not use role playing in the classroom
- Over 75% of respondents used assessments such as quizzes

In a lecture based, textbook driven classroom, where is the complicated conversation (Pinar, 2008)? Pinar explained, “classroom conversation, within carefully bounded, school-subject borders, is possible, and, often, preferable to the lecture as an instructional strategy” (p. 191). Complicated conversation requires “curricula innovation and experimentation, opportunities for students and faculty to articulate relations among the school subjects, society, and self-formation” (p. 191).
Continuing on, survey respondents were asked to rank skills in order of importance. Faculty and practitioner responses were in agreement on top skills needed by graduating students. Communication, analytical/critical thinking, and interpersonal skills were at the top of the survey rankings. However, comments like “we have not trained our students in accounting to deal with uncertainty” and “the analytical ability of auditors, particularly young auditors, is atrocious” (Albrecht & Sack, 2000, Ch. 5, p. 51) indicated a divergence between skills desired and skills achieved. One has to ask with 90% of the study respondents stating that lecture driving classroom activities, where exactly is the opportunity to build skills? Once again, where is the complicated conversation in the accounting classroom (Pinar, 2008)? We need to stretch our students’ thinking and create opportunities for intellectual development, specifically ways in which they can think, frame, and resolve ill-structured problems.

Questions were posed regarding course pedagogy. Did course delivery allow for skill growth or was students’ memorization the only skill being developed? Was there an extension of classroom experiences outside the classroom? The need for renovating and rejuvenating our accounting education programs to match the revolutionary changes taking place in the business world was necessary for the preparation and success of our future accounting majors in the workplace (AECC, 1990, 1992; Albrecht & Sack, 2000; AAA, 1986; Big Eight White Paper, 1989). The next section discusses the conceptual framework for this study, specifically the literature on the instruction and learning paradigms (Barr & Tagg, 1995).
Instruction Paradigm Versus Learning Paradigm

Marshall, Sears, Allen, Roberts, and Schubert (2007) described a paradigm as “a conceptual framework or way to look at the world composed of knowledge, values, and assumptions that govern activity or inquiry in an academic field such as curriculum” (p. xxxii). Barr and Tagg (1995) described a paradigm “like the rules of a game: one of the functions of the rules is to define the playing field and domain of possibilities on that field” (p. 15).

This study was informed by the work of Barr and Tagg (1995), scholars of teaching and learning, who argued that a paradigm shift was needed in undergraduate instruction. Undergraduate education, including accounting education, was dominated by the instruction paradigm’s focus on instruction (Barr & Tagg, 1995; Ornstein & Hunkins, 2009). Barr and Tagg offered an alternative to the instruction paradigm, a paradigm they referred to as the learning paradigm that focused on student learning. This shift may provide the classroom environment that allows for the development of students’ intellectual skills, deficiencies that are currently not being realized based on current teaching practices (Albrecht & Sack, 2000; AAA, 1986; Big Eight White Paper, 1989). Barr and Tagg’s (1995) article was aimed at undergraduate education, but the alternative learning paradigm may offer the opportunity for implementing change into the accounting classroom.

The traditional and dominant paradigm that centers curriculum decisions in accounting degree programs is called the instruction paradigm (Barr & Tagg, 1995). This paradigm was not discovered or created by Barr and Tagg. This paradigm has a long
history within the field of education and is often referred to as the behaviorist, standardized management, or positivist paradigm (March & Peters, 2008; Ornstein & Hunkins, 2009). When discussing research on teaching, the paradigm is often referred to as effects of teaching paradigm and categorized as quantitative based research (Floden, 2001; Hamilton & McWilliam, 2001). Whether you call it instruction, behaviorist, standardized management, positivist, or effects of teaching paradigm, they all share a common foundational base and many universal elements. For purposes of this discussion, reference to the instruction paradigm refers to the didactic approach to teaching and variously called behaviorist, standardized management, positivist, or effects of teaching paradigm.

The foundation for the dominant paradigm was based on a process/product approach to teaching (Hamilton & McWilliam, 2001) the didactics created. The process was a mechanical efficiency of transferring knowledge from teacher to student. It was a one-way transmission and teaching was a technique to master. The product of student outcomes was causally evaluated due to teaching being rooted, aligned, harmonized, and heavily influenced by 20th century science (Gage, 1963a). The determinist belief that events are logically related, caused, or determined by others is grounded in the process/product approach to teaching. Verified hypotheses, established by facts or laws, established the nature of knowledge while knowledge was accumulated by accretion and supported by generalizations and causal relationships (Lincoln & Guba, 1994). The process of explanation drove educational practices. Because of these beliefs, quantitative
research on teaching was conducted by maintaining a detachment between the researched and researcher (Lincoln & Guba, 1994; Gage, 1963a; Hamilton & McWilliam, 2001).

The process/product teaching approach supported Barr and Tagg’s (1995) instruction paradigm’s mission. Barr and Tagg articulated the paradigm’s mission was to deliver instruction. They continued by stating teaching by lecture was a primary component of this worldview and learning was teacher centered and controlled. Gage (1963b) stated teaching was “an activity whereby potential learners extract meaning from the objects and events that teachers bring to their sense” (pp. 96-97). Didactics placed the teacher center stage, with all work falling to the teacher (Hamilton & McWilliam, 2001). Teaching was designed to be a very scientific, rational, and linear process with high degrees of structure. Coverage of materials was forefront. Students’ knowledge was constructed by sitting passively, receiving what was given, and demonstrating what was learned by passing tests. The didactics’ framing question for the classroom was “what should they know” (p. 18). This teaching approach reduced opportunities for complicated conversation (Pinar, 2008) and undermined attempts to address concerns regarding the lack of students’ intellectual development (Albrecht & Sack, 2000; AAA, 1986; Big Eight White Paper, 1989).

An alternative to the instruction paradigm and potential paradigm shift for the accounting classroom was what Barr and Tagg (1995) called the learning paradigm. This paradigm was not discovered or created by Barr and Tagg. This paradigm has a shorter history within the field of education than the instruction paradigm and created a diaspora from the didactic approach, introducing ideas and practices not previously embraced in
education. This paradigm was also referred to by other names, such as interpretive or constructivist (Brooks & Brooks, 1999; Hamilton & McWilliam, 2001; Lincoln & Guba, 1994; Ornstein & Hunkins, 2009; Wiggins & McTighe, 2005). Whether you call it learning, interpretive, or constructivist, the paradigms share a common foundational base and many universal elements. When discussing research on teaching, the paradigm is categorized as qualitative based research. For purposes of this discussion, reference to the learning paradigm is meant to represent the foundational base and elements shared among all the above named paradigms.

Dissatisfaction with the instruction paradigm’s scientific foundational base by pedagogics, including both researchers and educators, in the 1960s created the climate for a shift in worldview of people’s views on teaching and how students had historically been educated. The splintering of worldviews between the didactics and pedagogics was driven on whether “the knowledge base of education practice should be derived from processes of explanation or from activities of interpretation and understanding” (Hamilton & McWilliam, 2001, p. 17). The shift in thinking was further elevated in the 1970s by key figures in education (Gage, Cronbach, and Campbell) who spoke publicly on their changed views on teaching. They put distance with their earlier beliefs, especially, the belief that teaching was a rule-based activity and derived from processes of explanation.

It gave legitimacy to the possibility of a new and acceptable worldview for both the classroom and research. Teaching was regarded as a process instead of a technique and was transformed from a one-way transmission into a two-way communication. Pedagogics embraced transformations that occurred through relationships created during
the learning process instead of the didactics’ mechanistic exchanges of information. Gage (1978) stated, “a science of teaching . . . is erroneous. It implies that good teaching will someday be attainable by closely following rigorous laws that yield high predictability and control” (p. 22). This altered worldview changed the foundational base of 20th century science and causal relationships (Gage, 1963a; Hamilton & McWilliam, 2001) to a collaboration of learning between teacher and student and a co-construction of knowledge, particular to the individual and context (Brooks & Brooks, 1999; Lincoln & Guba, 1994; Hamilton & McWilliam, 2001). Teaching and learning combined to create an intricate web of “economic, social, and cultural differences that links, yet also separates, teachers from learners” (Hamilton & McWilliam, 2001, p. 18). The pedagogics’ framing question for the classroom changed from “what should they know” to “what should they become” (p. 18).

With this shift, Barr and Tagg’s (1995) instruction paradigm’s mission of instruction changes to a learning paradigm’s mission of learning. Classroom discussions are designed to create “cooperative, collaborative, and supportive learning environments” (p. 15). The students’ role transforms from being passive to one of active and engaged participants within the classroom. Peeking into the classroom one may find faculty and students working collaboratively on learning modules that assist students’ development. Activities are incorporated that challenge the students, while providing support and practice. All of this takes place within an atmosphere of sharing, communication, problem solving, and critical thinking.
Since undergraduate education, including accounting education, has been firmly rooted in the mindset of the instruction paradigm where the teacher is the knower, this move to having confidence in students and allowing them to take on different roles in the classroom may not come easy to many. One of the most basic tenets of the learning paradigm is the co-construction of knowledge. The teacher is no longer the provider of knowledge (Barr & Tagg, 1995). Knowledge is co-constructed, created through students’ experiences, and embedded in context (Lincoln & Guba, 1994). King (2009) provided an explanation for possible student resistance to changing the traditional accounting classroom. She said:

Changing one’s worldview takes hard work. For this reason, it shouldn’t be surprising that development is slow or that education that is discombobulating and turns one’s world on its head is unnerving. Perhaps this resistance to change, however temporary, is a reflection of the stability of cognitive structures, and their central role in meaning making. (p. 614)

This is very different than what has existed in the accounting classroom since the late 1880s (Van Wyhe, 1994).

Barr and Tagg (1995) posited “paradigms change when the ruling paradigm loses its capacity to solve problems and generate a positive vision of the future” (p. 27). The ruling instruction paradigm appeared to be at the center of the problems being experienced in the accounting classroom (Albrecht & Sack, 2000; AAA, 1986; Big Eight White Paper, 1989). Student enrollment and growth, numbers of faculty doctorates, curriculum development and expansion, and the reputation of faculty research defined quality of the
college instead of “the results of our work, namely student learning” (Barr & Tagg, 1995, p. 17).

The accounting reports (Albrecht & Sack, 2000; AAA, 1986; Big Eight White Paper, 1989) did not shy away from stating the current state of education was negatively impacting the development of students’ intellectual skills, specifically students’ abilities to work with ill-structured problems. Looking through the worldview lens of the learning paradigm may provide our accounting graduates greater chances of success in the workplace. Increasing opportunities in the classroom where they can construct knowledge through experiences in resolving ill-structured problems is one possible area that can foster students’ success.

Starting with the AAA’s Bedford Committee report (1986) through and including the Albrecht and Sack (2000) report, the authors of the reports implied not enough was being done. The Albrecht and Sack report even goes so far as to state that accounting degree programs at many institutions were at risk if changes were not made. As previously discussed, there was a long and rich history of how accounting academicians have delivered subject matter content and built curriculum within the accounting programs (Hamilton & McWilliam, 2001). Past practices had been based on the needs of the profession, readying to sit for the CPA exam, and the ever increasing base of knowledge to prepare the students for junior positions in the field of accounting. If enrollment remained high and recruiting efforts continued securing jobs for graduates, many institutions may retain the status quo and not feel any negative impact on how their programs were being operated or curriculum decisions were made.
The next section provides a discussion of the theoretical framework, cognitive development of the late high school to college student that framed this study. The literature review begins with a historical background of research conducted on college students’ cognitive development. This discussion leads to the grounding theory for this study, King and Kitchener’s (1994) research on cognitive development with late high school to college students. Further, there is a limited discussion of research conducted in the accounting classroom as it relates to the recommendations for addressing deficiencies with intellectuals skills of the accounting graduates. The section concludes with stage theory critique as it pertains to this study’s theoretical framework.

**Cognitive Development**

King and Kitchener’s (1994) research built upon a large body of work on students’ cognitive development. As a point of introduction, research on students’ cognitive development, first articulated by Perry (1970) and extending from the work of Piaget, traced a progression from dualistic thinking, to an appreciation of multiplicity of views including one’s own voice, to relativism, where the objectivity of an academic discipline is respected as a way of knowing—not simply adopted but recognized as constructed knowledge. Many have extended Perry’s groundbreaking research with college students. For instance, Belenky et al. (1986), critical of Perry’s sole focus on Harvard men, studied women’s ways of knowing; and Baxter Magolda (1992) launched a mixed gender longitudinal study investigating gender related patterns: one impersonal pattern that reflected knowing through separation and a relational pattern that reflected knowing through connection to the object of knowing. King and Kitchener (1994), in their
Reflective Judgment Model, reported cognitive development moving from accepting knowledge from authorities to making one’s own evidence-based decisions. All these developmental models provided insight into the college student’s meaning making and their worldviews (King, 2009) and are discussed in greater detail in this section of the chapter.

**Perry**

Hofer and Pintrich (1997) posited that original research regarding cognitive development of the college student commenced with Perry’s (1970) work in the 1950s. Perry and staff from the Harvard Bureau of Study Counsel conducted two longitudinal studies. The study sought to document the experiences of Harvard undergraduates after each of their four years of college. The investigation was particularly interested in how students experienced, responded, and perceived the diversity of views they encountered and ways those experiences were assimilated back into the students’ lives.

In the mid-1950s, the first study conducted by Perry (1970) selected a random sample of 313 first year college students. The study sought to “illustrate the variety in students’ response to the impact of intellectual and moral relativism” (p. 7). With this group he administered a self-developed instrument, called the Checklist of Educational Values (CLEV), in both the fall and spring semesters. Based on their scores from CLEV, a smaller group of 31 students volunteered to be interviewed to detail their college experiences.

Taped interviews were conducted in late May and June of the students’ freshman year. The interviews were intentionally open-ended to avoid the possibility of duplicating
the students’ thoughts in the questions being asked. The first question asked was “would you like to say what has stood out for you during the year?” (Perry, 1970, p. 7). After this response, a second question was asked: “As you speak of that, do any particular instances come to mind?” (p. 7). The responses were compiled into what Perry referred to as the student report.

The compilation of the students’ reports made the investigators feel as if they could “detect behind the individuality of the reports a common sequence of challenges to which each student addressed himself in his own particular way” (Perry, 1970, p. 8). The responses indicated coherent development patterns of intelligence, values, and construction of the world. Even the few students who did not fall into the sequence provided evidence of challenges that prevented them from following the sequence. It was then that Perry’s (1970) study was expanded and committed to obtaining a larger sample, articulating a developmental scheme based on students’ reports, and assessing the scheme against tests of validity.

Perry’s expansion to his original study resulted in the launch of a second longitudinal sample of freshmen students. The CLEV instrument was administered again, but the follow-up sample was randomly chosen. Interviews were conducted with the new study participants. Perry’s (1970) research focus was to “describe more precisely the evolving sequence of challenges which we had discerned as the common theme in the accounts of our first informants” (p. 8). The problem of the whole study was to find out whether or not the scheme supplied a helpful order of students’ intellectual and moral experiences, based on the students’ own reports.
It was through extensive interviewing that a sequential scheme was developed to show how Perry’s (1970) study participants “extended his power to make meaning” (p. 3). The use of independent judges (raters) validated the findings. Perry’s analysis resulted in a developmental scheme of the “abstract structural aspects of knowing and valuing” (p. 14).

In its full range the scheme begins with those simplistic forms in which a person construes his world in unqualified polar terms of absolute right-wrong, good-bad; it ends with those complex forms through which he undertakes to affirm his own commitments in a world of contingent knowledge and relative values. (p. 3)

The research design included reliability testing by independent observers. These observers, called judges, were a group of six English and Comparative Literature graduate students. They were given a copy of the scheme, protocol for the interviews conducted, and a document describing an overview of the study (Perry, 1970). Judges were tasked with rating students’ full, four-year reports, single interviews, excerpts, and condensed four-year reports. Perry’s findings were validated by the judges’ ratings, but certain limitations of the study were noted. Conducting the study at a single college was one of the noted limitations.

How did his study participants move from one position to the next? This depended on what the person brought to the experience but was based on the following description provided by Perry (1970):

The meaning of a given moment in experience emerges from a highly complex and selective interaction of forms derived from two pools: (1) the pool of those
forms or orderings a person brings with him to the moment as expectancies; (2) the pool of those forms humanly discernable as “inherent in the environment” of the experience (physical, social, internal, etc.). The meaning emerging from the interaction will bear varying degrees of congruence and incongruence with the forms of expectancies the person brought with him to the experience. The degree and nature of the incongruence will determine the work a person has to do to “make sense” of the experience. The work of making sense will consist of some balance between two processes: (1) assimilation of the emerging forms of the experience to the forms of the expectancies the person brought with him, and (2) accommodation of the forms of the expectancies to the forms emerging in the experience. (p. 42)

This ways of knowing scheme outlined nine positions, but was commonly summarized into four sequential categories (Perry, 1970, Glossary Chart of Development). Within the Chart of Development, Perry included three positions of “delay, deflection, and regression” (p. 10). These positions offered alternatives to the student throughout the continuum of their development. Perry’s scheme is represented as follows.

**Positions 1 and 2.** These two positions are associated with a way of knowing Perry terms “dualism.” Dualism means the student expects that the world is known, an authority figure will tell them what they need to know, and view of knowing is influenced by their belief of right or wrong. Either something is right or something is wrong. Uncertainty does not exist.
**Positions 3 and 4.** These two positions are associated with a way of knowing Perry terms “multiplicity.” Multiplicity means that student expectations are now clouded with the possibility of encountering uncertainty. This student believes truth is still known, even if experts disagree. All viewpoints are viewed as valid and weighed equally. The dualistic view of the world still exists, but is now altered in its form from positions 1 and 2.

**Retreat.** The student embeds himself into the structures outlined in positions 2 or 3, even though the investigators recognized retreat could occur at other positions. In the first study, it was within positions 2 and 3 that the “dramatic energy of regression” (Perry, 1970, p. 182) was so apparent.

**Positions 5 and 6.** These two positions are associated with a way of knowing Perry terms “relativism.” Relativism means that student expectations are significantly altered from the previous positions. The student comes to recognize that knowledge is relative and conditional upon the context in which it occurs. The way of knowing shift now includes themselves along with authority figures as meaning makers.

**Escape.** The student takes advantage of the chance offered by positions 4 and 5 to maintain a disinterest and reject responsibility by being passive or isolation.

**Positions 7, 8, and 9.** These three positions are associated with a commitment to a way of knowing Perry termed “relativism.” He included these positions, but did not find them common among the research participants. Overall, he posited that the student makes a stronger commitment to self, including his or her beliefs and values.
**Temporizing.** The student remains in a position for over a year, hesitating to make the next step.

Perry’s (1970) research and how he presented his data findings were influential and informative to future researchers. His method of showing the growth of how a college student progressed from one position to the next position was ground breaking in understanding ways of knowing for the college student.

Controversy arose based on generalizations made from his data analysis. Out of the sample, two female four-year student reports were included. After completing the ratings by the independent judges, discussion followed in regards to men and women differences, specifically in the experience of commitment which started in position 6 and extended to position 9. It was determined that “for the purposes of the study these differences were evident in the content and manner of the students’ reports rather than in those structuring of experience relevant to the developmental scheme” (Perry, 1970, p. 16). This generalization came under scrutiny and more research followed.

**Belenky, Clinchy, Goldberger, and Tarule**

Not satisfied with Perry’s findings and generalizations, Belenky et al. (1986) conducted a study focusing on “women’s ways of knowing.” They questioned research generalizations to women when studies only used male participants in the development of intellectual models.

They studied both women enrolled in college and women who were not (Belenky et al., 1986). This semi-structured, case study involved 135 participants. The participants included 90 women who were either enrolled or recently graduated from six different
higher education institutions with the other 45 women seeking help or information on parenting from human service agencies. They used a semi-structured interview protocol with a section designed to solicit information on ways of knowing. Interview question modifications were implemented for those still in college or recently graduated versus the women who were not in school. Interview questions were similar to Perry’s (1970) in that it started questioning the women what life event stood out for them over the last several years and what stayed with them.

In the initial analysis phase, Perry’s (1970) developmental scheme was used to classify the collected data. It was soon clear to the investigators, though, that would not be possible based on the participant responses. It was because “responses to the Perry questions could not be wedged into the Perry scheme” (Belenky et al., 1986, p. xiii) and the construction of a new developmental model emerged. The model offered is based on an outlook of how “women know and view the world” (p. 15) and situated based on their voices.

**Voice of silence.** This voice of silence found women passive in their world roles and submissive to external authority.

**Voice of received knowledge.** This voice of received knowledge found women believing only one answer was right. These women do not align themselves with authority figures and believe knowing comes from someone other than self. There was a noted difference here between men and women when comparing to the Perry (1970) model’s dualism position. When men chose the “right” answer, they felt aligned with
authority. When women chose the “right” answer, they did not feel aligned with authority.

**Voice of subjective knowledge.** This voice of subjective knowledge found women starting to believe that knowledge can come from self. There was a noted difference here between men and women when comparing to the Perry (1970) model’s multiplicity position. Men asserted the right to their own opinion, “wresting authority from others” (Belenky et al., 1986, p. 45) while women intuitively personally experience truth.

**Voice of procedural knowledge.** This voice of procedural knowledge found women coming from two dimensions—separate and connected knowing. Separate knowers allowed for the possibility that everybody, including themselves, may be wrong. Connected knowers incorporated understanding and care into their knowledge construction.

**Voice of constructed knowledge.** This voice of constructed knowledge found women begin to know based on context and the woman sees herself as an integral part to her knowledge construction.

At points in the model, there were similarities to Perry’s (1970) developmental scheme, but the study exposed differences between male and female gender ways of knowing as noted above. The major difference between these two studies resulted in Belenky et al. (1986) acknowledging Perry’s study was more about the nature of knowledge versus their study spotlighting the source of knowledge (Hofer & Pintrich, 1997).
The criticism lodged against Perry’s (1970) research extended to this study as well. Perry studied men; Belenky et al. (1986) studied women. Studies isolating gender, developmental schemes being generated from the studies, and Belenky et al.’s claims being generalized to men’s way of thinking caused Hofer and Pintrich (1997) to declare that Belenky et al.’s study “provided no means to assess the gender-related nature of the knowledge” (p. 96).

