AN INVESTIGATION INTO THE PRACTICALITY AND APPLICABILITY OF THE PEDANDRAGOGIC FRAMEWORK: A CASE STUDY OF FACULTY ATTITUDE TOWARD A LEARNER-CENTERED MODEL OF TEACHING AND LEARNING AT A UNIVERSITY IN THE SOUTHERN UNITED STATES

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ABSTRACT

This study defines and explores pedandragogy as a teaching and learning model using a southern university in the United States of America as a case study. It examines its applicability to a multiplicity of academic disciplines, testing the attitudes of faculty towards the implementation of the learner-centered approach in higher education. Pedandragogy focuses on the concept of self-engagement and the independence of learners through the creation of a learning environment conducive to a learner-centered approach. This study seeks to answer the question: Can the pedandragogic framework be practically applied to a multiplicity of academic disciples in higher education? And, among other things looked at, what are the factors that may motivate faculty members to apply a pedandragogic model? Among the findings of the study was a significant effect for gender, and that faculty members in Education and Health had a more favorable attitude than those in Business studies. Furthermore, having training in teaching was associated with a more favorable attitude toward the learner-centered approach. The study also found that those faculty members who were teaching graduate courses and upper-division undergraduate courses had greater favorability and higher intrinsic motivation to adopting a new teaching protocol.

DEDICATION

I would like to dedicate this research to the memory of my parents, whose untimely passing has left an irreplaceable void in my life. Their support throughout my life is responsible for the things I have been able to achieve and the places I have been able to go. I grew up in a small humble village in the south of Trinidad and Tobago and despite the many challenges that we faced, my mother and father did all they could based on what they understood to be right to ensure that I went to school and that I stayed focused on learning despite the economic and social pressures to drop out.

I also want to include in this dedicatory statement the rest of my family, particularly my brothers and sisters and all my nieces and nephews. It is hoped that my journey will serve as a model of inspiration to you, and to those who will come after you to always pursue a better position in life, so that others can also aspire toward greater success.

ACKNOWLEDGMENTS

To my professors, who have worked with me during my studies at the University of Tennessee at Chattanooga – Thank you for all your support and for your confidence in me, demonstrated though the time you took to advise me and to recommend me for financial assistantship to ensure that I was able to continue in my course of study.

To members of my cohort, Eleanor Cooper, Greg Laudeman, and Joel Baxley – Thank you for many hours we spent debating and arguing issues, which are all part of the learning process. It was from these intense sessions that the idea of pedandragogy originated, and this work is a reflection of the value of our community in the learning process.

To all the students who I have taught in the political science classes at UTC over the past years – Thank you for allowing me to learn from you and for the many great friendships that have developed, even after you were no longer a student in my class. I continue to be fascinated by the intellectual growth I see in you. I urge you to stay focused and keep your hands on the plough until the present task is finished. And after you are through with this field it is my hope for you that you move to another field and continue the work of sowing, so that you can reap a bountiful harvest for you and your community.

A special THANK YOU to my dissertation Committee…

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Dr. Timothy Green – Thank you for serving on my committee despite the fact that you are many thousands of miles away. You first got involved with my work during the embryonic stage of the concept of pedandragogy, and you have always demonstrated a positive and confident approach to the issues discussed. I hope to continue this relationship even after I graduate.

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CHAPTER I

INTRODUCTION AND BACKGROUND TO THE PROBLEM

This study draws from a previous article by Samaroo, Cooper, and Green (2010) on a model of learning referred to as Pedandragogy. The genesis of the concept began in the spring of 2009 as a consequence of a debate between the researcher and a doctoral class-mate Eta at a southern liberal arts university. A discussion was sparked on the question, can children engage in self-directed learning? As we engaged each other in what was at times a very heated discussion, we both soon realized that we had become part of a much wider debate, one which has spanned decades, and which to this day continues to divide many scholars on the conceptual and theoretical issues on how people learn. As the literature review demonstrates, there is a multiplicity of views on learning theories, and learning models which have been put forward in the public domain since Malcolm Knowles (1970) first published his ideas on adult education. Knowles (1970) popularized the term andragogy which was first used by Alexander Kapp in 1833 to describe the educational theory of Plato (Nottingham Andragogy Group, 1983).

Statement of the Problem

Existing learning theories are mired in controversy. Many scholars either practice or support one of two major approaches to teaching and learning, and they can be associated with one of two definitive camps, pedagogy and andragogy. Pedagogy is the older of the two and was originally developed in the monastic schools of Europe between the 7th and 12th centuries. The

concept was associated with the education of young men who were taught to be faithful servants of the church by their teachers who were monks. The etymology of the term is from the Greek term paid, translated child, and agogus meaning leader of (Knowles, 1984). Pedagogy arose out of this monastic tradition and literally meant the "art and science of teaching children" (Knowles, 1970). The central tenet of this approach posits that the student/learner is automatically adjusted to a submissive role to the instructor/teacher, and the consequential outcome is one of reliance on the instructor/teacher. Knowles (1984) suggested that the teacher-centered pedagogic model has become standard for both children and adults. His conclusion was that this model does not meet with the characteristic element of adult learner and has led to high drop-out rates among adult students (Knowles, 1980).

Andragogy is different from pedagogy in that it is a learning theory and not a teaching theory. It is derived from the Greek term andra which means "man not boy" and agogus meaning "leader of." Knowles defined the term to mean "the art and science of helping adults learn" (Knowles, 1970). Knowles (1980) advanced four assumptions of andragogy in his book The Modern Practice of Adult Education:

1. Adults both desire and enact a tendency towards self-directedness as they mature;
2. Adult experiences are a rich resource for learning. They learn though experiential techniques such as discussions and problem solving;
3. Adults are aware of specific learning needs generated by real life tasks or problems;
4. Adult learning is competency-based; that is, adults seek to apply newly acquired skills or knowledge to their immediate circumstances. (p. 43-44)

Darkenwald and Merriam (1982) in their work Adult Education suggested that "the debate is truly based on different philosophical perspectives of the world and may never be

resolved" (p. 6). However, Holmes and Cooper (2000) agree with Knowles on the basic premise, which divides both approaches, that pedagogy is a teacher-centered approach whereas andragogy is learner-centered. Fink (2003), who appears to be looking at current teaching and learning practices from a pedagogical perspective, states:

> When examined from outside the academy, our present teaching practices appear to be not only adequate but even quite good…but when we examine the situation from inside the academy and look at the quality of student learning we find a more disturbing picture….Faculty often make reference to higher-level learning goals such as critical thinking. But they have traditionally relied heavily on lecturing as their main form of teaching….A long history of research indicates lecturing has limited effectiveness in helping students achieve effective outcomes, such as motivation for additional learning or a change in attitude. (p. 2-3)

Other theorists have joined the debates in identifying the weaknesses of extant models, particularly pedagogical and andragogical theories, and have added to the growing body of literature other conceptually different theories. These include the theory of self-regulation posited by Pintrich (1995) and Schunk and Zimmerman (1998). They suggest ways in which students can regulate their learning in three dimensions: their observable behavior, their motivation and affect, and their cognition (Pintrich, 1995, p. 5). Hase and Kenyon put forward the theory of heutagogy. Heutagogy is conceived of as a theory of self-determined learning, which implies "the desire to go beyond the simple acquisition of skills and knowledge as a learning experience" (Hase and Kenyon, 2000, p. 3).

At the core of Pedandragogy's student-centered model are the issues of self-engagement, self-efficacy, ownership, and democracy in learning. It allows for the type of self-regulated learning that pedagogy, andragogy, and heutagogy fail to accomplish. Pedandragogy's strength lies in its focus on student self-engagement, which is more fully defined below. The following

framework of pedandragogy was suggested by Samaroo, Cooper and Green (2010) and forms the foundation principles of the model at the center of this study.