**Baxter Magolda**

Perry (1970) and Belenky et al. (1986) combined to advance research on cognitive development of college students. To bridge the gap due to the isolation of gender found within both studies, Baxter Magolda (1992) launched a five-year longitudinal study to better understand gender and potential differences in knowing. Baxter Magolda randomly selected college students, resulting in inclusion of both genders in the same study. Hoping to quantify her student participants’ thinking based on Perry’s (1970) development scheme, she developed a tool called the Measure of Epistemological Reflection (MER). The MER student responses ended up not aligning with Perry’s scheme. This intrigued Baxter Magolda and she launched a five-year longitudinal study to investigate possible gender related issues in ways of knowing. Hofer and Pintrich (1997) proclaimed that for Baxter Magolda’s study, ways of knowing was defined as “largely consisting of students’ perceptions of learning experiences” (p. 99).

In 1986, Baxter Magolda added interviews along with the administration of the MER instrument. Interview questions incorporated additional aspects of college students’ development. Over the five years of interviews, data was collected and coding was
structurally based on Perry’s (1970) positions 1-5 and Belenky et al.’s (1986) voice perspectives 1-5. Baxter Magolda’s data analysis resulted in the creation of another cognitive developmental model. The model outlined four ways of knowing and gender patterns.

**The absolute knower.** The absolute knower believed authorities have the answers and knowledge is not uncertain. Gender related patterns emerged of receiving and mastery. Women tended to use receiving more than men. This meant women were more willing to take a “more passive and private approach to learning” (King, 2009, p. 606). Baxter Magolda (1992) described this as having “minimal interaction with instructors, an emphasis on comfort in the learning environment, relationships with peers, and ample opportunities to demonstrate knowledge” (p. 82). Men tended to use a mastery approach. This meant men relied on interacting with others to check and reveal their understanding.

**The transitional knower.** The transitional knower recognized that knowledge can be uncertain and that authorities may not know everything. Gender related patterns emerged of interpersonal and impersonal. On the range from interpersonal to impersonal, women tended to use an interpersonal pattern versus men using the impersonal pattern. Baxter Magolda (1992) explained the woman’s interpersonal pattern “collects others’ ideas, expects interaction with peers to hear their views and provides exposure to new ones, seeks rapport with the instructor to enhance self-expression, values evaluation that takes individual differences into account, and resolve uncertainty by personal judgment” (p. 48). Men using the interpersonal learning approach “exchanged views with instructors
and peers via debate, expected to be challenged by instructors, valued evaluation that is fair and practical, and resolved uncertainty through logical analysis and research” (p. 48).

**The independent knower.** The independent knower acknowledged they hold valid opinions and recognized knowledge sources outside authority figures. Gender related patterns emerged of interindividual and individual. The interindividual pattern was found more with women versus men using the individual pattern of knowing more often. Baxter Magolda (1992) described the interindividual pattern as “characterized by students’ dual focus on thinking for themselves and engaging the views of others” (p. 56). The individual pattern students also “value interchange with peers and instructors, but their primary focus is on their own independent thinking” (p. 56). They valued instructors who allowed students to identify their own learning objectives and expected peers to also be independent thinkers.

**The contextual knower.** The contextual knower can weigh evidence based on context. Gender related patterns evidenced in the first three ways of knowing possibly united in this last way of knowing. Baxter Magolda included this level of knowing, but it was not found to be common among the research participants.

Beginning with Perry’s (1970) study of men, adding Belenky et al.’s (1986) study of women, and Baxter Magolda’s (1992) study of both men and women, major research had been conducted regarding cognitive development of college students. Expanding our understanding of a college students’ ways of knowing, perceptions regarding authority, and the recognition of the role of self in the construction of knowledge is applicable to what faculty encounter every time they walk into the accounting classroom.
Even with the data and findings elicited from previous studies participants, the conclusions did not indicate one essential element for this researcher. What position, voice, or type of knower was the college student typically situated in when constructing reasonable problem solutions? It was not until King and Kitchener’s (1994) studies and findings were reported that the missing element was identified. Knowledge of this would end up being a critical piece that would not only inform and ground this researcher’s study, but King and Kitchener’s research would also expand conversation regarding cognitive development of the college student.

**King and Kitchener**

King and Kitchener sought to understand, “How does the ability to construct reasonable solutions develop?” (1993, p. 28). Dewey’s (1933) worldview of reflective thinking and Fischer’s (1980) skill theory informed King and Kitchener’s research, design, and analytic processes.

King and Kitchener (1993, 1994) posited that educational goals varied with well and ill-structured problems. The goal of a well-structured problem was reasoning to the correct answer. King and Kitchener put forth that reflective judgment, similar to Dewey’s (1933) reflective thinking, was the result of the reasoning process and the capacity to assess knowledge claims. Would King and Kitchener find Dewey’s reflective thinking with their study participants?

John Dewey (1933) stated that reflective judgment occurred when an individual encountered a problem she or he perceived to be unsolvable. A state of disequilibrium resulted. In the pursuit to a returned state of equilibrium, the individual sought a solution
using knowledge assembled from prior experiences. It was only when encountering circumstances where incomplete or unverifiable evidence existed that true reflective thinking emerged.

King and Kitchener (1994), in an effort to answer the question *How does the ability to construct reasonable solutions develop*, conducted research with over 1,700 participants. The focus of their studies was situated with how an individual perceived and resolved an ill-structured problem. King and Kitchener created a semi-structured interview protocol, known as the Reflective Judgment Interview (RJI). Starting in the 1970s, the interview protocol was tested, refined, and re-tested on study participants. Students were shown various ill-structured problems, and asked to form judgments and expand on the students’ underlying knowledge assumptions in regards to their judgments.

Participants ranged from junior high school students to middle-age adults, with the majority of participants college students. By 1991, 1,700 participants had been interviewed using the RJI, with more than 1,100 college students and 200 graduate students involved. Analysis was conducted by trained raters and overall patterns were noted and clustered. The analytic process resulted in the production of another cognitive development model. This model was recognized as the Reflective Judgment Model (RJM). King and Kitchener (1994) described their model as:

A developmental progression that occurs between childhood and adulthood in the ways that people understand the process of knowing and in the corresponding ways that they justify their beliefs about ill-structured problems. In other words, the model describes the development of epistemic cognition. As individuals
develop, they become better able to evaluate knowledge claims and to explain and
defend their points of view on controversial issues. The ability to make reflective
judgments is the ultimate outcome of this progression. (p. 13)

The RJM is based on seven sets of assumptions about knowledge and knowing and
seven related justification concepts. “Remarkable consistency of interrelationships
between individuals’ assumptions about the nature of knowledge and how they justify
beliefs in the face of uncertainty” (King & Kitchener, 1994, p. 24) were found. Study
participants’ knowing assumptions had an impact on how they understood, approached,
and resolved problems (Kitchener, 2002). The seven reflective judgment stages were a
framework that illustrated how an individual perceived and then attempted to resolve an
ill-structured problem.

**Stages 1, 2, and 3.** Pre-reflective thinkers do not recognize knowledge
uncertainty. Evidence is not used to support conclusions and views are held that correct
answers exist for real problems. Differences between well and ill-structured problems do
not exist. The assumption is all problems can be solved with certainty. Pre-reflective
thinkers are predominantly high school students and evidence has found entering college
freshmen can also exhibit reasoning tendencies in these stages.

**Stage 1.** Direct observation confirms certainty and what authorities and self
believe are one of the same.

**Stage 2.** Authorities know the truth and this is right, all others are wrong. This is
similar to Perry’s (1970) dualistic position. Knowledge is believed to be certain even
though at times may not be readily obtainable.
**Stage 3.** Knowledge may not be known right now, but will be known sometime in the future.

**Stages 4 and 5.** Quasi-reflective thinkers acknowledge that some problems are ill-structured and solutions contain an amount of uncertainty. Evidence is used, but weighing the evidence is not done. All evidence is considered equal. There is difficulty in making judgments due to the inability to deal with the new perceived uncertainty. Graduate students have exhibited reasoning tendencies in these stages.

**Stage 4.** Recognition that sometimes knowledge is uncertain.

**Stage 5.** Evidence is collected and used within a single context. The ability to contrast across boundaries of different contexts is not yet evident.

**Stages 6 and 7.** Reflective thinkers are closest to Dewey’s (1933) worldview of reflective thinking. Knowledge is constructed and cross contextual analysis occurs. Advanced doctoral students and faculty exhibited reasoning tendencies in these stages. Stage 7 is what King and Kitchener (1994) referred to as reflective judgment, and closest to what Dewey described as reflective thinking.

**Stage 6.** Multiple sources of evidence assist knowledge construction and evaluation and judgment includes both self and authority figures.

**Stage 7.** This stage is closest to Dewey’s (1933) worldview of reflective thinking. Abstractions, critical analysis of prior findings, and generation of new ideas are formulated.

Data findings from King and Kitchener’s (1994) studies indicated where the typical college student fell into the Reflective Judgment Model (RJM) stages. Student
placement into the stages was determined by scores on the Reflective Judgment Interview (RJI). A score was assigned based on the matching of the answers given to the appropriate stage level on the RJM. On average, the first year college student’s score was 3.63. This means that even though they were still positioned within the pre-reflective thinking stage 3, movement towards quasi-reflective thinking stage 4 was occurring. By the student’s senior year, the average score was 3.98. This movement is extremely important to accounting professors. The acknowledgment by students that knowledge can be uncertain is an important assumption to acquire during the students’ college years. Making a distinction between well and ill-structured problems is a critical step that students need to take in how they perceive and ultimately resolve problems.

In King and Kitchener’s (1994) earliest studies, a question of whether there was an abrupt halt to one stage’s assumptions upon entering the next stage existed. Fischer’s (1980) skill theory helped answer that question. Skill theory involved seven general skill levels occurring between the ages of 2 and 30. In the context of Fischer’s studies, an individual possessed the ability to control variations in what he or she thought and did.

With the building of skills, Fischer (1980) posited that skill development was uneven and skill acquisition quickened as one grew older. The achievement of lower level skills resulted in the integration of higher level skills. This coincided and supported King and Kitchener’s (2004) observations that reasoning with ill-structured problems did not follow a stage to stage sequence, but rather a “wave like pattern.” This developmental range illustrated the most commonly used assumptions were located at the peak of the
wave with other assumptions falling around the peak (Kitchener, Lynch, Fischer, & Wood, 1993).

Fischer’s (1980) research also discussed the role of the environment in skill acquisition. Optimal and functional levels were emphasized within the context of the individual’s domain. Functional level was the individual demonstrating skill levels without any contextual support and described the conditions that occurred throughout King and Kitchener’s (1994) research during the administration of the RJI. Optimal level was the upmost level that one could achieve having both consistent opportunities to practice and receive support (Fischer, 1980; Kitchener, 2002; Kitchener et al., 1993).

What would be the result if participants were offered contextual support? Would the average RJI scores of the college students change if practice and contextual support was included? The RJI sought participant responses to a semi-structured interview. This production task provided no contextual support. King and Kitchener’s (1994) design of the interviews was to capture students’ real time responses to ill-structured problems.

A study conducted by Kitchener et al. (1993) investigated the impact to students’ RJI scores with and without contextual support. Alterations to the original RJI were made resulting in the Prototypic Reflective Judgment Interview (PRJI) instrument. Study participants were divided and administered either the RJI or PRJI. Analysis showed that with contextual support, RJI scores were higher. Wood (1983) supported this by stating, “the ability to problem-solve is best understood within the context of the problem space in the situation presented to the subject” (p. 251). Kitchener et al.’s findings supported Fischer’s (1980) skill theory that overall scores would be higher if students received
practice and contextual support in activities that created skill acquisition. In situations where contextual support was provided, participants achieved optimal levels versus participants achieving functional levels in situations where no contextual support was provided (Fischer, 1980).

What significance do these studies have on the accounting classroom? If we are to address the lack of skills that practitioners are telling the professoriate, the studies’ research findings are compelling evidence that continuing the lecture mode of teaching will fail in achieving change for our students. Students need practice and contextual support to achieve optimal levels of skill acquisition. During the thinking and reasoning process used in solving an ill-structured problem, faculty can expect students developmentally falling between adjacent stages, experiencing an uneven skill level acquisition, and adhering to their core set of assumptions for an extended period of time (King et al., 1983). Kuhn’s (1991) research supported these findings as well. She indicated that arguing skills followed the ability to evaluate, contemplate, recognize, and judge alternative theories and evidence.

Based on the Kuhn (1991) and King et al. (1983) studies, a logical assumption would be that students do not acquire higher order cognitive skills by sitting in a classroom hearing faculty lecture. Students need contextual support and practice to enable them to achieve a higher skill level and higher order of thinking. Working within a classroom that provides support and practice appears to afford our students the greatest chance in obtaining an optimal level of skills and expansion of how they reason, construct, and defend ill-structured problems.
Reflective Judgment Model and Accounting Classrooms

Since the issuance of the published accounting reports (AECC, 1990, 1992; Albrecht & Sack, 2000; AAA, 1986; Big Eight White Paper, 1989), several reports have been published addressing the use of ill-structured problems in the accounting classroom. This section continues by discussing the introduction of the Reflective Judgment Model into the accounting literature and cites several recommendations for working with students in accounting classrooms on ill-structured problem solving.

Kimmel’s (1995) *A Framework for Incorporating Critical Thinking Into Accounting Education* discussed the need for deliberately incorporating “unstructured, ambiguous problems” (p. 299) into the accounting curriculum. Many accounting degree programs require a capstone course at the end of the students’ studies. The capstone course is designed to synthesize course content from the entire degree program. Typical assignments for the course require students to construct and defend reasonable solutions to ill-structured problems. The assignments are normally presented as case studies. It is during the capstone course that faculty witness students’ dissatisfaction and unease with the uncertainty such problems pose.

Kimmel (1995) explained this reaction is based on a couple different reasons. One is the volume of knowledge-based courses, requiring rote memorization, that exist in the degree programs. Without an intention of broadening student development beyond how well they can remember (learn?) rules, theories, and assumptions, difficulties remain in students’ unease upon reaching the capstone course and navigating the course requirements. The second reason Kimmel expanded upon is what he referred to as
“intellectual maturity” (p. 302) of the college student. He stated this has a direct influence on the ability to think, process, and ultimately resolve problems that are ambiguous in nature.

Kimmel (1995) outlined suggestions for increasing thinking elements into each accounting course that he believed will aid in students’ development of critical thinking. Building on the notion that critical thinking “involves two stages: discovery and justification of ideas” (p. 300), he blended his recommendations together under the headings “affective components, cognitive components, and behavioral components” (p. 301). For example, Kimmel suggested starting simply by helping students to accept differing perspectives in the introductory accounting classroom to progressing to accepting one’s own views and acknowledging self-prejudice in the intermediate and advanced accounting classrooms.

Lynch (1996) added to Kimmel’s (1995) conversation by offering multiple ideas to facilitate student development when working with ambiguous problems. Her list was plentiful and included choosing a problem topic that students may find interesting; have students focus on the reasoning versus the problem answer; remind students to be respectful of differing views beyond their own; be aware of students’ assumptions that may impede their abilities to broadly view and resolve ill-structured problems; and provide contextual support that supports students’ efforts and feelings of success as they work with ill-structured problems.

Cascini and Rich’s (2007) study, situated in the Intermediate Accounting classroom, supported Lynch and Wolcott's (2001) statement that continuous exposure to
working with ill-structured problems and instructor contextual support was necessary for students’ critical thinking development. Cascini and Rich studied the usefulness of using simulations with rubrics and found both content and sustained amounts of classroom time were likely to have a positive and significant influence on students' performance and critical thinking development.

Wolcott and Lynch (1997) and Boyce et al. (2001) agreed the starting point was recognition of ambiguity in problems. Contextual support could include helping students determine whether a problem was well or ill-structured and have students ponder whether experts would disagree on a proposed solution (Wolcott & Lynch, 1997). Think alouds and exercises that have the student determining whether ambiguity existed in a problem statement were tools used to help understand students’ responses to ill-structured problems (Legg & Algina, 1990). Another tool, the one minute paper, was used in a study conducted in the introductory accounting classroom (Almer, Jones, & Moeckel, 1998).

Another assignment suggestion to boost students’ reasoning skills was the inclusion of reflective thinking essay assignments into the curriculum. Adding to Kimmel’s (1995) recommendation to include course materials that are interesting to the student, Wolcott and Lynch (1997) cited three benefits from using reflective thinking essays. Reflective thinking essays were a cost effective assessment technique; essays could be amended to match any particular course in the curriculum; and utilizing both dialogue and feedback could promote students’ development in problem solving.

Similar to Kimmel (1995), Wolcott and Lynch (1997) offered suggestions for accounting courses and detailed possible findings that professors may see when analyzing
students’ reflective essay assignments. Based on Wolcott and Lynch’s own research in a financial accounting course, faculty may find diverse student thought processes, varying reflective judgment levels, and the wave-like pattern (King & Kitchener, 1994) of assumptions that crossed over more than one stage. This was particularly evident when studying multiple sections of the same course.

Wolcott, Baril, Cunningham, Fordham, and Pierre (2002) summarized critical thinking research conducted to date and illustrated the likely developmental sequence of critical thinking competencies broken out by year in college (i.e., sophomore or junior). The report ended with a recommendation to build upon the widely used critical thinking measuring tests by conducting research using a more naturalistic measuring test.

Coppage and French’s (2003) report summarized the need for altering educational practices for accounting majors given the rapid change in the accounting profession. They provided a model for accounting education, and examples of how to improve accounting education. Within Coppage and French’s article, they called for a shift from what they referred to as the teaching paradigm to the learning paradigm. The authors’ reference to the teaching paradigm was indicative of what Barr and Tagg (1995) referred to as the instruction paradigm. Coppage and French (2003) suggested future research needed to include the reporting of changes in accounting curriculum.

Wolcott and Lynch (1997) introduced King and Kitchener’s Reflective Judgment Model (RJM) to the accounting literature, thus further expanding the discussion of incorporating ill-structured problems into the accounting classroom in an attempt to develop students’ critical thinking skills. Wolcott and Lynch argued understanding
cognitive limitations of college students and the lack of other critical thinking models was “inadequate for use in critical thinking development and there are few techniques to assess students’ critical thinking efficiently” (p. 60). Wolcott and Lynch posited four factors why the RJM was superior to other existing models:

1. The RJM focused on reasoning with ill-structured problems—their ability to “identify, frame, and resolve unstructured problems” (p. 62).
2. The RJM outlined a developmental sequence of reasoning and typical knowledge assumptions students held when resolving ill-structured problems.
3. The RJM had been extensively tested with college students.
4. The use of the reflective thinking essay was an efficient assessment tool professors could incorporate into their classrooms.

The RJM was the result of extensive research involving substantial numbers of college age students and their responses to ill-structured problems (King & Kitchener, 1994, 2004). King and Kitchener’s findings indicated students entered college typically at a mid-stage level three and leave with a high stage level three. As King (2009) stated, “a distinguishing feature of research on this model is the body of studies (King & Kitchener, 1994, 2002, 2004) that were systematically conducted to validate the RJM stages as a developmental sequence” (p. 604). The published research was conducted over a 10 year time period examining “changes in epistemic cognition over time and across educational levels and contexts, using both student and nonstudent samples, and extending across the lifespan” (p. 604).
Cognitive Developmental Theory Criticisms

The following section highlights postmodern criticisms aimed at cognitive developmental theories, specifically the cognitive developmental models included as the theoretical framework for this research study. The definitions for development and developmental model outlined in the prior chapter provide the basis for the criticisms lodged against the cognitive developmental theories used as a framework for this study.

Bandura (1977) and Mischel and Mischel (1976) criticized stage developmental theories for implying an individual would be situated in only one stage as she moved along the continuum represented by the developmental model. Once the individual achieved success with the assumptions or parameters of that particular stage, the next stage would be entered. There would be an abrupt halt to what had been experienced in the previous stage as the individual commenced activities in the next stage. Bidell and Fischer (1992) posited against this fixed nature of development:

If cognitive abilities are viewed only in the long term, they can seem to be fixed categories of thought imposed on various types of contexts – a more short-term view – attention is directed to the concrete processes by the many environmental and organismic factors indicated earlier, including the class of factors we have called ‘environmental support.’ (p. 128)

Bidell and Fischer continued by explaining individuals developed along a ‘developmental range’ instead of abruptly halting from stage to stage as indicated by Bandura (1977) and Mischel and Mischel (1976).
The supposition that an abruptness to cognitive development occurred was addressed by King and Kitchener (1994). King and Kitchener were concerned with answering whether an abrupt halt did exist and investigated this possibility during extensive research efforts that culminated in the RJM. Fischer’s (1980) research on skill theory assisted the researchers in answering the question and provided evidence that skill development was uneven. Fischer’s research revealed when an individual built skill proficiency, lower level skills integrated with higher level skills.

Fischer’s (1980) study explained and supported King and Kitchener’s (1994, 2004) own research findings that suggested reasoning with ill-structured problems followed a “wave like pattern.” Another study conducted by Kitchener et al. (1993) supported Fischer’s (1980) findings that skill acquisition was uneven. Kitchener et al.’s study determined that an individual’s most commonly used assumptions were located at the peak of the wave. Assumptions not commonly used by individuals fell around the peak. The combined findings from Fischer (1980), King and Kitchener (1994, 2004), and Kitchener et al. (1993) provided evidence that Bandura’s (1977) and Mischel and Mischel’s (1976) criticisms were unfounded as they had suggested.