The Framework of Pedandragogy

The framework of pedandragogy gives us an opportunity to build on a new model of learning that enhances existing theories (in particular pedagogy, and andragogy) with an appreciation for the contribution that both concepts have made to the development of learning theories and to the body of extant literature. Pedandragogy relies on two major theoretical constructs. These are, constructivist learning theory as posited by Jerome Bruner (1960) and Stephen Brookfield (1995), and Social Cognitive Theory (SCT) as suggested by Albert Bandura (1986). The theory of constructivist epistemology suggests that learners construct their own knowledge on the basis of their experiences and interaction with their environment and in SCT the learner is viewed as being thoroughly integrated with the environment, within which he or she is learning. I will deal with the theoretical construct of this study in greater detail later on. The pedandragogical framework consists of the following elements:

- It is learner-centered.
- It incorporates prior learning and learner experience
- It focuses on internal and external stimuli
- It encourages curiosity and exploration
- It is employs problem solving techniques
- It fosters collaboration in planning and diagnosing of needs
- It uses collaborative evaluation
- It enhances the independency of the learner

- It supports the concept of teacher immediacy in the learning process, as facilitator and learner
- It promotes self-efficacy in learners.
- It promotes self-engagement (Samaroo, Cooper, and Green, 2010, p. 12).

The Rationale for the Study

This concept of pedandragogy originated out of a debate between me and a member of my doctoral cohort while engaged in an intense discussion with other cohort members about how people learn. At the time I took the position that children could not engage in self-directed learning and argued in favor of self-directed learning for adults. Relying on the work of Caleb Gattegno (1970), a protégé of Jean Piaget, my colleague argued that children do in fact engage in self-directed learning. I relied on the work of Malcolm Knowles (1970) and argued for a strict interpretation of self-directness to be applied only to adults and defended my position by citing Brookfield (1991) who stated that "autonomous control over aspects of work, life, personal relationships, societal structure, and educational pursuits – is an empirical rarity…and it is seldom ever found in abundance" (p. 94). The divisions between the two points of view prompted further exploration, and after conducting our individual research, we felt that there was a need to find a solution to this nagging divide that exists in the literature. In the spirit of Mintzberg (2004) who suggested that "a good theory is one that holds together long enough to get you a better theory" (p. 356), we felt that both constructs lacked something other than simply appealing to different age groups and thought that the time had come for "a better theory."

The missing element in the existing constructs and, in particular, the pedagogical construct is the element of self-engagement. We looked at the role that teachers, instructors, and institutions can play to create effective learning environments despite the criteria of age, and we

considered how we can encourage students to become motivated toward greater self-efficacy and thereby becoming self-engaged in the learning process. Pedandragogy grew out of this debate, and this study is another step towards exploring its applicability and relevance.

Purpose of the Study

The purpose of this study is to explore the practicality and applicability of the pedandragogic framework to a multiplicity of academic disciplines in higher education and to determine the attitude of faculty toward a learner-centered approach to teaching. The study does not intend to assess the subject's receptivity to or knowledge of pedandragogy. The focus therefore is to find out if a learner-centered model can be used as a workable learning and teaching model for a wide cross-section of academic disciplines including those disciplines that are referred to as the "hard sciences."

Significance of the Study

If the pedandragogic model is to be accepted as a relevant and workable paradigm for the 21st century approach to learning and teaching in higher education, it would require the dis-establishment of some of the prevailing current models, and it must be applicable across a broad spectrum of academic disciplines. This study serves to identify the attitudes and motivation of faculty in higher education in one university that can be used to suggest ways to overcome obstacles and to reward steps forward. The pedandragogic model suggests new and workable methods that can be used by instructors in and out of the classroom. Beyond the academic and programmatic benefits to be derived from the enhanced interaction between teachers and students and their learning environment, this study will contribute to teacher-preparation programs and to the body of literature on learning theories. It is hoped that at the conclusion of

the study, faculty members, administrators, curriculum specialists, and, most importantly, students will benefit from the knowledge generated through this work on self-efficacy, self-regulation, and self-engagement in Higher education.

Research Questions

This study is not an attempt to test the mechanics of pedandragogy as a learning and a teaching model. The purpose is to investigate faculty attitudes towards the learner-centered model of teaching and learning and to assess its applicability and practicality to a multiplicity of academic disciplines in higher education. In this regard, the fundamental research question of this study is: Can the pedandragogic framework be practically applied to a multiplicity of academic disciplines in higher education? In an effort to answer this question the following sets of quantitative and qualitative questions will be explored.

Quantitative Questions

1. Does attitude of faculty towards the teacher-centered approach differ by a) age, b) gender, c) ethnic identity?
2. Does attitude of faculty towards the learner-centered approach differ by a) age, b) gender, c) ethnic identity?
3. Does attitude of faculty towards the independency of learners differ by a) age, b) gender, c) ethnic identity?
4. Do these attitudes differ across disciplines, e.g., natural science versus social science?
5. Is there a difference between undergraduate and graduate faculty and their attitude towards learner-centered learning?

6. Does having courses in learning and teaching theories have an influence on one's attitude towards self-directed learning?
7. What factors could motivate faculty to adopt teaching protocols that address learner-centered learning?
8. All in all, what factors influence one's attitude towards learner centered learning?
9. Are attitudes towards including assessment of students in the teaching process correlated with attitudes towards learner-centered learning?
10. Do attitudes towards student assessment interact with other demographic factors to predict acceptance levels to the learner-centered approach?

Qualitative Questions

11. How do faculty members generally define learner-centered teaching compared to teacher-centered teaching? Is there a typography of common misunderstanding?
12. What is the general attitude of faculty members towards adopting a learner-centered approach?
13. What are the obstacles that inhibit one from taking a learner-centered approach?

Delimitations

This study is focused on the applicability of the pedandragogic model and does not intend to debate the pros and cons of any of the several learning theories and models discussed in the literature review, particularly those made in reference as competing theories. This study is founded on the presumption that pedandragogy is a workable learning model. The questions that follow the specific research question were specifically chosen to investigate the issues under that assumption. The selection of literature for review in this study was specifically identified to

demonstrate the evolution of pedandragogy as a continuum of pedagogy and andragogy. The problem statement identifies the long standing debate that has existed between the two major theories raised in this work, viz: pedagogy, and andragogy, and a relatively new concept Heutagogy posited by Hase and Kenyon (2000).

Limitations

This study is limited in that the data collected will be based on self-reported survey responses from a predetermined survey protocol. Respondents may feel compelled to answer survey questions according to how they believe the researcher may want them to respond, especially since the sample population will be taken from faculty members of the university where the researcher works. Another significant limitation of this study is the general perceived familiarity that educators may have with several existing and predominant learning and teaching models, and the possibility that they may hold firmly to one or the other without considering the benefits of alternative theories.

Finally, this study is limited in the selection of faculty members from a southern U. S. university where a particular academic culture might be more accepting of a particular learning theory as opposed to others. Given the historical antecedent of pedagogy and its relationship to theological traditions of the Christian denominations, it may be that southern universities are culturally conditioned to adopt the pedagogical learning construct as opposed to other autonomous models. This study does not go into the ramification of the cultural dynamics, and acknowledges the need for further investigation into this possibility.

Assumptions

This study is based on the emergent conviction that the pedandragogic model can be practically applied to higher education across the spectrum, thereby fostering the development of students that are self-engaged in the learning process. Furthermore, it is assumed that the reason educators have failed to motivate and to spur student engagement in the learning process is due to their failure to jettison some of the more traditional educational methods that have promoted dependency on the system. Educators should be promoting democracy in learning. The researcher recognizes that there exist systematic and cultural impediments to the introduction of pedandragogy to the academic landscape, and posits that further studies on implementation and diffusion is needed to address these challenges.

Conceptual Framework

This study is based on two distinct yet related conceptual frameworks. These are constructivism, summarized by the works of Jerome Bruner (1960) and Stephen Brookfield (1995), and Social Cognitive Theory as posited by Albert Bandura (1986) when he first launched his book Social Foundations of Thought and Actions: A Social Cognitive Theory. The theories of constructivist epistemology suggest that learners construct their own knowledge on the basis of interaction with their environment. Fosnot (1996) suggested that constructivism represents a paradigm shift from education based on behaviorism to education based on cognitive theory. Bruner's (1960) theory posits that learning is an active process in which learners construct new ideas and or concepts based on their past and current knowledge. His theory was based on the study of cognition and the childhood development research by Piaget (1896-1990). Bruner (1960) was influenced by Piaget's concept of cognitive development in children, which suggests that children are active problem solvers, capable of solving difficult subjects. Bruner (1966)

posited that a theory of instruction should address four major aspects, namely: a predisposition to learn; instruction must be structured for easy grasp; instruction should be designed to facilitate extrapolation and must fill in the gaps; and, instructions should involve effective sequencing since no one sequencing will fit every learner. He insisted that a lack of sequencing can make learning difficult. In his more recent work, Bruner (1996) expanded this theoretical framework to include the social and cultural aspects of learning as well as the practice of law. Brookfield (1991) suggested another component of constructivist theory that also forms part of my own conceptual framework of instruction.