Adding further substantiation to King and Kitchener’s (1994, 2004), Fischer’s (1980), and Kitchener et al.’s (1993) conclusions, Flavell (1971) referred to the process of movement between stages as a “period of transition” (p. 427). Lerner (2002) advocated that students can maintain a presence developmentally in multiple stages and referred to this phenomenon as “stage mixture” (p. 365). Lerner stated:
One way of determining if a person is at a particular stage in development is to see if the person shows behaviors consistent with what we would expect from knowledge of that particular stage. If the person does not show such behaviors, we could say that the person has not developed into that stage. On the other hand, however, just because a person does show responses representative of a particular stage of development does not mean that the person has fully developed into that stage, that the stage is completely and comprehensively associated with his or her behavior. Because people progress from one stage to another gradually, they will, therefore, show behaviors that are representative of more than one stage at the same time. In other words, because stage progression is not, an all-or-none process, but rather is one that takes place gradually over time, we would expect a person to show behavior representative of more than one stage of development at the same time. (pp. 365-366)

King (2009) acknowledged that criticisms such as Bandura’s (1977) and Mischel and Mischel’s (1976) may be influenced by the manner in which developmental theories are visually presented. King (2009) stated that “a sequential pattern does not necessarily convey an assumption that development is linear” (p. 601). The visual depiction of a cognitive development model often resembled a linear progression, “implying a straight-forward march from a beginning to an end, not development as continuous, recursive, and variable depending on factors such as context, the difficulty of the task at hand, or emotional stamina” (p. 612). King and Kitchener’s (1994, 2004), Fischer’s
(1980), Kitchener et al.’s (1993) studies provided research evidence that supported development not moving in a linear fashion, but in an uneven or “wave-like pattern.”

Another criticism lodged against cognitive developmental theories is based on generalizations made from research findings. The idea that a developmental theory can be designed to represent all individuals’ development patterns has been criticized. Lerner (2002) stated, “stage theories have attempted to depict universal features of development, features applicable to all humans” (p. 360). The criticism implied that depicting universal development to all humans discounted cultural, environmental, and contextual differences. Two studies included in the theoretical framework for this study have been subjected to this criticism.

The first study involving Perry’s (1970) research in the 1970s was groundbreaking for studying cognitive development of the college student. However, Perry’s work came under criticism for the generalizations he discerned from his research. Perry’s findings from research involving males at an elite, higher education institution were generalized to be representative of females. The second study was conducted by Belenky et al. (1986) and was launched due to generalizations made from the Perry (1970) study. The Belenky et al. (1986) study, centered on women’s ways of knowing, created controversy as well. Like Perry, the researchers of the women’s ways of knowing study generalized their findings. This time research findings for the women participants involved in the study were extended to represent men. Hofer and Pintrich (1997) criticized and declared “their study provided no means to assess the gender-related nature of the knowledge” (p. 96). Both studies were criticized because of their research generalizations in depicting
“universal features of development, features applicable to all humans” (Lerner, 2002, p. 360).

Lerner (2002) posited that criticisms lodged against cognitive developmental theories are primarily due to a lack of understanding of stage theories. Lerner expanded this by stating the following:

Developmental stages are seen as portions of the life span that are qualitatively different from each other. That is, each stage in a given theoretically specified sequence represents a qualitatively different organization – or, more precisely, a qualitatively different structure – from every other stage. In fact, the existence of qualitative, structural differences among portions of life is the basis of the stage formulation. That is, the reason why one portion of time in development is labeled as one stage and another portion of time is labeled as another stage, is that it is believed that within each of the two periods something qualitatively different exists. (p. 362)

Van Haaften, Korthals, and Wren (1997) added “although one can gain rich insights in human judgment and experience by studying conceptual foundations and their development, such structures do not exist in themselves” (p. 9). Bidell and Fischer (1992) added:

The stage debate cannot be resolved as it is typically conceived. The debate needs to be reframed in terms of a broader set of phenomena: the variability shifts attention from the structuralist stage model to the often neglected constructivist
aspects of Piagetian theory, which emphasize the role of human action in specific contexts. (p. 100)

Cognitive developmental theories, represented by stages, have been criticized. Developmental theories providing a theoretical framework for this study have been criticized for generalizations made based on research findings from Perry’s (1970) and Belenky et al.’s (1986) studies. In addition, criticisms have been voiced regarding the seeming lock-step developmental progression the linear stage models suggest. Suggestions for viewing the stage developmental models as qualitatively different stages of development, embedded in culture, context, and the domain in which the development has been studied, are recommended for future discussions of stage development theory debate.

Conclusion

The accounting discipline lends itself to the use of well-structured problems. The amount of rules and theories that can be tested through this type of problems affords professors a substantial amount of material from which to select. However, greater usage of ill-structured problems will create greater opportunities for our students to work on developing their problem solving skills. A curriculum approach that will build, integrate, and help students’ master skills and thinking processes is necessary to resolve increasingly complex work issues, skills that are reportedly not matching the needs required for such an evolving and diverse workplace. Evidence of the students’ inability to manage the perplexity of the workplace places the resolution back into the hands of the accounting professors. Early identification of the development stage of our accounting students is
needed in order to avoid using assignments that are beyond their functional levels (Fischer, 1980).

Accounting students need exposure to both problem sets. Well-structured problem solving helps students’ solidify their knowledge of the rules, assumptions, and theories that govern our accounting profession. Ill-structured problem solving helps students’ develop thinking and reasoning skills that will be necessary in dealing with the complexities of the workplace (Albrecht & Sack, 2000). Each type of problem provides different thinking, reasoning, and procedural steps in resolving them. Both types of problem solving are needed to ready our accounting students for their future careers.

Evidence is coming to light that the way our accounting programs are designed and how we teach accounting in the classroom is disadvantaging our students. Cognitive development studies (Belenky et al., 1986; Baxter Magolda, 1992; King & Kitchener, 1994; Perry, 1970) indicate that views of truth and knowledge construction direct an individual’s way of knowing. Encouraging, contextually supporting, and aligning ill-structured problem assignments with students’ ways of knowing is a positive step forward in addressing concerns regarding the current system of accounting education. Embracing where students are cognitively throughout their college years and creating relevant course assignments may help students feel greater satisfaction and confidence in their abilities to navigate both the capstone course and work after graduation (Wolcott et al., 2002).

Cognitive developmental models have been criticized. Criticisms on generalizations made from research studies, how cognitive models are visually presented,
and assumptions that individuals develop in a single step like fashion (represented as stages in the RJM) and abruptly leave one stage on the continuum of development abruptly upon entering the new stage of development were discussed.

The following chapter outlines the study’s research design. The chapter includes a description of the setting, study participants, data collection, and data analysis methods.
CHAPTER III

METHODOLOGY

“What (a person) has learned in the way of knowledge and skill in one situation becomes an instrument of understanding and dealing effectively with the situations that follow. The process goes on as long as life and learning continue.”

(John Dewey, 1938, p. 44)

Introduction

Accounting educators are being asked to alter their curriculum and teaching practices to address deficiencies in intellectual skills with accounting graduates. Published accounting reports suggest a shift is needed to move away from traditional ways of educating our accounting students (Albrecht & Sack, 2000; AAA, 1986; Big Eight White Paper, 1989). Barr and Tagg’s (1995) instruction paradigm is characteristic of how we educate our accounting students. This paradigm includes lecture as the primary teaching tool as students sit passively while consuming and memorizing large amounts of subject matter content and working well-structured problems. The accounting reports suggest this inactivity and focus on problems with single, correct answers is contributing to the struggles our accounting majors are having when working with complex and dynamic work situations.

Barr and Tagg (1995) offered an alternative, which they referred to as the learning paradigm, to the dominant instruction paradigm of undergraduate education. Adapting instruction, incorporating ill-structured problems, providing time for practice, and supplying high levels of contextual support are illustrative of the learning paradigm. This
study incorporated the learning paradigm into one accounting classroom and analyzed the impact of this approach on students’ experiences and their development of reflective judgment. This study’s qualitative research design, intended to be rich in detail and embedded in context, was informed by Barr and Tagg’s learning paradigm and the recommendations outlined in the published accounting reports named above. The study was guided by the following research questions:

1. What are students’ experiences in an accounting classroom that intentionally employs a learning paradigm, with specific emphasis on incorporating ill-structured problems and providing high direct contextual support?

2. How does the classroom environment contribute to the development of students’ reflective judgment?

This chapter discusses teacher/researcher assumptions and provides details on the research design for this study.

Teacher/Researcher Assumptions

I am a female, accounting professor and at this time I adopt certain constructivist, philosophical assumptions that shape my research design. Self-awareness of my paradigm worldview helps me lay the foundation for my students’ knowledge-building process. This process is based on a belief for the need of a collaborative knowledge building effort between the students and me, both in my role as teacher and researcher. I believe one’s knowledge creation is based on the relationship between circumstance and environment with oneself. Understanding, recognizing, and honoring this subjectivity is essential to this researcher’s investigation (Peshkin, 1988).
Myself as an Accounting Professor

I entered academia at the age of 40. My work experience in both public and private accounting afforded me the opportunity to begin my second career as an accounting professor at a Midwestern, liberal arts teaching institution. I am currently in my 11th year as a tenured, associate professor and consider myself a seasoned professor of accounting.

I love being in the classroom. My paradigm for teaching is situated in the learning paradigm, sometimes referred to as constructivist framework (Barr & Tagg, 1995). I am the students’ tour guide, not the transmitter of knowledge for them. I trust my students and actively want to hear what they are thinking. It is not enough for me, or my students, to lecture day in and out. Moving out of an instruction paradigm into a learning paradigm has given me the freedom I have been seeking to propel change in my classroom. Peeking into my classroom, one will witness students actively participating instead of sitting as passive receptacles. Every effort is made to solicit students’ responses to both well and ill-structured problem sets. Complicated conversation (Pinar, 2007), not complicated regurgitation, is the norm in my accounting classroom.

What are my expectations as an accounting professor? I expect students to deal with the frustration when I don’t tell them everything they want to know. I expect students to embrace searching for their own answers. I expect students to feel uncomfortable at times within this engaged accounting classroom. Students may have been in classrooms where lectures and note taking is the norm. Students may not have been asked by previous instructors to actively debate issues, respect others’ opinions, and
reflectively think about potential solutions. Students were told everything they needed to know. Students then register for my class.

How do I fit in? I have adopted a learning paradigm worldview, but work within a prevailing instruction paradigm worldview that has dominated accounting education since the first course was offered in the 1880s (Van Wyhe, 1994). From a research standpoint, the instruction paradigm is often referred to as a positivist paradigm (Ornstein & Hunkins, 2009). This positivist paradigm lens defines the typical research methodology of accounting educators. The methodology is scientifically based with the inquiry aim to explain and determine causal relationships between or among variables; the nature of knowledge is verified through hypotheses and established by facts and laws; accumulation of knowledge is built upon what is known through generalizations and causal relationships; validity and rigor are important elements and defense of these is seen as primary throughout the inquiry method; and inquiries are generally done through a detached investigator, and seen through a quantitative research lens (Creswell, 2007; Lincoln & Guba, 1994).

Published reports (Albrecht & Sack, 2000; AAA, 1986; Big Eight White Paper, 1989) calling for change in accounting education are challenging beliefs, assumptions, and practices that have prevailed for over a century. What they are really telling us is to change our worldview or belief system. However, the structures we work within are preventing many from changing. Research grounded within the positivist framework is embedded and respected by the academic community. Teaching is secondary to research
(AAA, 1986). The learning paradigm worldview I have come to embrace pushes up against and challenges the very establishment I entered 11 years ago.

**Myself as Researcher**

My learning paradigm professor lens guided my researcher actions throughout this study. When conducting research in the field, I may have been viewed as an insider by my study participants (Creswell, 2007). I served both as teacher and researcher in this study. For instance, in my teacher role, I provided high contextual support for all initial assignments within the classroom. In my researcher role, I could be seen as a research instrument because I was not maintaining a detached observer stance.

As a qualitative researcher, I recognize the intimate relationship that occurs between the researcher and what is being studied (Lincoln & Guba, 2000). My analysis and findings were based on time spent in the field. These experiences formed the context of this study and assisted me in revealing students’ experiences and development of their reflective judgment as they worked on ill-structured problems over the course of the semester and this study.

Separating my teacher views from my researcher views in order to allow the data to speak was a deliberate, procedural process implemented throughout this study. Even with this separation, there was the possibility that I may be changed and altered by this study. Adhering to the framing guidelines for this qualitative study, remaining reflexive throughout the study, and understanding and interpreting the participants’ experiences was still influenced by who I am as a person, researcher, and accounting professor (Ishii, 2005).
To assist this reflexive process, the use of teacher and researcher journals helped document what I experienced as both teacher and researcher throughout this investigation. Within these journals, field notes generated by the researcher provided descriptions and details of what the researcher observed in the field (Patton, 2002). The journal notes provided the researcher a contextual snapshot and lent transparency and clarity to the researcher reactions and emotions at particular points throughout the study. The teacher and researcher journals also tracked contextual meaning, especially with decisions made throughout the study. Because of the dual teacher/researcher role, it was important to disentangle the inherent conflicts that arose due to this dual relationship. Journals provided a mechanism to help distinguish the differing roles and were used to recall events occurring throughout the semester. The journals were not used as a data source during the analytic research phase described below.

**Research Design**

Participants and sites were chosen because they could “purposefully inform an understanding of the research problem and central phenomenon in the study” (Creswell, 2007, p. 125). Studying students’ experiences in an accounting classroom that intentionally employed a learning paradigm, with specific emphasis on incorporating ill-structured problems, providing high contextual support, and determining how the classroom environment contributed to the development of students’ reflective judgment guided the decisions for the design of this investigation.
Site

The study was conducted in the researcher’s own Intermediate Accounting I classroom, at a four-year, liberal-arts college in Northeast Ohio. In order to provide contextual support, as recommended by Kitchener et al.’s (1993) study, it was necessary to select one of the researcher’s own courses to be used for the study.

Course

Intermediate Accounting is a required course sequence for all accounting majors. Depending upon how the content is delineated, the course is usually offered over two or three semesters. Students take the course sequence typically in their second semester as sophomores or first semester as juniors. The 16-week, full semester course under study was the first of two in the Intermediate Accounting sequence being offered at this researcher’s four-year, liberal arts college.

This particular college Intermediate Accounting course was chosen for two specific reasons. The course is generally the first course in the accounting degree program where students really determine whether accounting will continue to be their degree choice. It is not uncommon to hear the course sequence referred to as the *clearinghouse* or *weeding out* of potential accounting majors. Second, it is the natural and critical starting point to concentrate on reasoning skill building for our accounting majors. It is the launch pad and prerequisite for many other accounting courses in the degree program.

Study Participants

Twenty-six students enrolled to take the researcher’s 16 week, semester long Intermediate Accounting I class during spring 2011. All registered students were invited
to participate in the study being conducted within this classroom. The potential participants were either second semester sophomores or first semester juniors majoring or minoring in accounting at a four-year liberal arts college in NE Ohio. There was a gender balance of male and female students. The average age of the student was 20 and the majority was Caucasian, reflective of the enrollment of students in the Accounting program at this college. The study participants were not known until after the semester concluded and final grades had been submitted (see Sample below).

Sample

The envelope containing signed, informed consent forms (see Appendix A) was opened at the end of the semester after the final grades had been submitted to the Registrar. Based on the research design, the sample only included students who had signed informed consent forms, completed, and submitted all assignments associated with this study. Out of the 26 students originally enrolled in the course, one student withdrew during the second week of the semester and 11 students did not complete and submit all assignments associated with this study. Therefore, it was determined that 14 students would be included in the sample for this study.

Data Sources

Data was generated and collected from multiple learning activities that took place over the semester (see Table 1). The choice, design, and structure of the assignments were informed by the published accounting reports (Albrecht & Sack, 2000; AAA, 1986; Big Eight White Paper, 1989), research conducted by Fischer (1980), King and Kitchener (1994), Wolcott and Lynch (1997), and Wolcott (2006). All the assignments for this study
Table 1

**Timeline for Semester**

<table>
<thead>
<tr>
<th>Week #</th>
<th>Tuesday: 10 – 11:15 AM</th>
<th>Thursday: 10 – 11:15 AM</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Welcome to class/ Computer Lab: Peachtree general ledger system; Peachtree homework #1</td>
<td>In-class recognizing ambiguity statements; Complete reflective journal entry</td>
</tr>
<tr>
<td>1/11 – 1/13</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Conceptual Framework – Chapter 1</td>
<td>Conceptual Framework – Chapter 1 continued</td>
</tr>
<tr>
<td>1/18 – 1/20</td>
<td>Assign Chapter 1 homework</td>
<td>Assign Chapter 1 homework</td>
</tr>
<tr>
<td>3</td>
<td>Conceptual Framework – Chapter 1 continued</td>
<td>In-class reflective thinking essay assignment; Assign out-of-class reflective thinking essay assignment; Peachtree homework #2</td>
</tr>
<tr>
<td>1/25 – 1/27</td>
<td>Assign Chapter 1 homework</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Peachtree assignment due #1</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Balance Sheet and Notes to the Financial Statements – Chapter 3</td>
<td>Balance Sheet and Notes to the Financial Statements – Chapter 3 continued</td>
</tr>
<tr>
<td>2/1 – 2/3</td>
<td>Assign Chapter 3 homework</td>
<td>Assign Chapter 3 homework</td>
</tr>
<tr>
<td>5</td>
<td>Balance Sheet and Notes to the Financial Statements – Chapter 3</td>
<td>Balance Sheet and Notes to the Financial Statements – Chapter 3</td>
</tr>
<tr>
<td>2/8 – 2/11</td>
<td>Assign Chapter 3 homework</td>
<td>Assign Chapter 3 homework</td>
</tr>
<tr>
<td></td>
<td>Essay &amp; reflective journal entry due</td>
<td>Peachtree assignment due #2</td>
</tr>
<tr>
<td></td>
<td>Complete one minute paper reflection</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Income Statement – Chapter 4</td>
<td>Income Statement – Chapter 4 continued</td>
</tr>
<tr>
<td>2/15 – 2/17</td>
<td>Assign Chapter 4 homework</td>
<td>Assign Chapter 4 homework</td>
</tr>
<tr>
<td>7</td>
<td>Income Statement – Chapter 4 continued</td>
<td>Exam #1 – Chapters 1, 3, 4</td>
</tr>
<tr>
<td>2/22 – 2/24</td>
<td>Assign Chapter 4 homework</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Essay assignment returned and discussed</td>
<td>Review Exam #1</td>
</tr>
<tr>
<td>3/1 – 3/3</td>
<td>Complete one minute paper reflection</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>SPRING BREAK</td>
<td>SPRING BREAK</td>
</tr>
<tr>
<td>10</td>
<td>Checking in – Reflective journal entry</td>
<td>Statement of Cash Flows and Articulation – Chapter 5 continued</td>
</tr>
<tr>
<td>3/15 – 3/17</td>
<td>Assign out-of-class reflective thinking essay assignment</td>
<td>Assign Chapter 5 homework</td>
</tr>
<tr>
<td>11</td>
<td>Statement of Cash Flows and Articulation – Chapter 5 continued</td>
<td>Statement of Cash Flows and Articulation – Chapter 5</td>
</tr>
<tr>
<td>3/22 – 3/24</td>
<td>Assign Chapter 5 homework</td>
<td>Assign Chapter 5 homework</td>
</tr>
</tbody>
</table>

*(table continues)*
## Table 1 (continued)

### Timeline for Semester

<table>
<thead>
<tr>
<th>Week #</th>
<th>Tuesday: 10 – 11:15 AM</th>
<th>Thursday: 10 – 11:15 AM</th>
</tr>
</thead>
</table>
| 12     | Revenue/Receivables/Cash Cycle – Chapter 7  
Assign Chapter 7 homework  
Essay & reflective journal entry due  
Complete one minute paper reflection | Revenue/Receivables/Cash Cycle – Chapter 7 continued  
Assign Chapter 7 homework  
Assign Peachtree homework #3 |
| 13     | KAMM Computer Lab – Peachtree  
Final assignment given#3  
Assign recognizing ambiguity statements | Revenue Recognition – Chapter 8 continued  
Assign Chapter 8 homework |
| 14     | Revenue Recognition – Chapter 8  
Assign Chapter 8 homework  
Recognizing ambiguity statements and reflective journal entry due  
Complete one minute paper reflection | Revenue Recognition – Chapter 8 continued  
Assign Chapter 8 homework |
| 15     | Essay assignments and recognizing ambiguity statements returned and discussed  
Complete one minute paper reflection | Inventory & COGS – Chapter 9  
Assign final reflective journal entry |
| 16     | Inventory & COGS continued – Chapter 9  
Assign Chapter 9 homework  
Final reflective journal entry due | Inventory & COGS – Chapter 9 continued  
Assign Chapter 9 homework  
Peachtree assignment due #3 |
| 17     | FINAL EXAM – Chapters 7, 8, 9 | |

Revenue Recognition – Chapter 8 continued.
had been used before in the classroom, but never all combined in the same semester. Further, the assignments associated with this study were not graded, but students were able to earn points for completing and submitting the study’s assignments on their due dates. Table 1 provides the Intermediate Accounting timeline for the semester and a guiding frame for the analysis that would take place once the semester concluded and grades had been submitted to the Registrar.

Recognizing ambiguity is essential to students’ development as they work on resolving ill-structured problems and build complexity into their reasoning skills (Fischer, 1980; King & Kitchener, 1994, 2004; Wolcott, 2006; Wolcott & Lynch, 1997). Findings from this extensive research indicated students either did not recognize uncertainty or if students did recognize uncertainty they struggled in dealing with it. King and Kitchener’s (1994) research showed the ability to recognize uncertainty was typically found occurring in students reasoning within Reflective Judgment Model stage three. This particular developmental stage corresponded to Wolcott’s (2006) Performance Pattern 0 “Confused Fact Finder” on her Steps for Better Thinking Competency rubric. In addition, King and Kitchener’s (1994) research indicated most undergraduate college students entered college at early stage three and exited at late stage three or very early stage four.