Brookfield (1995) suggested four processes of adult learning. The first of these proposes that self-directed learning focuses on the process by which adults take control of their learning. He argued that adults set up their learning goals, look for appropriate resources, decide on their learning style, and engage in the evaluation of their progress. Brookfield also explored the role of reflection as a process of learning about how to think contextually and critically. Another important feature of Brookfield's constructivist theory is the role of experience in learning. He suggested that adult teaching should be based on adult experiences. He further posited that learning to learn is a necessary component for lifelong learning.

In Social Cognitive Theory (SCT) the learner is conceived as being fully integrated with the environment within which he or she is learning and his or her cognitive responses and its influence on behavior. The learning environment works in concert to create learning. Bandura's (1986) SCT placed a heavy emphasis on cognitive concepts and their social experiences, and on how these experiences influence behavior and development. This "triadic reciprocity suggests that the person, the behavior, and the environment are all inseparably intertwined to create learning in an individual" (p. 18). Pajaras (2002) referenced Bandura (1986) when Bandura

wrote that individuals possess a self-system and detailed an overview of SCT and self-efficacy. Figure 1 illustrates Bandura's triadic reciprocity concept, and demonstrates graphically the dynamic interaction between the person, the behavior, and the environment in which the behavior is performed.

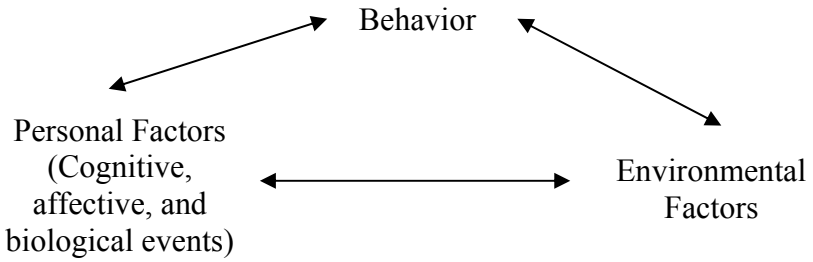

Figure 1. Bandura: Overview of social cognitive theory and self-efficacy

Glanz, Rimer, and Lewis (2002) explain that these three factors environment, people, and behavior are constantly influencing each other. Behavior is not the mere product of the environment and the person, just as the environment is not simply the result of the person and behavior (p. 176). The environment provides the individual with models for behavior. Further, observational learning happens when a person focuses on the actions of another person and the reinforcements that the person receives. Behavioral capability means that if a person is to perform a behavior he must know what the behavior is and have the skills to perform it (Bandura, 1997). Bandura (1989) also suggested that SCT is very unlike the "one sided-determinism" depicted by some theorists who suggest that human behavior is shaped and controlled by either the environment influences or by the individual's internal disposition. Rather, the SCT construct suggests a reciprocal causation of behavior, cognition, personal factors, and other environmental factors all serve as determinants that influence each other and it

must be emphasized that the different sources of influence are not necessarily of equal strength (p. 2).

Both theoretical constructs are broad and very generic in scope and application. But, for the purposes of this study I have adopted crucial elements from both theories, which are applicable to the development of pedandragogy and by extension to this study. In essence, I have extrapolated from constructivism the role of reflection as a process of learning about how to think contextually and critically, and the role of experience in the learning process. SCT contributed the concept of triadic reciprocity which suggests that the person, the behavior, and the environment are all integrated to create learning in the individual, having regard to the suggestion that it takes time for causal factors to exert influence and activate the reciprocal influences unique to the SCT construct.

Definition of Terms

There are several terms used throughout this study for which it is necessary to provide an operational definition to ensure that readers understand the research. These terms are listed below.

- Academic discipline is the specific field of study upon which a student may choose to focus his or her academic efforts.
- Attrition for the purposes of this study refers to the withdrawal of students from college before they have completed their program of study or before graduation.
- College is used in the general context representing the wide range of public and private tertiary education in privately or publicly funded postsecondary institutions commonly referred to as: Four years liberal arts universities, community colleges, colleges of applied arts and technology, and polytechnic institutes.

- Higher education refers to tertiary level education whether it is undergraduate, graduate or post-graduate education.
- Learning community is a group of learners who share a common purpose and or interest in a particular academic outcome and are interconnected with the purpose of maximizing their learning efforts.
- Learning theory refers to a set of theoretical constructs that link observed changes in human performance with what is thought to bring about those changes (Driscoll, 2000, p. 11)

- Model describes a planned teaching and learning environment that is theoretically and philosophically grounded. The characteristics of a teaching and/or learning model based on Kroksmark (1996) and Joyce and Weil (1996) are:
    - A Teaching Model is a learning environment in which students can interact and learn how to learn (Joyce & Weil, 1996).
    - A Teaching Model comprises both the theoretical and practical aspects of teaching.
    - A Teaching Model ties the theory, the methods, and the strategies together into a whole, which is internally coherent with, and recognizable by, some basic principles (Kroksmark, 1996).
    - A Teaching Model can have broad applications or can be designed for special purposes.
    - A Teaching Model includes a major philosophical and psychological orientation toward teaching and learning (Joyce & Weil, 1996).
    - There is evidence that a Teaching Model works (Joyce & Weil, 1996).

- Pedandragogy is a learner-centered model of teaching and learning which focuses on self-engagement in the learning process. Pedandragogy is based on the mechanics of the pedandragogic framework.
- Persistence refers to the continuation by learners to the completion of their learning goals.
- Retention is the number of students that progress from one level of their program to the next in a degree program, until graduation or degree attainment.
- Self-engagement refers to the degree to which learners are engaged with their educational activities, and that this engagements is volitional and linked to a set of desired positive outcomes, which include higher grades, personal satisfaction, discipline in academic activities, perseverance, and a personal devotion to their educational career.
- Teaching method is "a deliberate arrangement of events made to facilitate a persistent change in human performance or performance potential" (Driscoll, 2000, p. 25). When used in this study, it refers to the development and skills usually used in the American Anglo-Saxon tradition and in the German-European tradition as Didactics (Kroksmark, 1996, p. 90-91).

CHAPTER II

REVIEW OF THE LITERATURE

This study focuses on the applicability of the pedandragogic framework to a diverse selection of academic disciplines. The literature review is focused on the development of the literature in several areas. These include pedagogy, andragogy, heutagogy, and self-engagement. As the literature review suggests the evolution of these theories overlap considerably. The first focus in this literature review is on the general concept of pedagogy as it evolved out of the monastic schools of the 7th to 12th centuries and the growth of andragogy from the early usage of Alexander Kapp (1833) until Malcolm Knowles (1970) adopted and popularized it in his concept of adult education.

The second part of the review deals with the development and evolution of andragogy or adult education as posited by Malcolm Knowles. I also want to emphasize the role of Stephen Brookfield who brought a political dimension to self-directed learning, which was supported by other theorists. The third part of the literature review looked at the relatively new theory called Heutagogy as suggested by Hase and Kenyon (2000). I then looked at the literature on self-directedness as viewed by students and faculty as these concepts contribute greatly to the evolution of the pedandragogic model being assessed in this study. When the literature is reviewed from this vantage point, the reader will get a better grasp of the development of the pedandragogic model and will be in a better position to understand the nature of the research that

explores whether or not the framework of pedandragogy can be applied across the board to extant disciplines in higher education.