In problem solving, King and Kitchener (1993, 1994) posited that educational goals and reasoning vary with well and ill-structured problems. The goal of a well-structured problem was reasoning to the correct answer. The goal of an ill-structured problem was to construct and defend reasonable solutions. If students do not recognize uncertainty in a
problem, reasoning will be different than if students had recognized uncertainty in the problem statement.

In addition, Wolcott and Lynch (1997) suggested contextual support was needed to help students determine whether a problem was well or ill-structured. One suggestion offered was to have students ask whether experts would disagree on the proposed solution. As students attempt to identify and work on solving various problem statements, teachers may witness struggles. Insisting the teacher provide the correct answer, failing to perceive complexities and ambiguities, ignoring evidence that opposes students’ own opinions, conveying confusion, and getting defensive when challenged were all indicators of students having difficulties with either identifying uncertainty in problems or working with uncertainty in problems.

The initial data source was generated from an in-class learning activity that took place during week one of the semester (see Table 1). The learning activity included group discussion on an assignment called recognizing ambiguity statements (see Appendix B). This assignment was based on research conducted by King and Kitchener (1994), Fischer (1980), Wolcott and Lynch (1997), and Wolcott (2006). Students were provided 10 one to two sentence problem statements and asked to identify each problem statement as either well or ill-structured. As students identified each problem statement, they were also required to document reasoning for their decision.

Throughout this entire learning activity, the teacher provided full contextual support. Differences between well and ill-structured problems and the reasoning goal for each type of problem were discussed by both the teacher and students. The problem type
and potential reasoning explanations were examined in great detail. Throughout the
discussion, students were encouraged to freely interject their thoughts and ideas.

Towards the end of class and once the learning activity concluded, the teacher
allowed students time to write a reflective journal entry. The reflection captured students’
experiences of this first in-class problem solving discussion. Students were told the
written reflection could be written in any manner that was comfortable to the students. In
addition, a one minute paper, a supplementary written reflection, was added to gather data
regarding how the classroom environment contributed to the development of students’
reflective judgment.

Both the reflective journal entries and one minute papers were collected and
considered data sources for this study. The teacher reviewed the students’ reflections and
teacher comments were written on the reflection submissions. Approximately one week
later, the students were given a copy of their submissions, which now included teacher
comments. Students were encouraged to retain both the written journal reflections as
references for future problem solving assignments.

The second data source was generated from a learning activity that took place
during the third week of the semester. An in-class discussion of a reflective thinking
essay assignment, artificial sweeteners are harmful to your health (see Appendix C), was
based on research conducted by King and Kitchener (1994), Fischer (1980), Wolcott and
Lynch (1997), and Wolcott (2006) and provided the basis for the design of this
assignment. The learning activity and essay assignment had students beginning online
research on an ill-structured problem. Two days prior to the in-class dialogue, students
were given a copy of the assignment and told to research artificial sweeteners and their uses. The assignment document provided students two web-sites to review and gain an understanding prior to the in-class group discussion.

On the day of the in-class discussion, the teacher facilitated open discussion of the artificial sweeteners assignment. The class began with students sharing what they had found from their research efforts. Discussion continued with the teacher clarifying the meaning of reflective judgment and the five prompts posed on the assignment itself. Throughout the entire class meeting, the teacher provided high contextual support (Fischer, 1980). Assignment prompts, influenced by Wolcott (2006), were discussed at length to assist students in constructing and defending a possible solution. Contextual support was also provided to help students feel a sense of preparation as they prepared for an out of class essay assignment.

Towards the end of class and once the essay had been fully discussed and the learning activity concluded, the teacher allowed students time to write a reflective journal entry. These reflections were intended to capture students’ experiences as they worked on the artificial sweetener ill-structured problem. Students were reminded the reflection could be written in any manner that was comfortable to the students. In addition, students wrote an additional supplementary reflection, referred to as a one minute paper (Almer et al., 1998). The one minute paper detailed how the classroom environment contributed to the students’ development of reflective judgment.

Both of the students’ written reflections were collected by the teacher and used as data sources for this study. The teacher reviewed the students’ reflections and teacher
comments were written on the reflection submissions. Approximately one week later, the students were given a copy of their submissions, which now included teacher comments. Students were encouraged to retain both the written journal reflections as references for future problem solving assignments.

Following the artificial sweetener in-class discussion, students were informed they were responsible for completing two additional reflective thinking essay assignments. The first of these essay assignments, the convergence of GAAP and IFRS (see Appendix D), was assigned immediately following the artificial sweeteners discussion. Students were told the assignment was due to be turned into the teacher during the fifth week of the semester (see Table 1). In addition, students were told the second reflective thinking essay assignment, extending credit to customers (see Appendix E), was due to be submitted to the teacher during the 12th week of the semester (see Table 1).

As part of each of these separate essay assignment learning activities, students were also required to complete reflective journal entries and one minute papers. Journal entries were prepared by students outside of class and turned in on the same day the essay assignments were submitted to the teacher. The one minute papers were completed and given to the teacher during the same class period when essays were turned in to the teacher. The essay assignments and written reflective journal entries were all considered data sources for this study.

The teacher reviewed the students’ essays and written reflections and teacher comments were written on the students’ documents. Two weeks after each essay submission deadline, students were given a copy of their submitted documents, which now
included teacher comments. On the two separate days students received their documents back, class time was devoted to in-class group discussion of the essay assignment. Each assignment prompt was written on the chalkboard and students were required to write under each prompt whatever they had included in their submitted documents. The teacher reviewed every single comment written on the board with the students and encouraged student feedback throughout the class period.

At the conclusion of each in-class, group essay discussion, an additional written journal reflection of the learning activity and students’ experiences was submitted by each student. The teacher again reviewed and provided comments on the students’ submissions. Approximately one week later, students received a copy of their submissions, but now included teacher comments. These additional written journal reflections were also considered data sources for this study. Students were again encouraged to retain all the problem solving documentation, essay assignments and written journal reflections, and use as references for future problem solving assignments.

The final learning activity associated with this study and semester was the second of the recognizing ambiguity statement assignments (see Appendix F) assigned during the 13th week (see Table 1) of the semester. This recognizing ambiguity statement assignment was similar to the first recognizing ambiguity statement assignment students completed during the first week of the semester. However, this final learning activity required students to complete without contextual support from the teacher. In addition, students were required to complete a written journal reflection on their experiences completing this out-of-class assignment.
On the day the assignment and journal entry was turned in, students were asked to write a final one minute paper reflection (Almer et al., 1998). This written reflection was designed to capture students’ thoughts on how the classroom environment contributed to the development of their reflective judgment. Students were again reminded that the journal reflection could be written in any manner that was comfortable to the students. The assignment, reflective journal entries, and one minute papers were collected by the teacher and all document submissions were considered data sources.

Similar to the process followed with the prior learning activities, the teacher reviewed and provided written feedback on the students’ documents. Assignment data were copied, and approximately one week later all data were returned to the students. The in-class group discussion of the final recognizing ambiguity statement assignment was combined with the discussion of the extending credit essay assignment during the 15th week of the semester (see Table 1).

The final data source for this study was a final reflective journal entry (see Appendix G) that captured the students’ experiences over the entire semester. Students were also asked to describe how the classroom environment assisted in their development of reflective judgment. The timing of this final journal reflection coincided with the conclusion of all prior learning activities and in-class group discussions on Intermediate Accounting 1 course requirements associated with this study.

The final written reflection was assigned the 15th week of the semester (see Table 1) and due the 16th week. However, all students had turned in their final reflections by the end of the 15th week, some as early as the end of the 14th week. The teacher made copies
of the journal entries and returned a copy to the students. Students were again encouraged to retain the reflections, with their other assignment documents, for reference for future problem solving assignments in courses outside this particular accounting class.

Recognizing ambiguity statements, reflective thinking essay assignments, and written journal reflections provided insight and a rich description of the students’ experiences and assisted in determining how the classroom environment contributed to the students’ development of reflective judgment. Table 2 recaps the data sources collected from the learning activities associated with this study that took place throughout the semester. Within Table 2, the weeks and dates the data sources were collected, whether it was completed in or out of the classroom, and the research question each data source was attempting to answer are recapped.

**Data Analysis**

Qualitative research design is emergent by its nature. I anticipated, as the semester unfolded, the real likelihood of alterations to the original research design. Flexibility inherent in qualitative research permits adjustments throughout the study, if deemed necessary. Patton (2002) stated, “thick, rich description provides the foundation for qualitative analysis and reporting” (p. 437).

The data analysis process began once the semester concluded and students’ final grades were submitted to the Registrar. After the sample was determined (see Sample), students’ assignment data not included in the sample were separated, placed together, secured in the teacher’s office, and not analyzed for the study. Data analysis was only conducted on the remaining assignment data for the remaining 14 students in the sample.
Table 2

Data Source Recap

<table>
<thead>
<tr>
<th>Data Source</th>
<th>Week #</th>
<th>Date</th>
<th>In Class</th>
<th>Out of Class</th>
<th>Research Question #</th>
</tr>
</thead>
<tbody>
<tr>
<td>RJE1</td>
<td>1</td>
<td>1/13/11</td>
<td>Yes</td>
<td>Both</td>
<td></td>
</tr>
<tr>
<td>OMP1</td>
<td>2</td>
<td>1/18/11</td>
<td>Yes</td>
<td></td>
<td>#2</td>
</tr>
<tr>
<td>RJE2</td>
<td>3</td>
<td>1/27/11</td>
<td>Yes</td>
<td>Both</td>
<td></td>
</tr>
<tr>
<td>OMP2</td>
<td>3</td>
<td>1/27/11</td>
<td>Yes</td>
<td></td>
<td>#2</td>
</tr>
<tr>
<td>RTE1</td>
<td>5</td>
<td>2/8/11</td>
<td>Yes</td>
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<td>#1</td>
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<tr>
<td>RJE3</td>
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Note. RJE = Reflective Journal Entry, OMP = One Minute Paper, RTE = Reflective Thinking Essay, RAS = Recognizing Ambiguity Statement

The following describes the analytic process, guided by Hatch’s eight-step process that was followed with the assignment data associated. Hatch’s (2002) eight-step analytic process is as follows:
1. Read the data for a sense of the whole
2. Review impressions previously recorded in research journals and/or bracketed in protocols and record these in memos
3. Read the data, identify impressions, and record impressions in memos
4. Study memos for salient interpretations
5. Reread data, coding places where interpretations are supported or challenged
6. Write a draft summary
7. Review interpretations with participants
8. Write a revised summary and identify excerpts that support interpretations

(Figure 4.4, p. 181).

Hatch’s (2002) initial step of reading data for a sense of the whole and extending to the last step of gaining a sense of the whole, writing, summarizing, and identifying excerpts that support interpretations are all representative of a qualitative study rich in detail and embedded in context and the goal for this data analysis process.

Multiple written reflections, including reflective journal entries and one minute papers, one recognizing ambiguity statement assignment, and two reflective thinking essay assignments had been collected throughout the semester. To manage the analytic view of this data, I copied and sorted the data into two stacks: one by week and one by student. The six sorted stacks included all the data, turned in by week, encompassing the six major weeks where submissions for this study had occurred. The sorted stack by students included all the data submitted but separated by each student. Based on the sample, there were 14 sorted student stacks.
Data analysis started with the 14 student stacks. I started looking and becoming familiar with the data, as Hatch (2002) suggested in step number one. In the process of reviewing each data submission by each student, I asked multiple questions and documented initial impressions on the students’ documents. What were student experiences at the beginning of the semester? What were student experiences while working on the first problem solving assignment? What were student experiences at the end of the semester? Did the students experience any changes over the semester? Was there anything we did in the classroom that contributed to the students’ reasoning process?

As I documented initial impressions, I adhered closely to Hatch’s (2002) recommendation of “complete sentences and paragraphs” due to the “thought process required to write sentences and organize paragraphs puts structure on your thinking and makes you make sense in ways that can be communicated to others” (pp. 182-183). Individually and in connection with the initial impressions documented on the students’ documents, I continued with the analytic process and re-read each student’s data submissions. During the process of re-reading the documents, I created a lengthy analytic memo for each student as Hatch suggested in step three. I attached an analytic memo to each student stack.

Once impressions were noted in the memos, I read the 14 memos as a whole, as Hatch (2002) suggested in step four. I continued asking questions. Do any of the experiences each student was reflecting upon match the experiences of any of the other students in the classroom? Are the students being impacted by anything particular in the classroom? Is the class meeting the students’ expectations? Patterns within the data
began to emerge and initial codes were assigned to the memos, as Hatch suggested in step five. During this entire analytic process, teacher and researcher journals were reviewed. The journals were used only to recall events that occurred throughout the semester and not as a data source to be analyzed. Review of the teacher journal notes was especially important to clarify any alterations or decisions of teaching practices affecting this study that may have been implemented throughout the semester. In addition, review of researcher journal notes provided supplemental clarification and contextual support.

After reading and re-reading the individual student submissions and analytic memos, I began analysis on the six sorted stacks, separated by major weeks where students submitted assignments associated with this study. Based on the analysis process utilized with each student’s data stack, I began analysis of the weekly stacks by looking and becoming familiar with the data.

My initial question was to try to understand what happened during those major weeks in the semester, as Hatch (2002) recommended in step one. I read the data sorted by week and documented initial impressions on the students’ documentation. Once that was completed, I re-read the data and created analytic memos for each major week of student submissions, as Hatch suggested in step three. I attached an analytic memo to each weekly stack of documents. At this point in time, the analysis process had created a total of 20 analytic memos between the individual student stacks and weekly stacks of data.

Continuing with the analysis of the weekly stacks, I re-read the data and asked more questions. As a group, what was happening each week? What impact did the group
discussions have on students’ experiences? Were there any commonalities being experienced from week to week? How was students’ research going? Were students experiencing common struggles? Were students experiencing common breakthroughs?

Similar to the process done with the analysis of the student stacks, teacher and researcher journal notes were available if needed to recall the semester’s events. Review of the teacher journal notes was especially important to clarify any alterations or decisions of teaching practices affecting this study that may have been implemented throughout the semester. In addition, review of researcher journal notes provided supplemental clarification and contextual support. Patterns began emerging from the data, codes were assigned, and additional notes were made to the analytic memos as needed.

After looking at both the student stacks and weekly stacks individually, I re-read the analytic memos as a whole to determine if the patterns and codes emerging from the data analysis on each individual student stack and each weekly stack created any greater themes. It was during this analytic view that four overarching themes were emerging from the data. It was at this point that I began drafting a written summary of the students’ experiences and my findings, as Hatch (2002) suggested in step six.

At this time in the analytic process an alteration to the Hatch (2002) analytic process was made. Hatch’s step seven indicated researchers should review data interpretations with study participants. This was not possible since the semester was over and the study participants were unavailable and off campus for the summer. The alteration to Hatch’s step seven was to replace reviewing interpretations with study participants with a peer debriefer (see Trustworthiness).
Peer debriefers allow researchers opportunities to have a person outside the research study review initial impressions, patterns, coding, and overarching themes with the study investigator. Lengthy conversations with my peer debriefer took place over the findings that emerged from my data analysis. Revisions were made to the draft summary, based on the peer debriefer conversations, and excerpts from students’ writings were selected to support the four emerging themes.

In summary, the data analysis process I followed sought to understand patterns and themes from writings that provided insights into students’ experiences and what classroom elements contributed to the development of the students’ reflective judgment. Following Hatch’s analytic process was designed to enhance transparency, boost trustworthiness, and confirm contextual meaning for this study’s qualitative, analytic process. The following chapter illustrates the researcher’s findings that represent students’ experiences and students’ thoughts on how the classroom environment contributed to the development of their reflective judgment within an Intermediate Accounting I classroom.

**Data Management**

There is an ethical responsibility of the researcher to properly handle and safeguard any data collected and to keep all information in a secure and confidential location. Any artifacts, copies of approved IRBs, participant informed consent forms\(^5\) (see Appendix E), journals, memos, and any other data collected were secured in the teacher/researcher’s office. At any point where the use of a computer file was utilized,

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\(^5\)Students enrolled in the Intermediate Accounting class were asked to voluntarily participate in this study. They were asked to sign an informed consent form (see Appendix E). Details of the study and the understanding that the participant could cease participating in the study at anytime throughout the semester was on the consent form.
passwords were implemented, and backup copies were made and stored in a secure location.

Creswell (2007) suggested creating a master matrix to help with locating, identifying, and tracking data collected. I utilized a matrix and it allowed this researcher to effortlessly identify types of data collected and illuminated any design alterations that were needed to be made during the study. In addition, the matrix helped preserve the chain of custody and simplified the audit trail by allowing a central storage place that could be quickly accessed, updated, and viewed when needed.

When consent forms were distributed and collected (during week 1), they were placed in a sealed envelope until grades had been submitted in May. The goal was to add a layer of confidentiality and safeguard for students, to know that the instructor would not know they had agreed (or not) to participate until after the close of the semester. Further, even if they consented at the start of the course, students could later withdraw their participation with no consequence. It was hoped that these precautions would alleviate any student concern regarding obligatory participation due to enrollment in the course. At the end of the semester and after the envelope was opened, it was found that all students enrolled in the course had signed informed consent forms. None of the students withdrew their participation. Based on the research design for this study, the sample would only include students who completed and submitted all assignments associated with this study. Out of the original 26 students originally registered for the course under study, one student withdrew in the second week of the semester and 11 students did not complete and submit
all assignments associated with this study. Therefore, it was determined 14 students would be included in the sample.

To protect participants’ privacy and anonymity, pseudonyms were used in material that was to be published or publicly displayed. The investigator further disguised, altered, or removed identifiers that could reveal participants’ identities. In addition, the name and location of the University and other identifiers were protected.

**Trustworthiness**

Lincoln and Guba (1994) offered insight and four criteria for establishing trustworthiness in a naturalistic study. The four criteria were credibility, transferability, dependability, and confirmability. Prolonged engagement at the site, persistent observation, triangulation, peer debriefing, negative case analysis, referential adequacy and member checking are all ways to establish credibility. For this inquiry, both triangulation and peer debriefing were used to establish and enhance credibility.

During analysis, multiple data sources were generated throughout the study. Each data was used to “validate each against at least one other source” (Lincoln & Guba, 1985, p. 283). Triangulation of data sources was used extensively throughout the analytic phase to establish and enhance credibility of the findings.

Peer debriefing was an additional measure utilized during the analysis process of this qualitative study. Lincoln and Guba (1985) suggested “peer debriefing is an effective way of shoring up credibility, providing methodological guidance, and serving as a cathartic outlet” (p. 243). I selected the peer debriefer based on Lincoln and Guba’s recommendation to obtain a “noninvolved professional peer” (p. 283) and used this peer
“for the purpose of exploring aspects of the inquiry that might otherwise remain only implicit within the inquirer’s mind” (p. 308). Peer debriefing, similar to triangulation of data sources, was used extensively throughout the analytic phase to review impressions, patterns, and themes. Peer debriefing sessions were conducted to establish and enhance the credibility of the findings.

Transferability will only occur if the reader recognized particulars within this study that mirrored their own classroom characteristics. The researcher deliberately wrote transparently so readers could envision themselves in the setting and understand students’ thought processes as they resolved ill-structured problems. This evidence allows the reader to participate in the study, lend lucidity to the study’s processes, and demonstrate how this researcher interpreted her findings (Connelly & Clandinin, 1990; Hendry, 2010). It might just be a kernel or a whole set of circumstances that would allow the transference or at least begin a conversation at the reader’s institution.

Teacher and researcher journals (Patton, 2002) provided this researcher a supplement to recall events transpiring over the semester. Journal field notes provided references to teacher and researcher decisions made throughout the semester and assisted in confirming classroom experiences that unfolded throughout the semester. Finally, the use of student journal quotes, from their own written journal reflections, were included whenever possible to enhance transparency of the students’ experiences.

**Limitations**

There was a possibility that certain students were not able or willing to provide candid comments regarding their experience in the classroom. I attribute this chiefly to
the researcher’s dual role in the classroom. She was both teacher and researcher for this study. Students may have felt uncomfortable, restricted their comments, or not participated fully if they felt they were not writing what they believed the teacher was expecting. There was also the possibility that students submitted written reflections solely based on what they believed the teacher wanted to hear. Brookfield (1995) cautioned this is due to the perceived power relationship that exists in the classroom between students and their teacher.

Another possible limitation to this study was one particular aspect of the research design. This researcher determined to exclude all data from participants who had not completed and submitted all assignments associated with this study. By excluding this data, this researcher did not include those participants who submitted partial assignments. Interpretations and recommendations for future research may be altered if all data were included in the data analysis phase. Therefore, excluding the partial assignments may or may not have had an impact on the overall findings for this study.

**Conclusion**

This qualitative research design was guided by the following research questions:

1. What are students’ experiences in an accounting classroom that intentionally employs a learning paradigm, with specific emphasis on incorporating ill-structured problems and providing high direct contextual support?

2. How does the classroom environment contribute to the development of students’ reflective judgment?
The need for well-structured problems in the accounting classroom is both needed and a hindrance to student development. The reports (AECC, 1990, 1992; Albrecht & Sack, 2000; AAA, 1986; Big Eight White Paper, 1989) are stating that the current state of accounting education is not adequately preparing the accounting graduate for the complexities they face once they enter the workforce. The prevailing use of well-structured problems is necessary to solidify foundational knowledge necessary to work in a career that requires expertise in an expansive base of accounting knowledge. However, the reports are stating only focusing on well-structured problems is not preparing the accounting graduate for the complexities in the workplace. The need for increased usage of ill-structured problems to foster intellectual development in the accounting classroom is documented throughout the reports (AECC, 1990, 1992; Albrecht & Sack, 2000; AAA, 1986; Big Eight White Paper, 1989).

Assignments associated with this study were generated and collected from learning activities taking place at various times throughout the semester. These assignments were required of all students enrolled in the Intermediate Accounting I course under study. The study’s sample only included students who had signed informed consent forms, completed, and submitted assignments that were associated with this study. Data analysis was conducted to search for themes and patterns of the study participants’ experiences based on Hatch’s (2002) eight-step process.

The next chapter describes the developmental shift in reflective judgment students experienced. This developmental shift in thinking is described through a rich and thick description, embedded in context.
CHAPTER IV

FINDINGS

Introduction

This qualitative study was undertaken to understand students’ experiences in one Intermediate Accounting I classroom. The following research questions guided this study:

1. What are students’ experiences in an accounting classroom that intentionally employs a learning paradigm, with specific emphasis on incorporating ill-structured problems and providing high direct contextual support?

2. How does the classroom environment contribute to the development of students’ reflective judgment?

The adoption of the learning paradigm into this Intermediate Accounting I classroom allowed for multiple class meetings to be scheduled as in-class group discussions. These in-class group discussions, beginning in the first week of the semester and extending to the last week of the semester, had students openly exchanging ideas, deliberating, and debating well- and ill-structured problems. The importance of peer interaction and in-class group discussions are closely linked. Based on data collected and analysis conducted for this study, a finding emerged that indicated students made a developmental shift in reflective judgment. As previously stated in chapter 1, forming a reflective judgment involves fact, formula, and theory identification, determining relevancy to the problem, re-evaluating new evidence, generating potential solutions, and justifying those solutions through reasonable inquiry.
Data analysis revealed students credited in-class group discussions as the most important classroom element contributing to their development of reflective judgment. Michael wrote:

All of the discussing & interacting in the classroom (especially the Chart of Accounts) has influenced me to participate more, ask more questions, and not lose focus. I also am worrying less about interjecting and seeking help from classmates. Whether it is going over notes or Peachtree, I find myself trying [to] get involved as much as possible in order to improve my experience and ultimately my reflective judgment. (OMP3, February 8, 2011)

Hearing what peers discovered through researching various problem assignments and hearing what reasoning peers used to provide for evidence of their chosen solutions to various problem assignments was instrumental to this shift in student thinking. In-class group discussions and peer interaction are intertwined in the writing of this chapter. Students’ experiences are described by illustrating students’ experiences as they engaged with peers during in-class group discussions, completed and talked about well- and ill-structured problem assignments, and reflected about their experiences in journals.

The chapter begins with a description of students’ initial thought processes and discomfort with the two, initial problem-solving assignments. This description is based on analysis done on students’ journal reflections about their experiences during the first two in-class group discussions. Next, I describe the students’ developmental shift in how they constructed and defended evidence-based judgments to the well- and ill-structured problems assigned. This description is based on the analysis of two reflective thinking
essay assignments, one recognizing ambiguity statement assignment, journal reflections written after completing the essays but prior to in-class group discussions of the essay topics, and journal reflections written after in-class group discussions concluded. Student journal entries are included throughout this chapter to enhance transparency and provide contextual support to give the reader a sense of the changes students experienced throughout the semester. Please see the Data Source Recap (Table 2), shown in the previous chapter, for reference to the student journal entries included throughout the writing of this chapter (RJE = Reflective Journal Entry, OMP = One Minute Paper, RTE = Reflective Thinking Essay, RAS = Recognizing Ambiguity Statement).

**Beginning of Semester: Students’ Thinking on Well- and Ill-Structured Problems**

Two in-class group discussions were scheduled during the first and third weeks of the semester to discuss two assignments on well- and ill-structured problem solving. The first week’s recognizing ambiguity statement assignment required students to distinguish 10 different problem statements as either well- or ill-structured problems and provide reasoning justifying their problem statement choice. The third week’s assignment required students to research two web-sites and exchange ideas on possible solutions to an ill-structured problem on artificial sweeteners. Data analysis of students’ journal reflections revealed students experienced a challenge to the way they had previously viewed and thought about problem statements. Students negotiated discomfort and interest with the assignments, acknowledged the assignments launched a new way of thinking, and commenced initially recognizing peers as additional sources of knowledge.
Twelve of the 14 students said they were experiencing feelings of discomfort, and
the following data excerpts exemplify this point. Moc stated she was “very
uncomfortable” with the first week’s recognizing ambiguity assignment (RJE1, January
13, 2011) and continued stating “when we first talked about ill-structured problems, I was
very anxious because it was a brand new concept to me” (RJE5, April 12, 2011). John
said he “struggled” (RJE1, January 13, 2011), and Doug said he “felt out of his comfort
zone” (RJE1, January 13, 2011). Rachel said she “was unsure about the assignment”
(RJE1, January 13, 2011), and Laura added she was “a little lost” (RJE1, January 13,
2011) while completing the assignment. Doug wrote, “I also wasn’t expecting this kind of
topic in an accounting course” (RJE6, April 18, 2011). Charleston concurred with Doug
and expressed, “I would never have thought that in a practical business class that is more
about terminology, that I would be doing critical research on an accounting issue—kind of
different” (RJE3, February 8, 2011).

Students wrote about reasons for their discomfort with the first two in-class
assignments, recognizing ambiguity statements and artificial sweeteners assignment, and a
commonality emerged from the data analysis. Distinguishing problem statements and
articulating reasoning for the students’ choices was new to the students. Doug said,
“having to consider all possible views on a problem and the questions to ask yourself if it
is an ill-structured problem was new” (RJE6, April 18, 2011). Sam said, “the questions
challenged us to think in different ways when we are usually required to think” (RJE1,
January 13, 2011). Jasmine wrote, “I read the problem statements before class and
couldn’t decifer\(^6\) which were ill-structured and which were well-structured” (RJE1, January 13, 2011). Jim added, “I think the concept of identifying well and ill structured problems is relatively simple, but the idea of coming up with the best possible solution to an ill-structured problem with support could be somewhat difficult” (RJE1, January 13, 2011). Mike wrote, “when we as a class first discussed ill-structured and well-structured problems it was difficult to tell the differences between the two” (RJE6, April 21, 2011). Mike added, “ill-structured problems are challenging, so much thought & analyzation is expected when to coming to a decision. Not a simple task” (OMP5, March 29, 2011). Jerry wrote, “how difficult it [first assignment] was for me to determine whether or not a statement was ambiguous at the beginning of Intermediate Accounting. The first homework felt like such a struggle” (RJE5, April 12, 2011). Fitzgerald wrote, “the first week when we talked about ill-structured problems I honestly felt a little bit uncomfortable because it was something new to me” (RJE6, April 21, 2011). Rachel posited, “during the first week of classes when discussing what ill-and well-structured problems are I felt unsure. I felt this way, because I was learning something new” (RJE6, April 21, 2011).

Five of the 14 students began to articulate what problem statements they had previously worked on, providing a baseline to understand how the assignment requirements fit with their current thought processes. The following data excerpts exemplify this point. Moc said, “In most of my accounting, math and finance related

\(^6\) Student journal entries have not been corrected for spelling or grammatical errors. The quotes included throughout the chapter are the students’ own words. Some students, also, adopted language that was included in the assignments and journal reflection templates. For example, reflective judgment and learning paradigm were both used in student journals.
classes that I had before taking this course, I usually deal with problems with low uncertainty that have a specific way to solve” (RJE5, April 12, 2011). Fitzgerald agreed with Moc and said, “I was surprised to see ill-structured problems because in accounting most of the problems that are solved are well-structured and only have one correct answer” (RJE6, April 21, 2011). Fitzgerald continued by commenting that “what also makes it [initial recognizing ambiguity statement assignment] different from doing accounting problems is that we did not try to find the correct answer. Instead, we analyzed the situations given and determined whether they had one answer or multiple answers.” He added, “I was surprised by the assignment—it wasn’t like math” (RJE1, January 13, 2011). Buster wrote, “I also never thought of problems being either well or ill-structured. From this point on I have a feeling that I will be deciding if problems are well or ill-structured and I will use that to then elaborate more on my answer to the problem” (RJE1, January 13, 2011). Sam wrote, “the questions [on the recognizing ambiguity statement assignment] challenged us to think in different ways then we are usually required to think” (RJE1, January 13, 2011). John wrote:

It’s one way to just write the answer to a question, but to explain the reasoning behind that answer is a lot more challenging and really helps you learn why that answer is correct. That is exactly what this assignment [initial recognizing ambiguity statement] did and it really challenged me quite a bit. (RJE1, January 13, 2011)

The two in-class group discussions provided students an outlet to hear their peers vocalize ideas and reasoning on well- and ill-structured problem statements. Students
acknowledged their peers were sharing ideas that they had not thought of on their own. Eight of the 14 students were affirming peers as sources of knowledge, and the following data excerpts exemplify this point. Fitzgerald wrote, “the classroom environment contributes to the development of my reflective judgment because every person has their own opinion on a specific topic which makes it easier to learn more information on the topic and see it from different perspectives” (OMP1, January 18, 2011). Jasmine wrote, “I have explored new ways of thinking that was brought up by the group” (OMP2, January 27, 2011). Buster said, “the discussion [on artificial sweeteners] we had in class brought up many points and opinions that I never thought of while I was doing research” (OMP2, January 27, 2011). Jerry wrote, “listening to other viewpoints for the ill structured problems was very interesting. It showed the reasons why some individuals had opposing viewpoints” (RJE1, January 13, 2011). Fitzgerald stated, “what made this exercise [initial recognizing ambiguity statement assignment] very interesting was that everyone had their own perspective on each statement on whether it was ill-structured or well-structured. It was cool to hear everyone’s reasoning for why the statements were either ill-structured or well-structured” (RJE1, January 13, 2011). Jim said he was “fascinated with different people’s thought processes when answering questions with uncertainty” (RJE1, January 13, 2011). Sam stated, “listening to others opinions showed me the other ways to look at problems” (RJE1, January 13, 2011). Based on hearing different perspectives from his peers, John wrote, “we were able to create our own” (OMP1, January 18, 2011). Mike added, “the exercise [first recognizing ambiguity statement assignment] helped not only
beginning to think about these problems, but to hear what other classmates have to say about the problems and their reasonings” (RJE1, January 13, 2011). Buster wrote:

Hearing other student responses to ill-structured problems has made me think harder to try to understand the different possible solutions to the problems. Being able to see different solutions to problems will help me better understand the topic of discussion and be able to hold an educated discussion about the topic. (OMP2, January 27, 2011)

Mike wrote:

The classroom helps contribute by allowing the students to hear from other students and the professor about different ways to interpret problems such as the debate over sweeteners. It helps people to not only give more reason to why their own beliefs are correct, but it can also give examples on a different opinion from another student too. (OMP2, January 27, 2011)

Michael stated the classroom interaction “allows me to recognize & understand not only fellow classmate’s opinions but also why they feel that way. It inspires me to do the same in order for others to understand what I am saying” (OMP2, January 27, 2011). Jim wrote, “the classroom setting makes me aware of all the things other people take into account in their reflective judgment.” He continued, “it [classroom conversation] made me re-think and question my thought process when it comes to ill-structured problems” (OMP3, February 8, 2011).

Students’ current reasoning and approach to problem solving emerged from the data analysis. Four of the 14 students reflected how they might alter their current state of
reflective judgment, and the following data excerpts exemplify this point. Michael wrote, “I have to focus less on the answer and more on how I got to the answer” (RJE2, January 27, 2011). Charleston wrote:

Ill-structured problems have many answers, but getting to the perceived ‘right answer’ is all in how you support that answer. Either right or wrong, your answer is an educated selection based on thought out and well supported information. Too many times, the striving to getting to the right answer stops critical thinking ‘outside-of-the-box.’ (RJE2, January 27, 2011)

Sam commented:

This process [in-class group discussions] helped with my reasoning of ill-structured problems for many reasons. First, it helped me form a much better understanding of how to break apart the question and look at it from all angles. Second, it forced me to really prove the credibility of my sources. I had to look at where my information was coming from and back it up with the other information I was gathering. Discussing the problem in class showed the different ideas or different ways that people can look at the problem. I had one idea in my head and others had other ideas. In the future, I will now not only think about my idea, but I will try to think of the other ideas that people could have. This will help me to gather more information to help make myself appear more credible, and provide myself with better arguments. (OMP2, January 27, 2011)

Sam continued:
The classroom environment has contributed to my development of reflective judgment by giving me a much better understanding of the whole process. In class we have taken issues and gone step by step how to go about answering them. It has helped me to take that process and transfer it to different problems with multiple solutions. (OMP3, February 8, 2011)

Laura extended Sam’s acknowledgment by describing her own revelations. She wrote:

The discussion clarified the ill-structured problem and brought to light new issues or questions that I had not come across on my own such as the effect of artificial sweeteners on diabetics. It helped to hear my peers’ opinions and outlook on the issue and also to combine relevant information that we each found. Most importantly, the discussion provided me with a way in which to approach discussing and solving the problem. We looked at where to start, where to look, what information was relevant and credible and how to continue to looking towards a solution or position. The learning paradigm and high direct contextual support help in looking at ill-structured problems and how to approach them.

(OMP2, January 27, 2011)

**Continuing the Shift in Thinking With Reflective Thinking Essays**

Following the conclusion of the two, initial in-class group discussions, students were assigned two reflective thinking essay assignments. The first essay was on the pros and cons to the financial community of the convergence of GAAP and IFRS. The following section illustrates the students’ reflections on their own progress. I then
describe what the analysis of the essays revealed in regards to students’ progress in
developing their reflective judgment. The analysis did not support the students’
self-perception of a shift in reflective judgment at this time in the semester. Again,
students adopted language used on the reflective thinking essay assignments and template
for the students’ journal reflections.

Seven of the 14 students acknowledged progress from their original thinking when
first introduced to well- and ill-structured problem solving at the beginning of the
semester, while one confirmed her reflective judgment was “reiterated” and “hadn’t really
changed at this point” (Laura, OMP3, February 8, 2011), and two students declared no
change since the assignment was done outside the classroom. The following data excerpts
exemplify this point. Mike wrote, “It [classroom discussion on artificial sweeteners
during the third week of the semester] helped because I was able to look at my resources
that helped give me a background and different arguments on the topic. Then from this I
was able to form my own opinion using those arguments” (RJE3, February 8, 2011). Jerry
wrote, “the classes we’ve had thus far significantly affected my reflective judgment on
this assignment. Understanding multiple viewpoints on in-class exercises helped me take
in a larger perspective on this accounting issue. I was able to quickly identify opposing
viewpoints and their reasoning” (OMP3, February 8, 2011). Doug wrote that “writing it
all down in the essay and organizing all the ideas together was helpful for my critical
thinking ability” (RJE3, February 8, 2011). Jasmine commented:

When doing the practice reflective essay [artificial sweeteners] my colleagues really
broadened my horizons on their reasoning of ill-structured problems. The
arguments they made really made me think. By listening to their judgements and
discussions it helped me write this out of class essay much easier and I think
improved my work. (OMP3, February 8, 2011)

Jasmine continued by stating “without my previous accounting knowledge and support
from collegues and professors my argument and reasoning would be bad compared to
what essay I just now completed” (RJE3, February 8, 2011). Moc credited the essay
assignment with “learning how to build, develop and present a paper” as well as “learning
how to find and use reliable sources” (RJE3, February 8, 2011). Sam acknowledged he
has a “much better understanding of the whole process [referring to constructing and
defending a solution for an ill-structured problem]” (OMP3, February 8, 2011). Jim

stated:

The classroom environment helped me out in this essay because it gave me a
different thought process on how to think my way through and ill-structured
problem. It also taught me that not all sources are credible and that I have to look
closely at which sources are credible or not. The final thing I learned is that there
are many different opinions out there on ill structured subjects like this one and it
is important to make you own based of factual information. (RJE3, February 8,
2011)

On the opposite spectrum, Buster conceded that “since this assignment was to be
completed out of class the classroom environment did not assist in my development of this
subject [convergence of GAAP and IFRS problem statement]” (RJE3, February 8, 2011).
Buster added, “I understand why we are doing these problems but sometimes it feels more
like busy work” (RJE3, February 8, 2011). Rachel echoed Buster’s thoughts by adding “the classroom environment can only contribute to the development of students’ reflective judgment when an assignment or topic is done or discussed in the classroom” (OMP3, February 8, 2011).

Rachel’s and Buster’s essay submissions were so similar that both students were charged with plagiarism. Both students’ journal reflections revealed dismay with the volume of writing in the accounting classroom. Rachel wrote, “I felt it [the essay assignment] wasn’t necessary and I have never done so much writing” (February 17, 2011). She continued on by writing, “I know what an ill-structured problem is, therefore this assignment seemed unnecessary and repetitive, except with more writing” (RJE3, February 8, 2011). Buster wrote, “to be completely honest I found this assignment very unhelpful because it took time away from my more important assignments in other classes” (RJE3, February 17, 2011). Rachel and Buster were the only students who wrote in their journals their dislike for the writing component of the class.

**Analysis of Students’ Essays**

While students were asserting the development of their reflective judgment in their journal writing, data analysis of their essays did not support their claim. Analysis of the essay submissions revealed a problem with both a lack of resources and citing of sources that were too old to be relevant to the problem topic. For example, Moc cited an article that dated back to September 2005 and discussed the pros and cons for investors of IFRS. At one time this might have been a relevant source to utilize. However, since the article was six years old the information was at risk of no longer being relevant due to the
changing nature of the convergence of GAAP (Generally Accepted Accounting Principles) and IFRS (International Financial Reporting Standards). Using the information from this source could jeopardize Moc’s justification of her chosen position on the problem assignment by calling into question the relevancy of information backing her position. Moc’s essay contradicted her belief that the essay assignment helped her with “learning how to find and use reliable sources” (RJE3, February 8, 2011).

Moc was not the only student citing articles that were at risk of no longer being relevant to the issue. Data analysis of the students’ essays revealed five other students used sources dating back to 2008, 2009, and 2010. Two of the 14 students did not list sources they used, and the remaining six students did not include a works cited page, so it was impossible to determine the relevancy or date of the sources used in justifying the students’ position. It was necessary for students, not just Moc, to research sources that would support their chosen positions and provide information relevant to the convergence. Students needed to be very careful in their review of articles to ensure the information was still relevant to the current status of the convergence of GAAP and IFRS.

In addition, analysis of the essays exposed students lacked a broad and current perspective of the ill-structured problem. As noted above, students only cited a limited amount of sources, no sources, or sources that were too old and no longer relevant. Because of this, students obtained a narrower view of the pros and cons to the financial community for the convergence of GAAP and IFRS. For example, many students only reviewed a source detailing what IFRS was. Eight of the 14 essays provided little evidence that students researched the impact of the convergence to the financial
community. The other six essays source evidence would be at risk. This is due primarily to the age of the information and its relevancy to the problem statement. Analysis of the essays was revealing students struggling with forming a reflective judgment involving fact, formula, and theory identification, determining relevancy to the problem, re-evaluating new evidence, generating potential solutions, and justifying those solutions through reasonable inquiry. Student reflections, completed after the conclusion of the in-class group discussion on the assignment, would shed more light on the struggles students encountered completing this essay assignment outside of class and without contextual support from their peers or teacher. The following data excerpts exemplify this point.

The in-class group discussion on the pros and cons to the financial community of the convergence of GAAP and IFRS included students sharing on the board what was included in each student’s essays. At the conclusion of the discussion, students reflected on their experiences. The following description is based on analysis of the students’ journal reflections and summarizes students’ struggles with researching source information that was relevant and justified their chosen positions on the problem assignment.

The struggles identified by the students align with what was revealed during the analysis of the students’ essays. Students were unaware of many common accounting professional sources available to them for their research. For example, large accounting firms, accounting journals, large corporations, and accounting professional organizations were sources not commonly used by the 14 students in their research of this ill-structured problem. Charleston’s essay was the only one out of the 14 essays who cited all Big-4
accounting firms as sources. Reviewing multiple accounting firms’ or corporations’ annual reports could have assisted students in learning about the pros and cons to the financial community of the convergence of GAAP and IFRS. Accounting firms provide companies services that are integral to the integration of the financial convergence. Annual reports, issued by corporations, often provide details regarding information that is significant to the business’ operations. The convergence of GAAP and IFRS is considered a significant event to companies, the accounting profession, and financial community. By looking at all four firms, Charleston safeguarded against the possibility that a single firm might only report on what was in their client’s best interests.

Nine of the 14 students wrote their peers identified sources that could have been used by them in their essays if they had previously known about them. The following description and data excerpts highlight how students would have benefitted from hearing their peers’ ideas, sources, and reasoning prior to completing this out-of-class essay assignment.

Buster’s previous recognition of how his peers contributed to his understanding the problem statement was acknowledged again in his journal reflection after the conclusion of the in-class discussion on the convergence of GAAP and IFRS assignment. He wrote:

The classroom environment helps with my reflective judgment because the more ideas or opinions I hear from other people the better sense of the subject I get. Being able to hear different sides makes me think in the middle and then I can determine where I fall for certain topics. Knowing information about both sides of a subject helps me better understand the topic. (OMP3, February 8, 2011)
Buster’s reflection affirms that his peers are sources of knowledge and that he would have benefitted from the in-class group discussion prior to completing the convergence of GAAP and IFRS reflective thinking essay assignment. Buster added, “the more ideas or opinions I hear from other people the better sense of the subject I get” (RJE3, February 8, 2011) and that “if the assignments would have been done in class, I would have benefited from my other classmates ideas and thoughts” (RJE4, March 29, 2011). Jerry wrote, “it seemed like the classes knowledge regarding a sources credibility was minimal because of our little research experience” (RJE2, January 27, 2011). Jerry wrote, “I will be more likely to search for more credible resources now that I know which type of resources contain more reliable and relevant information” (OMP4, March 3, 2011). Jerry’s essay included source articles dating back to 2009. Jim’s journal reflected his limited research experienced as he declared, “learning how to research credible resources to build arguments is a great skill to practice” (RJE2, January 27, 2011). John wrote, “I just assumed that most sources online would be credible sources” (RJE2, January 27, 2011). John added, “I learned some more sources which could be used to gain more information on the accounting field” (OMP4, March 3, 2011). It was unclear from John’s essay what sources he used as he did not cite any. Michael wrote, “I quickly learned through the class discussion [convergence of GAAP and IFRS] that what I explained in my paper [essay submission] was lacking credible sources” (OMP4, March 3, 2011). Mike concurred by stating “spending time discussing the sources we used I found helpful because it showed what could be the best sources to reference” (OMP4, March 3, 2011). In another journal reflection, Mike added, “in the discussion [convergence of GAAP and IFRS] we had both
examples of credible and non credible sources” (OMP4, March 3, 2011). He continued by writing, “some ideas that will help assist me in the next paper would be using more support from websites and drawing conclusions from those ideas” (OMP4, March 3, 2011). Moc wrote, “after the conversation, I learned a lot more about both GAAP and IFRS because I was able to listen to different viewpoints from different sources” (OMP4, March 3, 2011). She added, “1 source is never enough” (OMP4, March 3, 2011). As mentioned above, Moc cited an article in her essay that dated back to 2005. Doug reflected in his journal, ”it is very important to critically examine each source that you use in your answer to make sure no one can destroy your argument” (OMP2, January 27, 2011). Charleston wrote about the lack of current sources cited in his essay, but evident in other students’ essays as well. He wrote, “getting the best, and most relevant information was stressed” (OMP4, March 3, 2011).