Pedagogy

The word comes from the Greek term παιδαγωγέω (paidagōgeō); in which πας (país, genitive παιδός, paidos) means "child" and άγω (ágō) means "lead"; so it literally means "to lead the child." In Ancient Greece, a παιδαγωγός was a slave who was given the responsibility of supervision and the instruction of his master's son. This involved taking him to school (διδασκαλεον) or a gym (γυμναστήριον), looking after him and carrying his equipment as he went to learn music. The Latin-derived word for pedagogy is child-instruction and is used to refer to the whole context of instruction and learning. Both words have roughly the same original meaning (Online Etymological Dictionary, n.d.).

History

In the context of the growth and expansion of Western education, an important era of education took place from about the 1500 B.C to 175 B.C. In his survey of the ancient civilizations of Egypt, Smith (1970) traces the historic development of the Greeks' educational system from tribes who spoke a variety of Semitic languages, which led to the development of the first alphabet. Smith (1970) demonstrated how these early societies contributed to the evolution of the Greco-Roman period of education, which followed strongly in the pedagogical approach to learning. Frost (1966) and Meyer (1972) also detail the strong role that the Romans placed on education within the structure of the family unit, and it was the Romans who went on to establish institutions of higher education. In developing the premise on which he builds his andragogical model Knowles (1984) posits that these Roman institutions were places where

young men were taught the discipline of rhetoric, which prepared them for careers as politicians and lawyers and the pedagogical model was the predominant educational concept at the time.

But the concept of pedagogy was also advanced during the mediaeval period in which religion played a significant role in early European education through the rise and prominence of the Christian Church. The growth and influence of monasteries and Cathedrals presented great opportunities for monks to form communities through which they instructed young men in the scriptures. It was here that the term and the concept originated in the monastic schools of Europe between the 7th and 12th centuries A.D, where young boys were admitted into the monasteries and taught by monks to be faithful servants to the Church (Knowles, 1970).

The concept however was not dominated by Western Civilization. Monroe (1912) summarized aspects of Asian and Oriental education like those used in India through its caste systems, and among the early Hebrews as a consequence of Theocracy, in Egypt through its priestly ruling class, and in China through the system of Confucianism. In all of these great and ancient civilizations it was strongly emphasized that "for the individual, no variation from established forms is permissible" (p. 23). Gabriel Compayre (1907) who wrote as a philosopher before later having some role in educational administration suggested that "pedagogy is to education as logic is to science," he further suggested that "Socrates was convinced that the human mind in its normal condition discovers certain truths through its own energies, provided one knows how to lead it and stimulate it…" (p. 24). The suggestion therefore, is that the pedagogical approach, which is a teacher-centered and teacher-directed approach, was an essential and pivotal concept in education as seen through the eyes of early educationists. Compayre (1907) who saw the education of children through the pedagogical lens summarized it

this way: “There are those who wish…to develop the intelligence; and there are others who are preoccupied with furnishing the mind with a stock of positive knowledge” (p. 192).

But despite the almost single-minded and at times involuntary and tyrannical emphasis demonstrated by the early educators, things changed significantly during the renaissance. Monroe (1912) who states that “The great desire for a new life and…for a new education hostile to the old pedantic scheme of scholasticism revealed itself in the liberal education as formulated by the ancients” (p. 167). He earlier referred to the early Greeks’ formulation of education as “liberal…worthy of a free man and will render him capable of profiting by or using his freedom” (p. 32). It was during a decadent period in the 3rd century AD that education in Greece had come to use for the development of one’s “personal opportunities” (p. 73).

Despite the fact that some groups like the Jesuits continued to use “close supervision, amounting to repression in one hand and espionage on the other” (p. 202), the Duke of Wurttemberg adopted a plan in 1559 which was later approved by the state in 1565 which endorse a system of schools which “provided for all the people” (p. 208). Compayre (1907) writing earlier highlighted the French law of 1833 in which “universal primary instruction” was implemented and served as “one of the guarantees of order and social stability” (p. 521). It is most interesting to note at this juncture that Alexander Kapp a German editor first used the word Andragogy in 1833 in reference to adult education, which was later adopted and popularized by the American educator Malcolm Shepherd Knowles (1970).

However, most of what we know about education and learning is derived from studies on children and our experiences of teaching, and the concepts that evolved are rooted in our experiences of teaching children. In essence, all of our teaching practices originated from the concept of pedagogy borrowed from the Greek concepts of paid (meaning child) and agogos

(meaning lead) as previously discussed. But, throughout the historical development of learning we have come to adopt the word pedagogy to include all forms of teaching and learning, and the "child" aspect of the concept became lost in definitions that followed. This view is articulated by Gehring (2000) in his own "Compendium of material on the Pedagogy-Andragogy Issue" in which he identifies the historical antecedents of the concepts and argues for a distinction to be made between both models;

> In many people's minds—and even in the dictionary—'pedagogy' is defined as the art and science of teaching. Period. Even in books on adult education you can find references to 'the pedagogy of adult education' without any apparent discomfort over the contradiction in terms. Indeed, in my estimation, the main reason why adult education has not received the impact on our civilization of which it is capable is that most teachers of adults have only known how to teach adults as if they were children (p. 157).

The pedagogical model however did not then, and does not today, account for the developmental changes that take place in adult development and produced resistance and conflict among learners, a view articulated by Knowles (1984). As expressed in the foregoing analysis of the historical antecedents of pedagogy, the model did not meet with the characteristic elements of adult learners, and this created an opportunity for Malcolm Knowles' re-introduction and popularization of Alexander Kapp's (1833) terminology viz. andragogy.

Andragogy

Alexander Kapp was a German educator, who first used the term andragogy in 1833 to describe the educational theory of Plato (Nottingham Andragogy Group, 1983). Another German educator John Frederick Herbert took issue with the use of the term and it literally vanished from use for almost a century. By 1921 the term had reappeared in Europe and was introduced to the United States in 1927 by Martha Anderson and Eduard Lindeman (Davenport & Davenport, 1985). They themselves did not develop a concept out of it but emphasized a

commitment to a self-directed, experiential, problem-solving approach to adult education (Davenport, 1987).

Malcolm Knowles (1980) was exposed to the term andragogy from a Yugoslavian adult educator in the mid-1960s and used it in 1968. He was then a professor of adult education at Boston University. His definition of andragogy was developed as a parallel to pedagogy and was based on the Greek word andra meaning "man not boy" or adult, and agogus meaning "leader of." Knowles defined the term as "the art and science of helping adults learn" (Knowles, 1970, p. 39). It is important to point out that Knowles did not intend to replace pedagogy with andragogy since the terms represented two distinct concepts and the principles derived from the root meaning of the terms were meant to serve their respective suitors. Knowles (1975) cited three reasons why he was so interested in the development of scholarship in self-directed learning, the first was based on his assumptions that people who take initiative in educational activities seem to learn more and learn better that those persons who are passive. Secondly, he suggested that "self-directed learning is more in tune with our natural process of psychological development" since a natural part of the maturation process of development involves taking increase responsibility in life (p. 14). A third reason put forward was his own observation that many nontraditional programs, Open Universities, and weekend programs around the world required that learners assume a heavy responsibility and initiative in their own learning (p. 15).

In his discussion of "Andragogy: Alternative Interpretations and Applications," Brookfield (1991) refers to Knowles' admission that andragogy is "simply another model of assumptions about learners to be used alongside the pedagogical model of assumptions" (p. 91). Arising out of Knowles' (1970) "re-branding" of the term andragogy, and the subsequent debate

that was spurred in the process, a growing body of literature has been proliferated by many who joined the discussion, each with a differing perspective on how people learn.

The concept of andragogy became rooted in the developmental-psychology work of Jean Piaget (1967), and Riegel (1973) also used the term andragogy in his dialectic operations (pp. 346-70), suggesting that an outstanding feature of adult thought is the ability to reunite the abstract and the concrete, making adults more able to explore complex problems. Maggie Challis (1996), in her article "Andragogy and the Accreditation of Prior Learning," referred to Riegel's dialectic logic and credited him as a crucial force in promoting the hypothesis that "mature adult thoughts, or at least that which mature adults have the capacity to develop, is qualitatively different from that of adolescents or young adults" (p. 34).