In summary, data analysis did not support the students’ perception of their development of reflective judgment after completing the reflective thinking essay assignment on the convergence of GAAP and IFRS. The lack of sources, using sources that were no longer relevant to the problem topic, and not citing sources at all jeopardized the students’ ability to justify their chosen problem solutions. In addition, the analysis of the sources used revealed a lack by students in gaining an understanding of the impact of the convergence to the financial community. When combining all these elements present on the students’ essays, students had only obtained a partial perspective of the problem statement. This partial perspective limited students’ abilities to justify their problem solutions. The analysis indicated students needed continued practice and contextual
support from both their peers and teacher while working on constructing and defending reasonable solutions to ill-structured problems.

A second reflective thinking essay, the pros and cons of extending credit to customers, was assigned and due the 12th week of the semester. Student essays and journal reflections written prior to the in-class group discussion were analyzed. The analysis revealed most students had made progress in resolving the main deficiency, researching current and relevant source information, found on their prior essay submissions. Students progress in forming a reflective judgment that involved fact, formula, and theory identification, determining relevancy to the problem, re-evaluating new evidence, generating potential solutions, and justifying those solutions through reasonable inquiry was emerging from the analysis of the students’ essays. This time, the analysis supported the students’ self-proclaimed developmental shift in reflective judgment.

Analysis of the prior essay submissions on the convergence of GAAP and IFRS had revealed students struggled with finding credible sources. This lack of sources limited students’ perspective and understanding of the problem topic. Analysis of the students’ essays on the pros and cons of extending credit to customers showed 12 of the 14 students improved in this area. Students cited current source data and researched a greater amount of sources, thus allowing for a broader perspective of the problem topic. For example, many students looked at a combination of sources such as the three credit reporting agencies, Dunn and Bradstreet, the Small Business Administration, Federal Trade Commission, multiple banking sites, Federal Trade Commission, and multiple web-sites
on the advantages and disadvantages of extending credit. Two students, similar to their essays on the convergence of GAAP and IFRS, did not provide evidence to determine what information was gathered from their sources. It was impossible to determine the age and relevancy of the source information being used. Of the 12 students showing improvement in citing current and relevant sources, I illustrate the developmental shift of reflective judgment through Michael’s and Laura’s journal reflections and essay submissions. Together, the analysis supports and illustrates their shift in thinking.

Michael wrote, “I focused more on the ‘extending credit to customers’ paper and tried to see what sources best explained the credit-granting process and identify which sources provided a reasonable argument in regards to why having credit customers is beneficial/detrimental” (RJE4, March 29, 2011). Michael continued:

The class discussions and my experience in the classroom helped me make certain changes to how I use rational thinking when writing this reflective thinking assignment. When discussing the pros/cons of extending credit to customers, it was important to have credible sources like FASB to explain the significance of this ill-structured problem. Also, it was important to not only stake an argument, but defend it. (RJE4, March 29, 2011)

Michael’s essay started with a historical perspective of granting credit. He expanded this by citing sources from a vast array of sites. Michael listed multiple credit granting agencies, the Small Business Administration, several banking, and the National Federation of Independent Business web-sites. The expanded review over his first essay submission demonstrated Michael’s desire to gain a fuller perspective of the pros and cons
of extending credit to customers. Michael’s essay on the pros and cons to the financial community of the convergence of GAAP and IFRS included two accounting sources, the AICPA and Ernst & Young. His admission that his essay “lacked credible sources” was not exactly correct (OMP, March 3, 2011). Both AICPA and Ernst & Young are well-respected organizations in the accounting profession, but the articles Michael referenced were two years old. His essay lacked a review of current sources and he could look at more accounting profession sources that would provide him a broader understanding of the impact to the financial community of the convergence of GAAP and IFRS. Michael’s expanded review of the extending credit essay allowed him to gain a deeper understanding of the problem and boosted his ability to justify his problem solution to others who may disagree.

   Laura wrote in her journal that she had tried to incorporate everything previously discussed on ill-structured problem solving, adding “answering these questions thoroughly and really trying to incorporate everything we talked about made me feel like I did a better job and it actually became easier to write once I looked at all aspects of extending credit and gathered all my information” (OMP5, March 29, 2011). Laura’s essay starts with a detailed overview of the credit granting process. The essay continues with possible solutions companies can take to protect and limit themselves from bad credit. Her chosen position for the problem statement is grounded in a perspective of the global economy. Laura ends with justifying her position by noting technological advances and discussing how the issuance of credit governs how the world operates. Like Michael, Laura’s global perspective of the extending credit problem revealed a deeper understanding than she
demonstrated in her writing from her first convergence of GAAP and IFRS essay. Her position on her first essay started with “although I am not very familiar with IFRS” (Laura, RTE1, February 8, 2011) indicating a lack of research sufficient to provide her a better understanding of the problem topic.

**Feelings Shifting From Unease to Confidence in Problem Solving**

Similar to the process done with the convergence of GAAP and IFRS in-class group discussion, the discussion on extending credit to customers included students sharing on the board what was included in each of their essays. After the in-class group discussion concluded, students reflected on their experiences. Analysis of the students’ journal reflections revealed students proclaimed progress in developing their reflective judgment, matching what was found through the analysis of student essays. Students again credited the contextual support they received during the prior in-class group discussions in helping them develop their abilities to search for credible, relevant source information. The following description and data excerpts illustrate how five of the 12 students declaring feelings of unease at the beginning of the semester were now more confident in developing, constructing, and defending a reasonable solution to an ill-structured problem. Jim wrote:

> The classroom setting [referring to past in-class group discussions] helped with this assignment because it helped me to find an efficient way of organizing my thoughts into a concise paper that weight the advantages and disadvantages of a topic, to question the credibility of my sources, and to create my own decision based on my research. (OMP5, March 29, 2011)
Moc said, “this assignment gives me a chance to practice my research, organize and writing skills more. I have become quite comfortable in finding the sources in the Internet and I now know how to determine whether a source is credible and reliable or not” (RJE3, March 29, 2011). Moc’s previous citing of outdated sources was not evident with this extending credit essay. She included a cross-section of current source data that allowed her to gain a fuller perspective of the problem topic. Mike added, “

The classroom helped with writing this essay [extending credit] because from the last essay [convergence of GAAP and IFRS] we had, the discussion showed how to find reliable sources and take those and form your own opinion from those. It helped also to determine what information was credible and what was not. (RJE3, March 29, 2011)

Doug credited the third week’s artificial sweeteners assignment with helping “to first know what a credible source was and how to determine why it was credible or not” (RJE2, January 27, 2011). He continued by stating, “finding credible resources is becoming easier and I think I improved the quality of this essay [extending credit] with the sources I used” (RJE3, March 29, 2011). Sam wrote:

I feel more comfortable in finding credible sources that describe both sides of a potential problem. I noticed how much more confident I had become while I was doing the second paper. I was better able to discern information that was and was not credible. Although, finding credible sources can still be one of the more challenging parts when trying to find information about a topic, I now feel more informed about how to go about this process. (RJE4, March 29, 2011)
Sam added, “going over the assignment regarding GAAP and IFRS in class also helped me in this assignment. Again listening to others help show me ways I could improve my overall understanding of ill-structured problems.” He continued by saying “after completing these two out of class essays, I feel that I have a better understanding not only of the topics discussed, but also of the steps required to understand new and ill-structured problems” (RJE5, March 29, 2011).

Two of the 14 students acknowledged progress, but admitted still struggling with the construction and defense of the assignment on extending credit to customers. Their levels of confidence were tempered compared to the five students illustrated above. Jasmine’s and John’s essays did not include a works cited page, but analysis of the essays revealed references to a couple web-sites. Jasmine used Citibank and Small Business Administration as sources for her extending credit essay, but it was impossible to determine what she looked at and the age of the information reviewed. Jasmine openly acknowledged in her journal, “the only struggles I had was finding credible resources to support my essay [extending credit essay]. However, by going over who is credible and why in previous classes, it helped me finish this task” (RJE4, March 29, 2011). John used HelloTrade and TD Bank Financial Group as sources for his extending credit essay and analysis could not reveal what sources were used on his convergence of GAAP and IFRS essay. Similar to Jasmine, it was impossible to determine through analysis what John looked at and the age of the information reviewed. John admitted in his journal reflection that he was not fully confident about his abilities to successfully construct and defend an evidence-based judgment, but did recognize the significance of his peers to the
development of his reflective judgment over the semester. He wrote, “the classroom has helped improve my thought process on how to answer these questions. By hearing other students opinions I was able to get a better perspective of how to look at each of these problems from different angles” (OMP6, April 12, 2011). Analysis of the students’ essays revealed both Jasmine and John would benefit from continued practice and contextual support in researching credible resources.

Experiencing a Developmental Shift in Thinking at the End of the Semester

Students had one more problem solving assignment to complete. The final problem solving assignment for the semester was a recognizing ambiguity statement assignment, similar to the assignment students worked on during the first week of the semester. Students were required to distinguish 10 problem statements as either well- or ill-structured problems. Once the choice was made, students were required to provide reasoning that justified their problem statement choice. Data analysis was done on the students’ assignments and journal reflections written prior to the in-class group discussion on the assignment.

Analysis of the students’ assignments revealed the 14 students progressed from experiencing feelings of discomfort and unease to confidence and an inability to ability in distinguishing well- and ill-structured problem statements at the beginning of the semester to distinguishing well- and ill-structured problem statements by the end of the semester. Students also showed progress from difficulties in articulating why a problem statement was well- or ill-structured at the beginning of the semester to being able to articulate reasoning that justified their problem statement choice at the end of the semester. Even
though five of the 14 students did not properly distinguish two problem statements correctly on the assignment, analysis of the students’ assignments supports the students’ self-acknowledgment of the progress made from not knowing there was a difference between problem statements to recognizing and distinguishing the majority, if not all, problem statements properly on the final recognizing ambiguity statement assignment. Justification for reasoning given by the students was also relevant to their problem statement choice. The following section describes reasons emerging from the data analysis as to why six of the 14 students misidentified the first problem statement and five of the 14 students misidentified the ninth problem statement. Next, data excerpts from students’ reasoning of some of the properly distinguished problem statements are shown.

Six students distinguished uncertainty in the first problem statement: perform a regression analysis. The students looked at the problem statement and noted no specific data was given. The six students took that to mean there was uncertainty with the problem. Michael wrote in his journal, “there is more than one way to conduct regression analysis” (RJE5, April 12, 2011). Sam agreed by writing on his assignment, “regression analysis may be many different things. There is no one correct style to use” (RJE5, April 12, 2011). Fitzgerald added, “I believe that this is an ill structured problem because there are different possible data points that can be collected which would slightly change the regression itself” (RJE5, April 12, 2011). Buster commented, “there can be different analysis for different regression” (RJE5, April 12, 2011). Both Doug and Rachel echoed Buster in their respective writings that “there can be many different outcomes for a regression analysis of a certain problem” (RJE5, April 12, 2011) and “there are multiple
ways to do a regression analysis” (RJE5, April 12, 2011). After the in-class group discussion concluded, the students wrote their problem choice would have been different if data would have been given with the problem statement.

Analysis revealed the remaining eight students who correctly identified this problem statement as well-structured articulated similar reasons for their problem choice. Jerry wrote, “although there are a variety of techniques to this, only one regression analysis can be made” (RJE5, April 12, 2011). Moc, John, and Laura had similar reasoning for distinguishing the problem statement as well-structured. Moc wrote, “low uncertainty, there’s a specific way to do it [regression analysis]” (RJE5, April 12, 2011). John wrote, “there is only one way to perform a regression analysis” (RJE5, April 12, 2011). Laura wrote, “there is only one way to perform a regression analysis. There is no uncertainty on how to do a regression analysis” (RJE5, April 12, 2011).

The ninth problem statement—describe the current governmental dietary guidelines—was also misidentified and discussed. Analysis of the assignments revealed a variety of reasons why the five students misidentified this problem statement. Jasmine wrote, “there is uncertainty on what people consider dietary guidelines; experts would disagree” (RAS1, April 12, 2011). John wrote, “there are multiple view about what people think about the gov, dietary guidelines” (RAS1, April 12, 2011). Mike wrote, “the guidelines could have different expert opinions on diets and what a good diet should look like” (RAS1, April 12, 2011). Doug added he “thought they are set guidelines they can be interpreted in different ways” (RAS1, April 12, 2011). Finally, Jim wrote he “could describe it [the dietary guidelines] in a lot of different ways” (RAS1, April 12, 2011). The
students’ responses illustrate a possibility that how the dietary guideline problem statement was written may have created confusion for the students.

On the opposite spectrum, the remaining nine students’ reasons viewed the problem statement as well-structured and unambiguous. Charleston wrote, “the government issues a statement from the FDA’s finding that is clear and concise opinion on the matter” (RAS1, April 12, 2011). Michael agreed and wrote, “the current guidelines are clear & unambiguous” (RAS1, April 12, 2011). Tony added, “the dietary guidelines are facts; they are exact amounts” (RAS1, April 12, 2011). Other students provided reasoning similar to Charleston’s, Michael’s, and Tony’s.

Even though some students failed to properly distinguish two problem statements in the final recognizing ambiguity statement assignment, the description and data excerpts from seven of the 14 students illustrate progress made by students from when they were first introduced to well- and ill-structured problem statements at the beginning of the semester. The students’ self-acknowledgment of progress is substantiated with data analysis of the recognizing ambiguity statement assignments and supports students’ developmental shift in their ability to distinguish well- and ill-structured problem statements by the end of semester.

Jasmine acknowledged, “when doing these ambiguity problems [second recognizing ambiguity statement assignment], I realized that deciding whether it is well or ill-structured was a lot easier compared to the beginning of the year” (RJE5, April 12, 2011). She claimed, “figuring out if they were well-structured or ill-structured is not the problem, the reasoning why is” (RJE5, April 12, 2011). Jasmine went from not being able
to “decifer” (RJE1, January 13, 2011) to properly distinguishing nine out of the 10
problem statements on the final assignment and providing reasoning that justified her
problem choice. Jasmine correctly distinguished the statement, “Record the journal entry
when a company obtains a loan from FSN for $50,000” as well-structured and stated “only
one answer to recording this journal entry, experts would agree” (RAS1, April 12, 2011).
Michael wrote, “while working on the second ‘recognizing ambiguity statement’
assignment, I realized that I had less trouble distinguishing between well structured and
ill-structured problems. What I found different with this assignment is that I took more
time forming my reasoning” (RJE5, April 12, 2011). Michael correctly distinguished nine
out of 10 problem statements on the final assignment. The problem statement “Record the
company’s payment of the monthly water bill of $315” was correctly distinguished as
well-structured and Michael’s justification was “there is a low degree of uncertainty
because there is only one generally accepted way to record it” (RAS1, April 12, 2011).
Sam reflected that “when thinking back to the beginning of the semester I feel much more
comfortable when dealing with problems that I have little or no prior experience with
[referring to ill-structured problems]” (RJE6, April 21, 2011). John added, “I feel that
over the course of this semester I have become a little more confident in being able to
determine the difference between ill-structured and well-structured problems” (RJE5,
April 12, 2011). Jim wrote,

When we were doing it then [first week’s recognizing ambiguity statement
assignment] I questioned myself if I was right or not. Now, my thought process
has changed for the better. This was a good exercise to see how much we learned
Jim’s comment was addressing his own self-assessment as there were no grades assigned to this assignment. (RJE5, April 12, 2011)

Moc wrote “now, when I read a problem, the idea of which kind of problem is (and why it is) comes right away to my mind. I don’t mind doing these kind of problems anymore” (RJE5, April 12, 2011). Moc was one of the students who expressed that she was “very uncomfortable” (RJE1, January 13, 2011) and “anxious” (RJE6, April 12, 2011) with the first assignment, but she correctly distinguished all 10 problem statements on the final recognizing ambiguity problem assignment. Moc’s justification on the problem statements included “low uncertainty, a specific transaction” and “because there are many options for this problem and experts may disagree with them” (RAS1, April 12, 2011) demonstrated her understanding of the differences between well- and ill-structured problem statements. Mike confirmed, “I was able to identify which of the statements the problem was, and easily describe my reasoning for that problem” (RJE5, April 12, 2011).

In-class group discussions, peer engagement, and the totality of conversations on well- and ill-structured problem solving throughout the semester were credited for students’ developmental shift in thinking. Analysis of the students’ assignments, combined with analysis of the student’s journal reflections, support this developmental shift in thinking. Five of the 14 students articulate their progress, and the following data excerpts exemplify this point.

Buster wrote, “the ambiguity statements assignment #2 was much easier than the first time because of all the other assignments that were before this” (RJE5, April 12, 2011). Even though Buster repeatedly reflected that he would have benefitted from
hearing what his peers’ ideas and reasoning prior to completing his out of class essay assignments, Buster correctly distinguished, on his own, nine out of 10 problem statements on the final assignment. Sam wrote,

After everything that we have done in class, I began to look at these ambiguity statements much differently than I did in the beginning of the year. We have been directly and indirectly talking about the difference of ill-structured and well-structured problems for most of the year. (RJE5, April 12, 2011)

Sam summed up his entry by saying:

Recognizing the ambiguity statements seemed much easier the second time around. I felt like I had a better understanding of what to look for and how to answer the questions. Overall, I feel like I have learned a good amount about well and ill-structured problems compared with the beginning of the year. (RJE5, April 12, 2011)

Doug concurred with Sam and added,

This second recognizing ambiguity statement was much easier than at the beginning of the year. After reading each problem, my mind quickly searched for any uncertainty and possible differing sides to the problems. Well-structured problems tend to really stick out. (RJE5, April 12, 2011)

John acknowledged progress, but tempered his confidence level by writing, “I feel that over the course of this semester I have become a little more confident in being able to determine the difference between ill-structured and well-structured problems.” John acknowledged the importance of his peers in helping him differentiate problem types.
The most help [within the classroom] I got was by listening to other students’ opinions which opened my eyes to different views on these questions. Through that I feel I made the most improvement and took the biggest step in understanding ambiguity statements. (RJE5, April 12, 2011)

John distinguished nine out of 10 problem statements correctly on the final assignment. Charleston recognized his “thinking was too narrow in scope or I had a quick analysis process that would not work well for every problem, question, or task presented to me” (RJE5, April 12, 2011). Charleston continued:

As the semester has progressed, the ambiguity statements presented now are better understood, and reasoning behind them have been made aware to me through what was taught in class and also how I’ve trained myself to think due to this class.

At the beginning of the semester, I was not aware of certain accounting procedures or conflicting ideas presented with problems related to class and outside of class, but now I am. This dramatically help my thought process in regards to this assignment, and future endeavors in my schoolwork and future career. (RJE5, April 12, 2011)

Summary

Data analysis revealed that students experienced a developmental shift in reflective judgment from the beginning to the end of the semester. Progress was made as students formed a reflective judgment involving fact, formula, and theory identification, determining relevancy to the problem, re-evaluating new evidence, generating potential solutions, and justifying those solutions through reasonable inquiry. Progress was made
as students were able to distinguish well- and ill-structured problem statements by the end of the semester and provide justification that was relevant to their problem statement choice. Students went from feeling unease and discomfort to experiencing a level of confidence while distinguishing well- and ill-structured problems by the end of the semester. Analysis of student essays and recognizing ambiguity statement assignments, coupled with the students’ journal reflections before and after in-class group discussions on the various problem assignments, support the finding of a developmental shift in student thinking. In-class group discussions scheduled throughout the semester allowed peers to engage with each other in an exchange of ideas on well- and ill-structured problem assignments. Peers, sources of knowledge for each other, were revealed through data analysis to be instrumental to the students’ developmental shift in thinking. Charleston wrote:

The classroom environment was a tremendous help to my learning process. As a student, it is hard to follow prompted lectures from PowerPoint Presentations; in fact, I find it deters the learning process. An educator or peer talking with you is more beneficial than someone talking to you, and this was how the class was. I felt that everyone was expected to contribute, but to learn from not only the professor but other students. (RJE6, April 14, 2011)

The next chapter includes discussion and implications of this developmental shift in reflective judgment for students enrolled in one Intermediate Accounting I classroom under study. Following this discussion are recommendations for practice, specifically
three recommendations for accounting educators. Recommendations for future research studies conclude the chapter.
CHAPTER V
DISCUSSION AND IMPLICATIONS

Introduction

The purpose of this qualitative study was to determine how a shift from the instruction paradigm to the learning paradigm (Barr & Tagg, 1995) in one accounting classroom might contribute to the development of students’ reflective judgment. This study incorporated the learning paradigm into one accounting classroom and investigated the impact of the adoption of the learning paradigm on students’ experiences and the development of students’ reflective judgment. The study was conducted over a 16-week semester and was situated within one Intermediate Accounting I classroom. The following research questions framed this study:

1. What are students’ experiences in an accounting classroom that intentionally employs a learning paradigm, with specific emphasis on incorporating ill-structured problems and providing high direct contextual support?

2. How does the classroom environment contribute to the development of students’ reflective judgment?

Discussion and Implications

Analysis revealed students experienced a developmental shift in reflective judgment over the course of the semester and students came to recognize their peers as sources of knowledge. King and Kitchener (1994) referred to reflective judgment as reasoning that involved fact, formula, and theory identification, determining relevancy to the problem, re-evaluating new evidence, generating potential solutions, and justifying
those solutions through reasonable inquiry. King and Kitchener’s research included over 1,700 individuals, primarily college students, and their findings were based on students’ responses to ill-structured problems.

King and Kitchener’s (1994) research findings revealed college students typically entered college as a pre-reflective thinker, demonstrating a dualistic view of knowledge and transitioned by graduation to a quasi-reflective thinker, demonstrating a view that knowledge could sometimes be uncertain. During these developmental transitions, multiple studies indicated it was possible students could exhibit uneven skill acquisition. Both Fischer’s (1980) research on skill theory and King and Kitchener’s (1994) research, resulting in the cognitive developmental stage model called the Reflective Judgment Model (RJM), supported the possibility of an uneven skill development by students. Lerner (2002) referred to it as stage mixture. The commonality of their research findings indicated students could exhibit reasoning tendencies under a mixture of stages, but generally the most commonly held knowledge assumptions under any particular stage dominated students’ reasoning during this transitional phase. An example of stage mixture is pre-reflective thinkers hold a commonly held knowledge assumption that knowledge is certain. As pre-reflective thinkers transition to quasi-reflective thinking, a transition from assuming that knowledge is certain to recognizing knowledge can sometimes be uncertain occurs. As the individual continues to transition in their thinking, the individual may demonstrate reasoning tendencies from multiple stages.

Well-structured problem solving, requiring students to reason to a single, correct answer, has dominated the accounting classroom. Students participating in this study
were introduced at the beginning of the semester to ill-structured problem solving assignments. The assignments required students to recognize knowledge could be uncertain and that some problems may generate multiple reasonable solutions. Justification of a reasonable solution required a thorough review of the problem and collection of evidence that would support the student’s chosen position against those who may disagree. Analysis showed distinguishing problem statements between well- and ill-structured problems and identifying problem uncertainty was new and uncomfortable for students.

Research conducted by Boyce et al. (2001), Lynch (1996), and Wolcott and Lynch (1997) supported the placement of the problem solving assignments at the beginning of the semester. Boyce et al. (2001) stated that “the initial focus [referring to ill-structured problem solving] should be on convincing students that there is uncertainty and ambiguity in accounting” (p. 44). Lynch (1996) and Wolcott and Lynch (1997) concurred and stated that students needed contextual support in helping them realize knowledge was not always certain and that certain problems could contain uncertainty.

In addition, analysis conducted on the students’ first, out-of-class reflective thinking essay assignment on the pros and cons to the convergence of GAAP (Generally Accepted Accounting Standards) and IFRS (International Financial Reporting Standards) exposed students’ struggles with constructing and defending reasonable solutions to the assignment. Students failed to cite sources that were current, credible, and relevant and sufficient in amount to provide a broad perspective of the problem statement in order to
defend their chosen position. Source credibility was crucial in justifying the students’
chosen positions.

King and Kitchener’s (1994) research showed that in RJM stage level four students
could exhibit difficulties in making judgments. These difficulties resulted from students
transitioning in thinking that knowledge was certain to beginning to recognize that
knowledge uncertainty could exist in problems. Analysis revealed that students struggled
in making judgments that could be defended against others who may disagree with their
chosen positions. Students’ attempts to construct and defend a reasonable solution to the
essay assignment were deficient in citing credible and relevant sources that provided
students a broad perspective of the problem and assisted in the students’ defense of their
chosen solutions. Students were exhibiting reasoning tendencies indicative of King and
Kitchener’s RJM stage four.

Analysis of the students’ second, out-of-class reflective thinking essay assignment
on the pros and cons of extending credit to customers showed students progressed in their
ability to research, evaluate, and justify sources cited in the problem assignment. Students
included a greater review of current, credible, and relevant sources in their essays,
providing a fuller understanding of the problem topic, and resolving the deficiency in the
students’ first essay submissions. Students’ justification of their problem solutions was
strengthened due to their broadened perspectives. Students were showing a greater
comfort level with researching and dealing with problem uncertainty while constructing a
reasonable solution to the problem.
This study’s findings supported Boyce et al.’s (2001), Lynch’s (1996), and Wolcott and Lynch’s (1997) recommendations to educators that problem solving should begin with students acknowledging the possibility of uncertainty in problems. Analysis for this study supported the inclusion of this type of problem solving early in the semester. Students did not expect ill-structured problem assignments in the accounting classroom. Students expected well-structured problem assignments, similar to assignments completed in other classes. Students initially experienced discomfort and anxiety with the assignment requirements. Over the semester, with continued practice and contextual support, students made progress in their abilities to construct and defend reasonable solutions to ill-structured problems and experienced reduced levels of discomfort and anxiety.

Barr and Tagg (1995) advocated for learning environments and experiences that were free of structural constraints, specifically lectures that were a primary component of the instruction paradigm. Barr and Tagg promoted the adoption of the learning paradigm where “lecture becomes dispensable and negotiable” (p. 20). This study investigated how the adoption of the learning paradigm, incorporating ill-structured problem solving and providing high levels of contextual support into one accounting classroom, impacted students’ experiences and their development of reflective judgment. The shift from the instruction to learning paradigm launched this investigator’s examination of students’ experiences based on the structural changes made to this accounting classroom.

Analysis showed that as the semester unfolded, students recognized their peers as sources of knowledge. Students repeatedly credited the contextual support they received...
from their peers during in-class group discussions with assisting them in transitioning to a new and different way of thinking. Barr and Tagg (1995) posited that the adoption of the learning paradigm could create learning environments where students become “active discoverers and constructors of their own knowledge” (p. 22). The in-class group discussions, one of the classroom’s structural changes made possible through the adoption of the learning paradigm, assisted the students in becoming active discoverers of knowledge.

**Recommendations for Practice**

Accounting education is at a crossroads. Albrecht and Sack (2000) and Boyce et al. (2001) outlined ways the scope of disciplinary knowledge continues to expand at a rapid pace. Technology, globalization, and accounting regulations governing accounting practices are emerging at an exhilarating pace. Albrecht and Sack (2000), extending previous reports issued by the AECC (1986) and the Big Eight accounting firms (1989) highlight intellectual skill deficiencies in accounting graduates. Intellectual deficiencies have made it difficult for accounting graduates to analyze complex transactions. Information is rapidly changing and accountants need to research and provide reasonable problem solutions within a dynamic and sometimes uncertain workplace.

The AECC (1990), Albrecht and Sack (2000), AAA (1986), and the Big Eight White Paper (1989) reports have all pled for changes in how we educate our accounting majors, stressing the need to move away from lecture as the primary mode of educating our students. Albrecht and Sack (2000) declared calls for change have largely gone
unheeded. In addition, they predicted that accounting degree programs could cease to exist if changes were not implemented.

The degree program’s demise may first be felt by students encountering difficulties in obtaining internships or securing full-time jobs. Another indicator of trouble may be that employers are no longer willing to recruit on-campus. Practitioner complaints may actually decrease if a perception that the institution’s accounting program inadequately prepares students for the workplace and they perceive it no longer advantageous for them to recruit on campus. Ultimately, any of these indicators could be detrimental to the future recruitment and retention of students into the institution’s accounting program.

Accounting educators may see this rapidly changing workplace as evidence for the continued adoption of Barr and Tagg’s (1995) instruction paradigm as an efficient mechanism to transfer knowledge from teacher to student. I disagree that continuing to lecture to our accounting students will address students’ intellectual deficiencies highlighted in the Albrecht and Sack (2000) report and safeguard the continuance of accounting degree programs. Barr and Tagg (1995) said, “paradigms change when the ruling paradigm loses its capacity to solve problems and generate a positive vision of the future” (p. 27). Accounting educators have a duty to not only teach students the professional knowledge needed for the workplace, but are also responsible for cultivating learning environments that prepare accounting graduates to work in a rapidly changing and expanding accounting workplace. My investigation demonstrated that changes to one accounting classroom can create student developmental shifts in thinking. The next section discusses my recommendation for the adoption of the learning paradigm into the
accounting classroom, followed by three specific recommendations for accounting educators.

**Recommendations for Accounting Educators**

I recommend accounting educators adopt the framework of Barr and Tagg’s (1995) learning paradigm into their accounting classrooms. Albrecht and Sack (2000), AAA (1986), and Big Eight White Paper (1989) reports placed blame on the traditional accounting classroom, embedded and clinging to the instruction paradigm for failing to educate an accounting major that will graduate with the intellectual skills needed to be successful in the workplace. Barr and Tagg’s (1995) learning paradigm is a holistic learning approach where the student is instrumental in constructing his or her own knowledge. This is a major shift from the instruction paradigm where the teacher dispenses the knowledge students need.

For educators fearful of altering teaching practices from the instruction to learning paradigm, Barr and Tagg (1995) posited changing the classroom does not have to be instantaneous. Classrooms can be designed to be “cooperative, collaborative, and supportive learning environments” (p. 42). Changes can occur by “a process of gradual modification and experimentation through which we [reference to faculty] alter many organizational [structural] parts in light of a new vision for the whole” (p. 21).

This investigation was conducted in an accounting classroom that had adopted the learning paradigm, disrupting the traditional way accounting had been taught over the decades. With this change, the assumption was made that students’ knowledge would be co-constructed, created through students’ experiences, and embedded in context. High
levels of contextual support, in-class group discussions, and ill-structured problem solving were structural changes made to replace lectures in this accounting classroom under study. A research design was developed that studied students’ experiences and how the structural changes to the classroom contributed to the students’ development of reflective judgment.

The in-class discussions, where analysis indicated students became aware of their peers as sources of knowledge, was one of the structural changes made in the classroom. Pinar (2008) indicated complicated conversation required “curricula innovation and experimentation, opportunities for students and faculty to articulate relations among the school subjects, society, and self-formation” (p. 191). Adopting the learning paradigm into one accounting classroom allowed students to experience complicated conversation through in-class group discussions. Analysis for this investigation revealed students repeatedly credited the collaboration that took place during in-class group discussions for their learning and understanding of the problem statements.

Additionally, Albrecht and Sack (2000) reported students believed “accounting is most often associated with money, numbers, math, and taxes” (Ch. 3, p. 28). Analysis showed students expected the Intermediate Accounting I course to be comparable to a math course with assignments requiring a single correct answer and backed up what Albrecht and Sack had previously reported in 2000. However, the adoption of the learning paradigm disrupted students’ expectations of the course.

The disruption of students’ expectations of this accounting course is a key finding of this study. A lack of change in accounting education, combined with practitioners’ complaints for improved classroom activities to improve intellectual skills of accounting
majors lend support for the need to disrupt long-held student expectations of accounting. My study’s findings demonstrate this disruption is possible through the adoption of the learning paradigm in the accounting classroom.

**Recommendation #1**

Specifically, I recommend that accounting educators implement ill-structured problem solving in their accounting classrooms. Albrecht and Sack (2000) and the Big Eight White Paper (1989) advocated for changes in curriculum that would assist students in developing problem solving skills. Albrecht and Sack reported practitioners were complaining about accounting graduates’ failure to analyze, construct, and defend reasonable solutions to ill-structured problems. The Big Eight White Paper stated:

> Individuals seeking to be successful in the diverse world of public accounting must be able to use creative problem-solving skills in a consultative process. They must be able to solve diverse and unstructured problems in unfamiliar settings. They must be able to comprehend an unfocused set of facts; identify and, if possible, anticipate problems; and find acceptable solutions. (Ch. 3, p. 1)

Analysis of documents collected for this study indicated students were experiencing unease with the problem solving assignments integrated into the accounting classroom. Students struggled with distinguishing between well- and ill-structured problems and identifying uncertainty in the ill-structured problem statements. Student journal reflections revealed thinking of problems in this manner was new for them.

Dewey (1933) stated individuals experience a state of disequilibrium with problems they perceive as unsolvable. Adding to this, King and Kitchener’s (1994) study
indicated students typically entered their freshman year of college at RJM stage three. Stage three corresponded to students’ beliefs that knowledge was certain, similar to Perry’s (1970) dualistic view of knowledge. Students participating in this study were exhibiting reasoning tendencies that were indicative of King and Kitchener’s (1994) stage three.

Changes to long held accounting education practices may result in student resistance to the changes implemented into classrooms. Two students, Rachel and Buster, participating in this study were vocal in their dismay of the writing components of the class. The first reflective essay assignment on the convergence of GAAP and IFRS resulted in both students being charged with plagiarism. Analysis of Rachel and Buster’s essays revealed both students used the same information, but just shifted the order of how it was presented. Buster wrote “to be completely honest I found this assignment [referring to the convergence of GAAP and IFRS essay] very unhelpful because it took time away from my more important assignments in other classes” (RJE3, February 17, 2011). Rachel wrote, “I know what an ill-structured problem is, therefore this assignment [referring to the convergence of GAAP and IFRS essay] seemed unnecessary and repetitive” (RJE3, February 8, 2011).

King (2009) provided a possible explanation why Buster and Rachel resisted what they perceived to be unwanted changes in the accounting classroom. King posited that: Changing one’s worldview takes hard work. For this reason, it shouldn’t be surprising that development is slow or that education that is discombobulating and turns one’s world on its head is unnerving. Perhaps this resistance to change,
however temporary, is a reflection of the stability of cognitive structures, and of their central role in meaning making. (p. 614)

Unfortunately, plagiarism is a possible outcome of any essay assignment. I recommend that educators speak directly to any student committing plagiarism on their ill-structured problem assignments. Determining what motivates students to violate plagiarism policies provides educators a greater understanding for the potential of such violations in their own accounting classrooms. This is an area for future possible research.

Even with the possibility of encountering student resistance, ill-structured problem solving can be implemented into the accounting classroom with the integration of reflective thinking essay assignments. Wolcott and Lynch’s (1997) research study conducted in the financial accounting classroom utilized reflective thinking essay assignments. My investigation extended their research efforts by implementing reflective thinking essay assignments into Intermediate Accounting. My study’s contribution provides educators with insight into accounting majors’ experiences when combining both the learning paradigm and ill-structured problem solving into the Intermediate Accounting classroom.

**Recommendation #2**

I also recommend accounting educators provide students with high levels of contextual support and time to practice during class while working on ill-structured problem solving. Fischer (1980) and Kitchener et al.’s (1993) research revealed students are capable of achieving higher developmental levels with contextual support. Fischer indicated achieving a functional developmental level is the result of receiving zero
contextual support. On the other hand, Fischer indicated one could achieve an optimal developmental level with contextual support. Kitchener et al. (1993) added that the optimal level was “the highest level that the individual can consistently produce under conditions that provide high levels of contextual support and opportunities for practice” (p. 893).

Analysis for this investigation revealed students struggled with constructing and defending reasonable solutions to ill-structured problems. These struggles included citing sources that were old and no longer relevant, citing insufficient sources indicating a lack of understanding by the student of the problem topic, and not including a work cited page. In addition, many students were unaware of accounting sources that could have been reviewed and possibly used to defend their chosen problem solutions. Over the semester, students continued practicing and receiving contextual support from their peers and professor.

The difference between this investigation and the Wolcott and Lynch (1997) research study was the timing of the contextual support. Wolcott and Lynch’s contextual support occurred after the students submitted their essays and during in-class group discussions. My study’s research design included students receiving contextual support before and after essays had been submitted and during in-class group discussions. This research design decision was driven by research done by Fischer (1980) and Kitchener et al. (1993). Fischer’s and Kitchener et al.’s research findings revealed the possibility students could experience a higher cognitive level with high levels of contextual support.
The design was based on providing contextual support as often and whenever feasible throughout the semester.

It is difficult to determine if the difference in timing of contextual support for this investigation and Wolcott and Lynch’s (1997) resulted in different research findings. Wolcott and Lynch studied two different classrooms and I studied one classroom. In addition, Wolcott and Lynch studied financial accounting and I studied Intermediate Accounting. This is an area for possible future research.

For this study, by the end of the semester students began to demonstrate reasoning tendencies that differed from the beginning of the semester. Students acknowledged an element of uncertainty in the problem statements, even though it may have been difficult to articulate what the uncertainty was. Students recognized the need for a greater understanding of the problem topic through research and review of credible source information. As I stated earlier, analysis showed the in-class group discussions were positively received by the students and a crucial classroom element contributing to students’ development of reflective judgment. Students stated they were able to gain a greater understanding of the problem topics due to the contextual support they were getting in the classroom.

Fischer (1980) stressed the importance of the environment in cognitive development. The adoption of the learning paradigm into this accounting classroom, in conjunction with high levels of contextual support, is an environment that produced developmental shifts in thinking for students participating in this study. Analysis revealed that students demonstrated a greater ability to construct and defend a reasonable solution
to an ill-structured problem by the end of the semester than they had been able to do at the beginning of the semester. I am convinced ill-structured problem solving needs to be implemented throughout the accounting curriculum. Students need to practice and receive contextual support, supporting the possibility that students could achieve a higher level of intellectual development while receiving contextual support. Providing contextual support should occur frequently throughout the semester. Achieving optimal levels of cognitive development for our accounting majors should be one of our primary objectives in accounting education.

Integration of ill-structured problem solving into the curriculum provides the greatest chance for our students to achieve optimal developmental levels. Implementing ill-structured problem solving into one accounting classroom is a start, but insufficient if we want to alter accounting education and better prepare our students for the complex work environment they face upon graduation.

Implement changes into your accounting classrooms by following Barr and Tagg’s (1995) suggestion. Incorporate changes slowly by only changing parts of your teaching practices. For accounting faculty uncertain about how to incorporate writing into the accounting classroom, they can collaborate with a campus writing center or partner with English faculty. Research librarians can provide assistance in helping students find credible and relevant source identification to include in their essays. Barr and Tagg illuminate the fact that faculty should not fear experimentation, but instead embrace changes made in their classrooms even with the possibility of experiencing student resistance.
Recommendation #3

I recommend a detailed review of the accounting curriculum in the degree program. The implications for curriculum development are immediate. Pinar (2008) explained, “curricula innovation and experimentation, opportunities for students and faculty to articulate relations among the school subjects, society, and self-formation” (p. 191) are possible. Consideration for implementing the learning paradigm and ill-structured problem solving into accounting classrooms should be part of the curriculum conversation. Continuing with what Gage (1978) described as “a science of teaching” (p. 22) that follows “rigorous laws that yield high predictability and control” (p. 22) is disadvantaging our students in their preparation for the rapidly expanding and changing nature of the accounting workplace. For accounting faculty uncertain as to how to implement curriculum changes into the accounting classroom, the literature offers suggestions for curriculum development of accounting programs.

Kimmel (1995) offered a recommendation for building problem solving into each accounting course in the curriculum. He recognized that students’ development of reflective judgment involved “two stages: discovery and justification of ideas” (p. 300). To assist students in the discovery and justification of ideas, Boyce et al. (2001) and Wolcott and Lynch (1997) recommended the starting point for students was recognizing ambiguity in problem statements. These recommendations coincide with King and Kitchener’s (1994) research that students enter college believing that knowledge is certain. Curriculum development needs to include recognizing uncertainty in problem statements as a critical element of any problem solving assignment.
What are the implications for students currently majoring in accounting or considering an accounting major if the accounting curriculum changes? Albrecht and Sack (2000) had expressed concerns regarding the declining quality and numbers of students enrolling in accounting. The AICPA’s supply-and-demand study, showing a 23% decline over a five-year period, was backed up by Albrecht and Sack’s faculty and practitioner survey responses indicating both a decline in the quality and quantity of enrolled accounting majors. Other career choices were luring students by offering competitive or higher salaries than accounting graduates reducing the quantity of students becoming accounting majors. Complaints on the skill deficiencies of accounting graduates continued to fuel the perception of a decline in the quality of student graduating with an accounting degree.

The classroom under study altered the focus of accounting away from what Albrecht and Sack (2000) reported was “money, numbers, math, and taxes” (Ch.3, p. 28) and disrupted students’ expectations. Curriculum changes might also influence a change in practitioner and educator survey responses. Previous surveys collected by Albrecht and Sack revealed many practitioners and educators would not major in accounting if they had a chance to redo their education again. Practitioners and educators indicated they would search for education alternatives that prepared them for the complex and changing business world. For years, practitioners have voiced concerns over the lack of changes in accounting education to match the changes occurring in the workplace. With the perceived lack of response by academia, it should be no surprise that survey responses
indicated support for obtaining degrees in other fields that better prepared our students for the workplace.

On the opposite spectrum, there is also a chance that students not previously considering accounting as a major may be swayed by the changes occurring in the accounting classroom. Practitioner surveys collected by Albrecht and Sack (2000) show potential job growth in consulting, advising, planning, and strategy positions. Moving away from a focus of lecture, money, and taxes to a focus on problem solving of real world applications may bring back students to accounting that have been lured away by other career choices. We need to convince practitioners, students, and educators we are serious about addressing the decline in numbers and quality of accounting majors. If we alter classroom practices, curriculum development choices, and demonstrate our accounting graduates are better prepared for the dynamic workplace, our accounting graduates will be our best advertisement in demonstrating that accounting educators are actively addressing skill deficiencies practitioners are witnessing in our graduates.

**Recommendations for Future Research**

I offer five recommendations for future research studies that focus on the development of reflective judgment as students work on constructing and defending reasonable solutions to ill-structured problems.

**Recommendation #1**

Increase the number of sections studied at one time. Intermediate Accounting is a required sequence of courses in accounting degree programs and is often offered in multiple sections, multiple times per academic year. Findings from research conducted by
Wolcott and Lynch (1997) in the financial accounting classroom indicated faculty may find diverse student thought processes and varying reflective judgment levels like what King and Kitchener’s (1994) found during their research. Wolcott and Lynch (1997) found this was particularly evident when studying multiple sections of the same course.