Brookfield (1991) suggested that "autonomous control over aspects of work life, personal relationships, societal structures, and educational pursuits-is an empirical rarity…we must conclude, therefore, that while self-directedness is a desirable condition in human existence it is seldom ever found in any abundance" (p. 94). He articulated a somewhat different perspective on the shift from pedagogy to andragogy. And does not commit himself to the idea that there is a specific age at which an individual adopts a set of values (as do Massey and Redding) or experiences a trigger due to the excitement of exploration, as articulated by Cronbach (1968). Rather, while not agreeing fully with Knowles, Brookfield articulated a position that is non-committal to a chronological age concept, as well as to Knowles' andragogy based on a set of assumptions. Brookfield (1991) stated:

> In other words, to what extent does the attainment of a certain chronological age mark an automatic transition from a dependent to an independent self-concept to the exhibition of self-directed behavior? Knowles has declared andragogy to be an assumption, and it might be best for us to view self-directedness as a prescriptively based concept. This would mean that we could stipulate that the

> attainment of adulthood (in the sense of maturity) can only be considered to have occurred if and when an individual behaves in a self-directed manner. In this approach, self-directedness would not be considered an empirically innate characteristic of adulthood, since many adults pursue lives in which self-directness is noticeably absent…to describe those adults who do exhibit such behavior we would term mature. Adult education would then become education devoted to the characteristic of adult (in the sense of mature) behavior. (p. 93)

However, Brookfield's defense of self-direction in Adult Education goes further and deeper than simply describing its presence as a signs of emotional and or intellectual maturity. He argues convincingly that there is a political dimension to the concept of self-direction in education and suggests that "if adult educators acknowledge these it could affect fundamentally how many of them practice their craft" (Brookfield, 1993, p. 1). His position that the concept of self-direction dignifies and respects people and their experience, and tries to break with authoritarian forms of education, was also articulated by Gelpi (1979) who believed that self-directed learning by individuals and groups "is a danger for every repressive force, and it's upon this self-direction that radical change in social, moral, aesthetic and political affairs is often the outcome of a process of self-directed learning (p. 2). Brockett and Hiemstra (1991) suggest that "concerns about the sociopolitical dimension of self-direction remain valid today" (p. 97), and emphasized that the political dimensions is "largely overlooked by educators and needs to be remedied" (p. 220).

Brookfield (1993) joins his colleagues in arguing that the case in favor of self-direction "as an inherently political concept" can be supported on two arguments, firstly the issue of control, and secondly he suggests that exercising self-direction "requires that certain conditions be in place regarding access to resources, conditions that are essentially political in nature" (p. 4). On the first point regarding control he states,

> The one consistent element in the majority of definitions of self-direction is the importance of the learner's exercising control over all educational decisions. What resources should be used, what methods will work best for the learner and by what criteria the success of any learning effort should be judged are all decisions that are said to rest in the learner's hand. This emphasis of control on who decides what is right and good and how these things should be pursued is also central to notions of emancipatory adult education. (p.4)

This view was supported by Horton (1990), who stressed "that decision making was at the center of our students' experiences and…if you want to have the students control the whole process, as far as you can get them to control it, then you can never, at any point take it out of their hands" (p. 152). Horton further argued that "you have to posit trust in the learner in spite of the fact that the people you are dealing with may not on the surface, seems to merit that trust…what we do involves trusting people and believing in their ability to think for themselves" (p. 157).

Horton (1990) was not alone in his support of Brookfield but was also joined by his contemporary, Candy (1991), who asserted that "this commitment (referring to the commitment to trusting learners abilities) "sometimes leads to forms of spurious democracy in which adult educators feel they have a right to stand for any agendas they feel are important…there is nothing inherently undemocratic about knowing more than a novice" (p. 71). Horton advanced the same point in very stoic terms when he stated "There is no such thing as just being a coordinator or facilitator, as if you don't know anything…what the hell are you around for, if you don't know anything? Just get out of the way and let somebody have the space that knows something, believe something" (Horton and Freire, 1990, p. 154).

Brookfield's (1993) second point on the access to resource builds on the power principle that is often demonstrated by those who oppose the emancipatory nature of self-direction. He states,

> As a learner, I may come to a very clear analysis of the skills I need to develop in order to do something but be told repeatedly by those I approach for the necessary resources to do

> this that while my plans are good ones the budget cuts that have just been forced on my organization and community mean that priorities have changed…again, I may need physical equipment for a self-directed effort I have planned and to be told by those controlling such equipment that it is unavailable to me for reasons of cost…I may find that medical and legal experts place insurmountable barriers in my path in an effort to retain their position of authority. (p.7)

In support of his position, Brookfield (1993) reflected the view of Boshier (1983) concerning the unwillingness of politicians to grant funding to adult education on the basis of the argument that if adults are naturally self-directed learners then they should make provisions for their education and take their own initiative in learning However, the father of adult education, Malcolm Knowles, may not have envisioned the extent to which the opponents to adult education would take their opposition to andragogy, or the many theoretical constructs that may evolve out of this continuum.

Knowles (1975) posited that self-directed learning is more in tune with our natural processes of psychological development (p. 15). Redding (1991) asserted that a transition from childhood to adulthood takes place during the pre-teen years at which time the individual's value system is formed (p. 4). Massey (1979) also associated the formation of one's value system with the formative years between ages 8 to 12, which, according to Redding, closely parallel's Piaget's concrete operations state (about ages 7-11). Massey's theory of value formation addressed a critical period of human development by classifying values into separate decades. He posited that values are formed based on what is happening in a particular society during an individual's formative years. And, this value formation can explain why attitudes associated with independence, and work ethics, e.g., hard work, seems to vary from generation to generation (Massey, 1979, p. 9).

Cronbach (1968) suggested that young learners are motivated by discovery learning. Exploring mathematical concepts and discovering a new theorem not found in any text

contribute to an excitement associated with exploration and discovery. The association of discovery with the excitement of exploration built into the learning experience "offered much the same reinforcement that the mathematician finds at the frontier of knowledge" (p.21). Cronbach contended that self-directed learning experiences contribute to the lifelong-learning motivation of students.

Wang (2004) maintained that a key concept in adult-education theory is critical reflection (p. 204). Challis (1996) believed that an "outstanding feature of adult thought is the ability to reunite the abstract and the concrete and thus explore complex problems" (p.34). She suggested that the pedagogic, teacher-led model of learning for adults will deny them the opportunity to use their full potential as adults. This is so because the pedagogic model is too restrictive in its tolerance of individual exploration and innate self-directedness that is characteristic of adult learners. Challis (1996) further suggests that adult learning and teaching is built on experiential learning as an extension of everyday life (p.34).

Challis (1996) reasserted Kolb's (1982) suggestion that the basis of adult learning may be described as a cycle that relies on experiential learning. Kolb's cycle described how adult learners engage in a process that takes them from a concrete experience to reflection on that experience. He further suggested that the adult learner must unlearn much of his previous learning, which was gained during the pedagogic learning of youth (p. 34). That would not be the case if early learning had been based on discovery, as recommended by Cronbach (1968). Boud, Cohen, and Walker (1993) added to the discussion in their work titled "Using Experience for Learning" in which they articulated five assumptions of Experience Based Learning (EBL). These are:

1. Experience is the foundation of, and the stimulus for, learning

2. Learner's actively construct their own experience
3. Learning is a holistic process
4. Learning is socially and culturally constructed
5. Learning is influenced by the socio-emotional context in which it occurs.

Boud et al. (1993) relied on Kolb's (1982) assertion that "learning is a process whereby knowledge is created through the transformation of experience" (p. 38). They further argued that "the quality of reflective thought brought by the learner is of greater significance to the eventual learning outcomes than the nature of the experience itself" (Boud et al., 1993, p. 2).

Writing in the Journal of Technology, Holmes and Cooper (2000) cited Darkenwald and Merriam's (1982) Adult Education commentary on Knowles' assumptions: These assumptions epitomize much that is important about adult learning and development. The first two assumptions (that adults are independent beings and have forged their identities from unique personal experiences) are drawn from humanistic philosophy and psychology. The last two assumptions (dealing with an adult's readiness to learn) help us understand adult learning from a psychosocial-development perspective. These assumptions, when combined with principles related to the learning process, can offer the adult educator an understanding of the interrelationship between adulthood and learning (p. 3).

Any effort to dichotomize pedagogy from andragogy is in essence pointless since the literature in support of one model against the other is unclear and cannot be relied on as a secure platform. According to them "the debate is truly based on different philosophical perspectives of the world and may never be resolved" (p. 6). However, Holmes and Cooper (2000) acknowledged that pedagogy is a teacher-directed approach whereas andragogy is self-directed.

Heutagogy

The term "heutagogy" was used by Hase and Kenyon in the late 1990s. Stephen (1994) summarized the concept well as the desire to go beyond the simple acquisition of skills and knowledge as a learning experience with an emphasis on "more holistic development in the learner with the express ability of being independent and having the capability to question one's values and assumption" (p.3). Hase and Kenyon (2000) suggested that this model is "appropriate to the needs of learners in the twenty-first century, particularly in the development of individual capability" (p. 1). They further posited;

> Heutagogy is the study of self-determined learning and draws together some of the ideas presented by these various approaches to learning. It is an attempt to challenge some ideas about teaching and learning that still prevail in teacher centered learning and the need for, as Bill Ford (1997) eloquently puts it 'knowledge sharing' rather than 'knowledge hoarding'. In this respect heutagogy looks to the future in which knowing how to learn will be a fundamental skill given the pace of innovation and the changing structure of communities and workplaces. (p. 3)

In articulating their position for the advancement of heutagogy, Hase and Kenyon (2000) draw on five key hypotheses of Rogers (1969) which illustrates the foundation on which heutagogy is built;

- People cannot be taught directly, therefore learning can only be facilitated,
- People learn significantly only those things that they perceive as being involved in the maintenance or enhancement of the structure of self,
- Experience, that is assimilated would involve a change in the organization of self, tends to be resisted through denial or distortion of symbolization, and the structure and organization of self appears to become more rigid under threat,
- Experience, which is perceived as inconsistent with the self, can only be assimilated if the current if the current organization of self is relaxed and expanded to include it,

- The educational system, which most effectively promotes significant learning, is one in which threat to the self, as learner, is reduced to a minimum. (p. 3)

It was Rogers' (1951) contentions that learning was as natural as breathing and describes it as an internal process controlled by the learner. Hase and Kenyon (2000) relied on the work of Argyris and Schon's (1969) "double loop learning," which suggests challenging theories in use, values, and assumptions held, rather than reacting to problems with "single loop" learning. They also relied on Long (1990), who posited that "learning is an active process in which individuals either seek out education and experiences or obtain feedback and do evaluations as they move through life's experiences" (p. 36). They also relied on the work of Stephen and Weil's (1994) "capability" concept, in which they suggested that capable people are those who know how to learn, are creative, have a high degree of self-efficacy, can apply competencies in situations, and have the ability to work well with others (p. 3-4).

However, McAuliffe, Hargreaves, Winter, and Chadwick (2009), agreed with the general principles put forward in Heutagogy and indicated the need for an educational theory that will take us toward more effective learning techniques (p. 2). However, notwithstanding their favorable view of heutagogy, they suggest that heutagogy is not feasible for undergraduate education particularly in the field of engineering. They further contended that heutagogy has the potential of extending the theories of pedagogy and andragogy but the "removal of the educator makes the concept of heutagogy impractical in a credentialing institution" (p. 5). Another argument put forward by McAuliffe et al. (2009) is the limitation of heutagogical principles as it relates to assessment. The requirements of assessment and the implication of higher education regarding the involvement of "stakeholders…do not allow students to have control over what is

assessed…since they have to meet certain criteria laid out by these stakeholders" (p. 6). They summed up their position as follows:

> Although discussion is given to the andragogical and heutagogical principles, and the application in the university educational situation, heutagogy and its principles are not able to be applied (in its 'truest) form) due to the very nature of university learning…So in practice, we are not able to achieve the andragogical and heutagogical (learner-centered) principles so we revert to the well-known pedagogical (teacher-centered) approach. The problem is that we know the current styles of teaching and learning are not working as effectively as we would like with the current generation of students, but what do we replace it with? The challenge for all of us, therefore, is to find a way to move forward from our comfortable transmission modes of educational practice into the more challenging realms of student-centered ownership of learning, and create a new culture of engineering education where pedagogy is not the only ruler in the realm of assessment. (Pp.7- 8)

Student-Engagement

The defining characteristic of pedandragogy (versus the other theories I have addressed earlier) is the aspect of self-engagement. Self-engagement is new to the discussion, because the concept of student-engagement is the more popular term used in existing literature. Self-engagement as used in pedandragogy focuses also on the intrinsic elements related to the student's affective status and helps us to look at the individual and personal character of each student. This is intended to deflect the normative and/or generic tone of the more commonly used "student-engagement" and to help us embrace a more comprehensive definition of "engagement." However, the term student-engagement has gotten a lot of attention in the literature, and the definitions that have been given by the multiplicity of commentators have assisted greatly in forcing educators to look more closely at the issue of student attrition.

Attrition and Engagement

The Higher Education Research Institute (HERI) found the national six-year graduation rate for public universities to be 58 %, compared to data provided by Mortenson (2005), Cataldi

(2002), and Crosling, Thomas and Heagney (2008) who reported a range of 50-56 %. Whether we wish to rely on HERI, or the other researchers in the field the issue is moot—the attrition rate of students is simply too high.

Diaz and Bontenbal (2001) argues in favor of the learner-centered approaches, which "demand more active forms of classroom instructions that engage students in the process of learning" and that rely on student input for shaping instructional objectives (p. 4). Anderson (2004), and Minich (1996) both suggest that educators should open lines of communication with students as much as possible, thereby making them comfortable so that learning can also take place in a community setting. Anderson (2002) insisted that it is important for educators to have an appreciation for the use of technology and that they ought to focus on getting to know about the learner's cultural perspective and level of comfort with technology. This they posit can help to create a learner-centered environment. Tinto's (1975) theory posits that students, who are integrated into the university setting, both academically and socially, will persist and help to address the increasing attrition rates demonstrated in research throughout the literature. Rovai (2002) joined Tinto's (1993) sentiments and suggested that students must get the opportunity to get to know each other and must feel comfortable before learning can take place. If students feel comfortable, the next step should be the initiating of learning communities.

The goals of learning communities are for students to work together and to expand their knowledge through collaboration and support. Tinto (1993) reports that students should develop relationships with members of their learning communities, and the consequent result would be their engagement in the learning process with their cohorts. This he argues will reduce attrition rates significantly. Rovai (2002) suggested the following;

> Research provides evidence that strong feelings of community may not only increase persistence in courses, but may also increase the flow of information among all learners, available support, commitment to group goals, cooperation among members and satisfaction with group effort. (p.3)

Hughes (2004) suggested that we should focus our efforts on meeting the needs of learners; not on what is easy to deliver (p. 368). But the most convincing study can be found in the study of Fisher et al (2009), which was conducted in the Canadian educational jurisdiction. They state that there is a "general consensus around at least four factors affecting attrition rates in postsecondary education, namely: date of admission, program choice, academic preparedness, and student engagement…however, the strongest consensus has formed around the significance of student engagement" (pp. 6-7). Fisher et al (2009) relied on numerous authorities including Tinto (1993) and Pascarella and Terenzini (1977) who surmised that "student-faculty interaction was found to discriminate significantly between those students who withdrew voluntarily from the institution at the end of their freshman year and those who persisted" (p. 550). The same argument has been made in the Australian context, and studies conducted there have yielded similar findings.

Gabb, Milne and Cao (2006) in a report which focused on Australian students, entitled "Student Unsatisfactory Progress at Victoria University, April 2005" suggested a range of issues which relates to students at risk. The risks highlighted in the report include course preference, teaching quality, social background, student-engagement, and work demands. This also takes into consideration the year of study with regard to the socio-economic and political variables affecting that society in that particular school year. Gabb (2006) emphasized the importance of courses offered with a high degree of teacher and/or staff involvement such as science programs, and the quality of student and staff interaction, which was also suggested by Burgess and Sharma (1999). Braxton and Hirschy (2005) also suggested that universities can reduce attrition rates by

having an institutional commitment to student welfare and could encourage the establishment of what they called "academic communities" in the classroom. This will enhance and increase student-teacher interaction and interaction between themselves as they collaborate in such an academic environment (pp. 278-294).