The research design for a study involving multiple sections could vary. For example, one study could have some sections with contextual support for the students and other sections with no contextual support for the students, in an effort to better understand the role of contextual support (on students’ cognitive development). Other research options are all students in all sections receive contextual support, all students in all sections receive no contextual support, or the amount of contextual support students receive could vary. The volume of sections and students may mandate the need for multiple researchers, a mixed methods design that incorporates the descriptive aspect of a qualitative study, or a quantitative research design.

**Recommendation #2**

Incorporate interviews into the study’s research design. Interviewing would provide deeper insight into the students’ journal passages. There were two different situations in this study where interviews could have provided a deeper understanding of the students’ journal passages.

The first situation was when Buster made the comment, “I understand why we are doing these problems [referring to reflective thinking essay assignments] but sometimes it feels more like busy work” (RJE3, February 8, 2011). Buster’s journal reflections provided no further evidence to explain why he understood why students were assigned
the essay assignments. Interviewing Buster would have provided the opportunity to probe his thinking further and given this researcher a deeper understanding of his resistance on writing this essay.

The second situation occurred when students began adopting language in their journal reflections that had been used by the researcher. For example, Fitzgerald wrote, “the classroom environment contributes to the development of my reflective judgment because every person has their own opinion on a specific topic which makes it easier to learn more information on the topic and see it from different perspectives” (OMP1, January 18, 2011). Interviews of students, who had incorporated language used by the researcher into their journal passages, would have provided this researcher insight into students’ thinking.

**Recommendation #3**

Conduct a research study of students who resist changes in the accounting classroom. I stated earlier that two students participating in this study vocalized their dislike for the writing assignments. This dislike resulted in a plagiarism violation charged against both students. In addition, students’ expectations of what the accounting classroom would be like were also disrupted. Studying student resistance could provide insight into students’ thinking. With this greater understanding, educators will be better informed as they work on curriculum review, development, and alterations to their accounting classrooms.
**Recommendation #4**

Incorporate videotaping of the classroom into the study’s research design. Brookfield (1995) stated, “videotaping our teaching can be a wonderful, though sometimes shocking way of getting to see ourselves as others see us” (p. 79). Videotaping allows teachers to visualize how much time we are allowing our students to reflect and deliberate with each other and provides a reminder of events as they unfolded over the time the study was conducted. Brookfield posited, “as a way of helping us improve our modeling of what we want students to do, video is irreplaceable” (p. 80). Videotaping may shift the focus from students’ experiences to an exploration of the accounting educator.

**Recommendation #5**

Conduct a longitudinal study, similar to Baxter Magolda’s (1992) five-year study, of accounting majors from the moment they take the first Intermediate Accounting course through their initial time working in the accounting profession. Gaining a deeper understanding by studying accounting students’ experiences as they move through their academics to the workplace is not only beneficial to the research community, but educators and accounting professionals as well. Educators will be able to determine if their curriculum efforts are helping students in their intellectual skill development. Accounting professionals will be able to observe accounting graduates’ problem solving skills. This research would help accounting educators evaluate whether the changes implemented in the classroom to improve students’ intellectual skills are being observed by practitioners.
King and Kitchener (1994) found that the validity of their research findings was strengthened due to their extensive body of studies over a 10-year period. Establishing trustworthiness, especially in a qualitative study, is a concern of every researcher. Increasing the amount of data sources, by adding interviewing and videotaping, provides researchers greater opportunities to establish credibility of their findings emerging from data analysis. In qualitative research studies, Lincoln and Guba (1985) indicated data can be used to “validate each against at least one other source” (p. 283). In addition, Lincoln and Guba (1994) stated triangulation of data sources is a widely known and acceptable criterion in establishing and strengthening trustworthiness in naturalistic studies. Triangulation of data sources was used extensively by this researcher during data analysis.

Summary

This study incorporated the learning paradigm and ill-structured problem solving into one Intermediate Accounting I classroom and analyzed the impact of this approach on students’ experiences and their development of reflective judgment. Data analysis revealed students experienced a development shift in reflective judgment over one 16-week semester. Discussion and implications of this study’s findings to the literature, recommendations for practice, and recommendations for future studies were discussed in this chapter.
APPENDICES
APPENDIX A

INFORMED CONSENT FORM
Appendix A

Informed Consent Form

Kent State University
Institutional Review Board
Informed Consent Form

Study Title: *A qualitative study of accounting students and ill-structured problems*

Principal Investigator: *Linda G. Chase*

You are being invited to participate in a research study. This consent form will provide you with information on the research project, what you will need to do, and the associated risks and benefits of the research. Your participation is voluntary. Please read this form carefully. It is important that you ask questions and fully understand the research in order to make an informed decision. You will receive a copy of this document to take with you.

**Purpose:** The purpose of this study is to understand how a shift from the instruction paradigm to the learning paradigm may contribute to the accounting students’ reflective judgment. Adapting instruction, incorporating ill-structured problems, providing time for practice, and high levels of contextual support is illustrative of the learning paradigm. Therefore, this study will incorporate the learning paradigm into one accounting classroom, and analyze the impact of this approach on students’ reflective judgment.

**Procedures**

Students enrolled in the Intermediate Accounting class for the spring 2011 semester will be asked to complete various assignments throughout the semester. With those assignments, you will be asked to document your reasoning process when working with ill-structured problems. All the assignments are required for students enrolled in this course. You are being asked for your permission to retain your assignments (after the conclusion of the course and grades have been submitted) which will then be analyzed for this investigation.

**Risks**

- You may feel obligated to participate since the principal investigator is also the course instructor. However, in addition to being advised of the study at the beginning of the course, individual decisions to participate will not be read until after the conclusion of the course and grades have been submitted. Therefore, whether a student consents to participate or not, will not be known until after the conclusion of the semester.
- There are no other foreseeable risks for the adult participants in the project.

**Benefits**
- Since all the assignments for this study are required of all enrolled students in the course, students may benefit from the opportunity to reflect on their reflective judgment process as they work with ill-structured problems.
- As a participant, you may benefit from knowing your experience could inform future teaching practice or curriculum decisions in accounting education degree programs.

**Privacy and Confidentiality**
To protect your privacy and anonymity, pseudonyms will be used in material that will be published or publicly displayed. I will further disguise, alter, or remove identifiers that could reveal your identity. In addition, the name and location of the University and other identifiers will be protected. During the project, all written data will be stored in a secured area under conditions that limit their access to Linda Chase. Assignment data for this study will not be analyzed until after the semester concludes and grades have been submitted. After the completion of the project, the data for this study will be stored for an indefinite period of time in Linda Chase’s private office and will be reviewed only by her.

**Compensation**
There will be no form of compensation for participating in this project.

**Voluntary Participation**
The assignments associated with this study are a required component of the course. However, participation in this study is voluntary. If you choose to take part in this study, you may stop at any time during the study with no consequence.

**Contact Information**
If you have any questions or concerns about this research, you may contact Linda Chase at 440-826-3039 or Dr. Susan Iverson at 330-672-2580 or Dr. Joanne Arhar at 330-672-0619. This project has been approved by the Kent State University Institutional Review Board. If you have any questions about your rights as a research participant or complaints about the research, you may contact Dr. Sonia Alemagno, Interim Vice President, Division of Research and Graduate Studies (Tel. 330.672.2704).

**Consent Statement and Signature**
I have read this consent form and have had the opportunity to have my questions answered to my satisfaction. I voluntarily agree to participate in this study. I understand that a copy of this consent will be provided to me for future reference.

Participant Signature                           Date
APPENDIX B

RECOGNIZING AMBIGUITY STATEMENTS: IN-CLASS ASSIGNMENT
Appendix B

Recognizing Ambiguity Statements: In-Class Assignment

This is the first of two recognizing ambiguity statements assignments. The assignment will not be graded, but you will receive points (see syllabus) for completing and turning in when due. The purpose of this assignment is to assist your reflective judgment development in recognizing and describing uncertainty in problems. These problems may be similar to what you may encounter in your accounting courses and future accounting job.

Directions:

We will complete the first assignment in class together and the instructor will provide high contextual support by leading open discussion of each problem statement. For this assignment, you will be shown 10 statements. Each statement represents either a well-structured (W) or ill-structured (I) problem statement. You are required to document whether you believe it is a W or I and your reasoning for that decision. At the end of class, you will turn the assignment into the instructor. She will make a copy for her records and then return the assignment back to you so you can use for future reference.

What is an ill-structured problem? – These types of problems often have more than one possible solution. Experts may even disagree about your solution due to the uncertainty that exists within the problem itself. An example is artificial sweeteners are harmful to your health.

What is your reasoning goal? – The reasoning process for an ill-structured problem may require you to recognize uncertainty in the problem, consider multiple perspectives, weigh varied evidence, and determine the best solution out of many for the problem you have encountered. Your goal is to identify and describe at least one reason for the temporary uncertainty in the problem.

What is a well-structured problem? – These types of problems often have only one possible solution. Experts often agree on the proposed solution and there is a low degree of uncertainty that exists with the problem itself. An example is an answer to a crossword puzzle.

What is your reasoning goal? – The reasoning process for a well-structured problem is different than reasoning for an ill-structured problem. The goal is to reason to the one correct solution.

Reflective journal entry:
At the end of class and after you have turned the assignment into the instructor, you will complete a written, reflective journal entry. This written reflection is designed to capture your experience in regards to the high contextual support you received today and comments regarding the assignment itself. This reflection is open-ended and may be written in any manner that captures your experience to the previous prompts and other thoughts you may be experiencing.
Problem statements:

1. Extending credit to customers is necessary if you open a business.
   Is this problem a W or I? ______________
   What is your reasoning?

2. On November 1, 2010, Secretta, Inc. sold 20,000 shares of $1.00 par value, common stock for $50 each.
   Is this problem a W or I? ______________
   What is your reasoning?

3. Your brother is asking if you know what the puzzle answer is to question #23 (down) that asks 'What is the first name of the woman whose last name is White?'
   Is this problem a W or I? ______________
   What is your reasoning?

4. Identify the method of depreciation that is used by 95% of all companies.
   Is this problem a W or I? ______________
   What is your reasoning?

5. It is good for the United States if we convert to IFRS from GAAP.
   Is this problem a W or I? ______________
   What is your reasoning?

6. If you sell your products to customers on credit, it is necessary to offer sales discounts.
   Is this problem a W or I? ______________
   What is your reasoning?

7. Record the payment of the company’s electric bill of $426.
   Is this problem a W or I? ______________
   What is your reasoning?

8. Discuss the pros and cons of building a mosque at Ground Zero.
   Is this problem a W or I? ______________
   What is your reasoning?

9. Record the allowance for bad debt using the % of credit sales with $1,000,000 of sales and 1 ½% estimating percentage of uncollectible credit customer accounts receivables.
   Is this problem a W or I? ______________
   What is your reasoning?

10. Artificial sweeteners are harmful to your health.
    Is this problem a W or I? ______________
    What is your reasoning?
APPENDIX C

RECOGNIZING AMBIGUITY STATEMENTS: OUT-OF-CLASS ASSIGNMENT
Appendix C

Recognizing Ambiguity Statements: Out-Of-Class Assignment

This is the second of two recognizing ambiguity statements assignments. The assignment will not be graded, but you will receive points (see syllabus) for completing and turning in when due. The purpose of this assignment is to assist your reflective judgment development in recognizing and describing uncertainty in problems. These problems may be similar to what you may encounter in your accounting courses and future accounting job.

**Directions:**

You will be required to complete this assignment outside of class without receiving high contextual support from the instructor. For this assignment, you will be shown 10 statements. Each statement represents either a well-structured (W) or ill-structured (I) problem statement. You are required to indicate whether you believe it is a W or I and your reasoning for that decision. On the due date (see syllabus), you will turn the assignment into the instructor. She will review, provide feedback, make a copy for her records, and then return the assignment back to you so you can use for future reference.

*What is an ill-structured problem?* – These types of problems often have more than one possible solution. Experts may even disagree about your solution due to the uncertainty that exists with the problem itself. An example is *artificial sweeteners are harmful to your health.*

*What is your reasoning goal?* – The reasoning process for an ill-structured problem may require you to recognize uncertainty in the problem, consider multiple perspectives, weigh varied evidence, and determine the best solution out of many for the problem you have encountered. Your goal is to identify and describe at least one reason for the temporary uncertainty in the problem.

*What is a well-structured problem?* – These types of problems often have only one possible solution. Experts often agree on the proposed solution and there is a low degree of uncertainty that exists with the problem itself. An example is an answer to a crossword puzzle.

*What is your reasoning goal?* – The reasoning process for a well-structured problem is different than reasoning for an ill-structured problem. The goal of a well-structured problem is reasoning to the one correct answer.

*Reflective journal entry:* You will be required to complete this reflective journal entry outside of class. As you work and complete this second recognizing ambiguity statements assignment, please document your experience in writing with specific attention to your reasoning development in recognizing and describing uncertainty in problem statements from the beginning to the end of the semester. This
written reflection is open-ended and may be written in any manner that captures your experience to the previous prompt and other thoughts you may be experiencing.

*One minute paper:*
On the day that you turn in this assignment, you will complete a one-minute, written reflection. This written reflection is designed to capture your thoughts on how the classroom environment contributed to the completion of this assignment. This written reflection is open-ended and designed to capture your experience.

**Problem statements:**
1. Perform a regression analysis.
   Is this problem a W or I? ________________
   What is your reasoning?
2. Discuss the pros and cons of the current governmental dietary guidelines.
   Is this problem a W or I? ________________
   What is your reasoning?
3. On 11/1/10, SSI, Inc. sold 20,000 shares of $1.00 par value, common stock for $50 each.
   Is this problem a W or I? ________________
   What is your reasoning?
4. Your cousin is asking if you know what the puzzle answer is to question #3 (across) that asks ‘What year did the Civil War start?’
   Is this problem a W or I? ________________
   What is your reasoning?
5. Record the journal entry when a company obtains a loan from FSN for $500,000.
   Is this problem a W or I? ________________
   What is your reasoning?
6. It is good for the United States if we convert to IFRS from GAAP.
   Is this problem a W or I? ________________
   What is your reasoning?
7. Calculate the sales discount of 1/10, n/30 on a customer sale of $1,000.
   Is this problem a W or I? ________________
   What is your reasoning?
8. Record the company’s payment of the monthly water bill of $315.
   Is this problem a W or I? ________________
   What is your reasoning?
9. Describe the current governmental dietary guidelines.
   Is this problem a W or I? ________________
   What is your reasoning?
10. Identify the method of depreciation that is used by 95% of all companies.
Is this problem a W or I? ___________________
What is your reasoning?
APPENDIX D

REFLECTIVE THINKING ESSAY: IN-CLASS ASSIGNMENT
Appendix D

Reflective Thinking Essay: In-Class Assignment

This is the first of three essay assignments you will complete. This essay assignment will be completed in-class and with high direct contextual support from the instructor. The following assignment is designed to assist in your development of reflective judgment. The assignment will not be graded, but you will receive points (see syllabus) for completing the requirements and submitting the assignment timely on the due date.

Directions: Please read the following essay, document, and be ready to respond in a classroom discussion. At a minimum, use the following prompts to review your response:

1. Identify and describe uncertainty in the problem.
2. Read about conflicting opinions.
   a. Who is more credible? How do you reason to that position?
3. List the available information and identify which information is relevant to this problem.
   a. Discuss strengths and weaknesses of evidence.
4. List potential issues, points of view, and solutions.
   a. Identify and analyze alternatives: pros/cons, advantages/disadvantages, strengths/weaknesses
5. Form own opinion and use evidence/arguments to support it.

ESSAY
There has been great debate about the safety of ingesting artificial sweeteners into one’s diet. At a minimum, you should become familiar with examples of artificial sweeteners and their uses. Here are two web-sites (there are many others) that are available to help you become informed on the current debate:


If you are using information from a source (book, web-site, etc.), please bring a copy of that source with you to class. Please do research on this topic and be prepared to respond in a classroom discussion to the following:

Artificial sweeteners are harmful to your health.

Explain how ambiguities affect your analysis of this problem.
Describe why there is no single, correct answer to this problem.

Reflective Journal Entry:
After completing the in-class essay assignment, the instructor will provide time for your reflective journal entry, which is designed to capture your experience of how the classroom environment assisted your development of reflective judgment as you worked with this ill-structured problem.
Appendix E

Reflective Thinking Essay: Out-Of-Class Assignment

Pros And Cons to the Financial Community of the Convergence of GAAP and IFRS

This second essay assignment will be completed by you outside of class without high direct contextual support from the instructor. The following assignment is designed to assist in your development of reflective judgment. The assignment will not be graded, but you will receive points (see syllabus) for completing the requirements and submitting the assignment timely on the due date.

Directions: Please read the following essay and document your response in a minimum two-page, maximum four-page written response (Times New Roman, 12 Font, double-space). Use the following prompts to help guide your reasoning process:
1. Identify and describe uncertainty in the problem.
2. Read about conflicting opinions.
   a. Who is more credible? How do you reason to that position?
3. List the available information and identify which information is relevant to this problem.
   a. Discuss strengths and weaknesses of evidence.
4. List potential issues, points of view, and solutions.
   a. Identify and analyze alternatives: pros/cons, advantages/disadvantages, strengths/weaknesses
5. Form own opinion and use evidence/arguments to support it.

ESSAY
Generally accepted accounting principles (GAAP) have guided the accumulation and synthesizing of financial data of companies trading on the United States stock markets. Governing of the stock markets is done by the Securities and Exchange Commission (SEC). Companies not trading on stock markets governed by the SEC are not required to adopt GAAP and have had the option of adopting the International Financial Reporting Standards (IFRS). In 2011, the SEC will vote to determine if the convergence of GAAP and IFRS will become official. Use the following web-sites (and many others) to assist your understanding of the problem:
http://kpmg.com; http://www.deloitte.com

Discuss the pros and cons for the financial community with the convergence of GAAP and IFRS.

Reflective Journal Entry:
After you have completed the essay assignment, please document your experience on a written, reflective journal entry. The entry is designed to capture your experience of how the classroom environment assisted your development of reflective judgment as you worked with this ill-structured problem. The journal entry should be turned in at the same time you turn in the essay response.
APPENDIX F

REFLECTIVE THINKING ESSAY: OUT-OF-CLASS ASSIGNMENT
Appendix F

Reflective Thinking Essay: Out-Of-Class Assignment

Pros and Cons of Extending Credit to Customers

This third essay assignment will be completed by you outside of class without high direct contextual support from the instructor. The following assignment is designed to assist in your development of reflective judgment. The assignment will not be graded, but you will receive points (see syllabus) for completing the requirements and submitting the assignment timely on the due date.

**Directions:** Please read the following essay and document your response in a minimum two-page, maximum four-page written response (Times New Roman, 12 Font, double-space). Use the following prompts to help guide your reasoning process:

1. Identify and describe uncertainty in the problem.
2. Read about conflicting opinions.
   a. Who is more credible? How do you reason to that position?
3. List the available information and identify which information is relevant to this problem.
   a. Discuss strengths and weaknesses of evidence.
4. List potential issues, points of view, and solutions.
   a. Identify and analyze alternatives: pros/cons, advantages/disadvantages, strengths/weaknesses
5. Form own opinion and use evidence/arguments to support it.

**ESSAY**

Chase Believes, Inc. extends credit to their customers. To assist in their evaluation of credit worthiness, the Company relies heavily on public records and credit reports on the prospective credit customer. Recently, though, the company has experienced an unexpected increase in bad debts.

Discuss the pros and cons of extending credit to a company’s customers.

You will need to gain an understanding of the credit granting process. What information is available through public records, what a credit report is and information contained in the report, and what information customers typically submit when applying for credit are fundamental understandings you will want to gather to help inform you of this problem experienced by many companies.

**Reflective Journal Entry:**

After you have completed the essay assignment, please document your experience on a written, reflective journal entry. The entry is designed to capture your experience of how the classroom environment assisted your development of reflective judgment as you worked with this ill-structured problem. The journal entry should be turned in at the same time you turn in the essay response.
APPENDIX G

FINAL REFLECTIVE JOURNAL ENTRY
Appendix G

Final Reflective Journal Entry

This is your final assignment related to your work with ill-structured problems in the context of this Intermediate Accounting classroom.

**Directions:** Please write a reflective journal entry in response to the two following prompts. Even if you feel that you have answered the question(s) through your writings from the previous assignments, this final reflective journal entry is meant to summarize your experience over the ENTIRE semester.

- Describe your overall experience over the course of the semester as you worked with the recognizing ambiguity statements and reflective thinking essay statements.

  Think about the first week when we first talked about ill-structured problems and your journey over the course of the semester. How did you feel the first week? How did you feel the last week? Can you describe any changes that occurred and what do you think prompted those changes? Please be specific when you can.

- Did the classroom environment contribute to your development of reflective judgment, specifically your reasoning process when working with ill-structured problems?

  How did it/did it not contribute? Please be specific when you can.

- Feel free to describe and/or discuss any other area you feel is important while you reflect upon your experience over the course of this semester.
REFERENCES


Ishii, D. K. (2005). Developing a model of communication for pre-service elementary
from ProQuest. (AAT 3182727)


King, P. M. (2009). Principles of development and developmental change underlying
theories of cognitive and moral development. *Journal of College Student
Development, 50*(6), 597-620.

King, P. M., & Kitchener, K. S. (1993). The development of reflective thinking in the
college years: The mixed results. In C. G. Schneider & W. S. Green (Eds.),
*Strengthening the college major. New Directions for Higher Education, no. 84,

and promoting intellectual growth and critical thinking in adolescents and adults.*

King, P. M., & Kitchener, K. S. (2004). Reflective judgment: Theory and research on the
development of epistemic assumptions through adulthood. *Educational
Psychologist, 19*(1), 5-18.