Defining Self-Engagement

As stated earlier, self-engagement, as used in this discussion of pedandragogy, is the amalgamation of several distinct elements which activate students' responses to learning. Pintrich and Groot (1990) associated student-engagement with the use of cognitive, meta-cognitive, and self-regulatory strategies to monitor and guide their learning process. I am suggesting that self-engagement is motivated behavior that influences the type of cognitive strategies that students use in their learning activities, and their willingness to persist with task that may sometimes be difficult, by regulating their own learning behavior. Astin (1984) defines engagement as "the amount of physical and psychological energy that the student devotes to the academic experience" (p. 297). Fredericks et al (2004) suggests that young people that are engaged emotionally, cognitively, and behaviorally in their education are less likely to show signs of alienation, "and that such engagement increases their connectedness to school" (p. 2). Blum and Libbey (2004) expressed the view that this "increase in school connectedness is related to educational motivation, classroom engagement and better attendance…were are all linked to higher academic achievement" (pp. 74-77).

But the literature is replete with other definitions of student-engagement. Fisher et al. (1980) defined it as time spent on task, while Natriello (1984) suggested that it is best demonstrated when students show a willingness to participate in routine and or normally-expected school activities such as class attendance, submitting work that is required, and

displaying respect for in-class courtesies like respecting the teacher. He states that "students participation in activities offered as part of the school program" is in fact student engagement and the opposite of this or what he termed "negative indicators, like cheating in test, unexcused absences, and damaging school property" is not (p. 14). Bulger et al., (2008) also suggested that the amount of time that students spend on learning activities is an indicator of engagement.

Other educators have suggested similar definitions or have given what they describe as student-engagement. Chickering and Gamson (1987) suggested that student-engagement is reflected in active learning and influences collaborative learning, which involves working with others. Chickering and Gamson's position on collaborative learning supports the view held by Rovai (2002), who expresses the view that the level of students' satisfaction must be increased if they are to be motivated to learn and their involvement and participation in a learning community is essential to their academic success. Coates (2007) concurred and adds that this motivated, self-regulated learning behavior enables learners to become part of a learning community in which students feel a sense of legitimacy and support. Collaborative learning whether as peer-learning, peer tutorial, or problem-case solving has been found to be positively correlated to a number of positive outcomes including persistence, long-term retention of knowledge, and achievement (Cabrera, Colbeck & Terenzini, 1999; Caplow & Donaldson, 2000; Levine & Levine, 1991). Collaborative learning is an important element in the definition of student self-engagement and embraces the behavioral, cognitive, and affective indicators as defined by Skinner and Belmont (1993):

> Engagement versus disaffection in school refers to the intensity and emotional quality of children's involvement in initiating and carrying out learning activities…Children who are engaged show sustained behavioral involvement in learning activities accompanied by a positive emotional tone. They select task at the border of their competencies, initiate action when given the opportunity, and exert intense effort and concentration in the

> implementation of learning task; they show generally positive emotions during ongoing action, including enthusiasm, optimism, curiosity, and interest. The opposite of engagement is disaffection. Disaffected children are passive, do not try hard, and give up easily in the face of challenges…they can be bored, depressed, anxious, or even angry about their presence in the classroom; they can be withdrawn from learning opportunities or even rebellious towards teachers and classmates. (p.572)

Perceptions of Engagement: Faculty

Several studies that focused on college faculty demonstrate an increase in student-centered approach. These include data published as The American College Teacher: National Norms for the 2007-08 HERI Faculty Survey, which suggest that 99.6 percent of faculty is of the firm opinion that critical thinking skills are "very important" or "essential" and states that "making college classrooms more interactive, collaborative, and engaging is important in improving student learning and degree attainment" (HERI, 2009, p. 1). This is consistent with the Kolb (1984) suggestion that learning styles are affected by a number of student's characteristics and that learning takes place in a context shaped by these characteristics, the instructional practice in the classroom, and the classroom climate created by the professors and peers. Pascarella and Terenzini (1991) tell us that classroom experience is by far the stronger element in the assessment of student outcomes.

But not all faculty members support the concept of a learner-centered pedagogy. Palmer (1997) posits that some faculty members in the fields of mathematics are not willing to support the student-centered approach to teaching nor are they willing to support others with such ideas. Braxton, Eimers, and Bayer (1996) reported in their study that out of 70 universities they studied, the majority of faculties surveyed were not supportive of some six recommendations to improve undergraduate teaching and learning, particularly those that promote a student-centered approach to learning. The six recommendations opposed by those faculty members were: 1) encouraging

student-faculty contact; 2 systematic program of advisement; 3) feedback on student performance; 4) fostering egalitarianism and tolerance in the classroom; 5) learning about students; and 6) demonstration of concern for improving college teaching. Braxton et al concluded:

> This finding, we believe, suggest that efforts to improve undergraduate teaching will require strategies that carefully consider (teaching) norms held by the faculty and the nature of the recommendation being implemented. (p.6)

Latiolais, Holland, and Sutter (n.d), insist that "the traditional academic reward structure that keeps faculty focused primarily on disciplinary development is a major obstacle to greater interest in teaching quality and learning outcomes" (p. 2). However, reflecting on their own experience from Portland State University, Indiana University, and Purdue University at Indianapolis, they stated that those faculty members who were involved in curricular reform efforts were much more likely to institute and be involved in the learner-centered approach to teaching. They suggest that these faculty members were motivated by intrinsic rewards such as career satisfaction and building a better relationship with their students.

Leslie (1998) reported that two-thirds of professors engaged in class-room lecturing and only a mere five percent used class discussions. Cabrera and La Nasa (2002) cited that the high percentage of professors who engage in class-room lecturing was primarily due to two factors: the nature of the academic work, and the reward system spoken about by Lotiolais et al (p. 21). Clark and Corcoran (1986) suggest that the practice of professors using the lecturing system as opposed to other techniques was due to the way in which future professors were socialized into the academic field. The reward system addressed by Cabrera and Nasa (2002) was supported in an earlier study by Fairweather (1993) who addressed the connection between teaching, research, and the issue of compensation in liberal arts and research universities. Fairweather posited that

"faculty who spend time on research and on publishing and less time on teaching earn more income" (p. 11).

CHAPTER III

METHODOLOGY

This study used a mixed-method design, which is the procedure for collecting, analyzing, and combining both quantitative and qualitative data at various stages of the research process within a single study, and which assisted me in addressing the research questions more completely (Creswell, 2002). The purpose of this study was to investigate whether or not the pedandragogic framework could be applied to a multiplicity of academic disciplines in higher education and to assess the attitude of faculty members towards the learner-centered approach to teaching. The pedandragogic framework was based on two significant theoretical constructs. The first of these was the constructivists learning theory of Jerome Bruner (1960) and Stephen Brookfield (1991), which suggest that learners construct their own knowledge on the basis of their experience and interaction with their environment. The second theoretical construct was from Albert Bandura's (1986) Social Cognitive Theory (SCT), which espouses that the learner is viewed as being thoroughly integrated with the environment within which he or she is learning and their cognitive responses couple with behavior and the environment. This concept works in a triadic reciprocal action to create learning (Pajaras, 2002, p. 18).

As indicated in the introduction to this study, the framework of pedandragogy gives us an opportunity to build on a new model of learning and teaching and enhances existing theories, more particularly, pedagogy and andragogy. The following framework is what I consider to be

the bedrock of this study since the focus of the study is to assess whether or not this framework can be practically applied to a multiplicity of academic discipline is higher education. The framework of pedandragogy states:

- It is learner centered
- The teacher is both facilitator and learner
- It incorporates prior learning and learner experience
- It focuses on internal and external stimuli
- It encourages curiosity and exploration
- It is focused on problem solving
- The Learner collaborates in the planning and diagnosing of needs
- It involves collaborative evaluation
- It focuses on the independency of the learner
- It supports the concept of teacher immediacy in the learning process, and
- It promotes self-efficacy in learners.
- It promotes self-engagement.

This study seeks to answer the following research questions: Can the pedandragogic framework be practically applied to a multiplicity of academic disciplines in higher education? The following sets of questions broken down into quantitative and qualitative categories will allow me to further explore the variables of the study and may help towards finding a satisfactory answer to the research questions:

Quantitative

1. Does attitude of faculty towards the learner-centered approach differ by a) age, b) gender, or c) ethnic identity d) areas of teaching?

2. Does attitude of faculty towards the independency of learners differ by a) age, b) gender, or c) ethnic identity, d) areas of teaching?
3. Do attitudes towards assessment differ by a) age, b) gender, or c) ethnic identity d) areas of teaching?
4. Is there a relationship between undergraduate and graduate faculty and their attitude towards learner-centered learning?
5. Does having courses in learning and teaching theories make an influence on one's attitudes towards self-directed learning?
6. What factors could motivate faculty to adopt teaching protocols that address learner-centered learning?
7. Are attitudes towards including assessment in the teaching process correlated with attitudes towards learner-centered learning?
8. What factors influenced motivations?
9. All in all, what factors influence one's attitudes towards learner-centered learning?
10. Do positive attitudes towards assessment interact with other demographic factors to predict higher acceptance to learner-centered approach?
11. Do positive attitudes towards assessment interact with other demographic factors to predict higher acceptance to learner to learner cantered approach?

Qualitative

1. How do faculty members generally define learner-centered teaching compared to teacher-centered teaching? What is the typography of common misunderstanding?
2. What is the general attitude of faculty members towards adopting a learner-centered approach?

3. What are the obstacles that inhibit one from taking a learner-centered approach?

Subjects

The sample in this study was taken from faculty members of a southern liberal-arts university who represents a diverse array or academic disciplines encompassing the natural and social sciences. One hundred and forty-eight faculty members out of four hundred surveyed responded to the survey for a response rate of 37%. Table 3.0 presents the demographic information. Among them 75 (50.7%) were male and 71 (48.0%) were female and 2 participants did not indicate their gender. Age of participants was comparably distributed in the four age ranges from 30 to 70, with Mdn = 4 (range 50-59) and SD = 1.26. Participants were predominantly Caucasians (N = 131, 88.5%), with seven who were African-American, and few others.

Responses to the question "in which program are you teaching" were collapsed to college level according to the university's academic scheme. Almost half of the participants (N = 68, 45.9%) teach in Arts and Social Science including programs of Art, Communication, Economics, Psychology, etc. The second major college is Health, Education and Professional Studies (N = 41, 27.7%), which includes Early Childhood Education, Health and Human Performance, etc. The fewest faculty members teach in the colleges of engineering and business, partly due to a limited number of undergraduate and graduate programs in these two colleges.

Over half of faculty members were teaching general-education or lower-division courses (N = 80, 54.1%). More were teaching upper-division courses (N = 92, 62.2%), and fewer teaching graduate courses (N = 72, 48.6%). Years of faculty participants teaching at UTC ranged from 1 to 45 years, M = 10.76, SD = 9.49. Total number of years teaching in higher education

ranged from 1 to 46 years, M = 15.59, SD = 11.01. Finally, over half of the participants have had some training in teaching theory and method (N = 93, 62.8%).

Table 3.0

Summary of participants' demographic information.

Variables	***N***	***%***	**Variables**	***N***	***%***
Age			Race		
<=30	9	6.1	Asian	1	.7
30-39	26	17.6	Black	7	4.7
40-49	34	23.0	Caucasian	131	88.5
50-59	41	27.7	Hispanic	1	.7
60-69	34	23.0	Native	3	2.0
>=70	4	2.7	Other	5	3.4
Program			General Ed Courses		
Arts and Social Science	68	45.9	Teaching	80	54.1
Business	11	7.4	Not	68	45.9
Education and Health	41	27.7	Upper-Division Courses		
Engineering	9	6.1	Teaching	92	62.2
Science	19	12.8	Not	56	37.8
Training in Teaching			Graduate Courses		
Yes	93	62.8	Teaching	72	48.6
No	55	37.2	Not	76	51.4

Instruments

Questions addressing the essential framework of pedandragogy listed earlier in the chapter were written to assess two broad concepts core to pedandragogy. One measure assesses attitudes toward student-centered vs. teacher-centered teaching style. This measure incorporates ideas of learner centeredness, teacher being both facilitator and learner, and focus on problem solving. The other measure assesses attitudes towards independency of students in the process of learning. It supports the concept of learner collaboration in the planning and diagnosing of needs,

teacher immediacy in the learning process, and promoting self-efficacy and engagement in learners.

Another two measures were created to address aspects associated with pedandragogy. One measures attitudes towards assessment, and the other assesses factors that would motivate a teacher to change her current teaching protocols. In addition, three open-ended questions were created in the end of the survey to further probe participants' attitudes toward issues addressed by pedandragogy. These three questions asked participants to distinguish teacher-centered from learner-centered teaching, to list obstacles for one to adopt a learner-centered approach, and to give opinions to whether one should encourage the independency of students.

Before implementation, the survey instrument underwent a rigorous process of design supervised by a faculty member with expertise in psychological measurement. Questions selected from that process were submitted to a panel of six experts who were asked to give their opinion on the validity of each item, and modifications suggested by the panel were made based on their suggestions. Items that did not achieve a content validity ratio of .90 or above were dropped. All final questions were double checked by the expert panel to make sure each one achieved maximal content validity.

Demographics

Age was measured in six categories - below 30, 30-39, 40-49, 50-59, 60-69, and above 70 - along with report of gender and ethnic identity. Participants then selected the undergraduate and graduate programs they were teaching from a series of program names that were listed in the university's website. Participants were then asked to input the number of years they have taught in a program and the number of years teaching in higher education. Participants then indicated

whether they were teaching graduate, undergraduate upper-division, and/or undergraduate general education courses. Finally, participants were asked if they had ever had training or courses in teaching theory. And if yes, how many hours of training they have received.

Attitudes towards learner-centered vs. teacher-centered approach

This scale consisted of 12 items. There are six positively worded items, such as "Students should collaborate in the planning and diagnosing of their academic needs" and six negatively worded items "Instructor is the most important factor in student's learning process." Responses were recorded along a 7-point Likert scale, with choice of 1 indicating strongly disagree, 4 neutral, and 7 strongly agree.

Attitudes towards independency of learner

This scale consisted of 12 items. There were six positively worded items. A sample item was "Learners should be encouraged to work independently toward achieving their learning outcomes." Six items were negatively worded, like "Students should follow closely the objectives and goals set by the instructor without making personal learning goals." Responses were recorded along a 7-point Likert scale, with choice of 1 indicating strongly disagree, 4 neutral, and 7 strongly agree.

Motivation

Eight motivational factors were included to capture the possible impetus underlying one's wiliness to adopt a new teaching protocol. Such factors were, for instance, "A pay increase" or "If it maximizes students' learning experience." Responses are recorded along a 4-point Likert scale, with choice of 1 indicating not at all motivated, and 4 strongly motivated.

Attitudes towards assessment

Six items measured one's favorability towards using assessment in the process of teaching. Two items were worded positively, "Assessment is a valuable teaching and learning tool"; while four items were negatively worded, "Assessment by the learner is not a significant aspect in improving learning." Responses were recorded along a 7-point Likert scale, with a choice of 1 indicating strongly disagree, 4 neutral, and 7 strongly agree.

Open-ended questions

The last section was composed of three open-ended questions. The first one asked "How do you distinguish teacher-centered versus learner-centered learning?" The second one asked "Based on your definition of learner-centered learning, would you be willing to adjust your teaching method to be learner-centered? If not, what are the obstacles that inhibit you from taking a learner-centered approach?" The third one asked "Do you think we, as educators, should encourage the independency of learners? Why?"

Procedures

The university's institutional review board approved this study. The survey instrument was posted on a web-based survey system, Survey Monkey, and the URL of the survey was sent electronically to the respondents via the university's electronic mailing system. Participation in this study was absolutely voluntary and anonymous.

Analysis of the results employed a mixed-methods approach. The first nine questions in the survey questionnaire were analyzed using descriptive quantitative SPSS analytical procedures. The first nine research questions used a combination of Chi-square test, Exploratory Factor Analysis, Analysis of Variance (ANOVA), Correlations, and OLS Multiple Regression.

The remaining three research questions were qualitatively analyzed using a thematic coding processes to process section five of the survey questionnaire.

The reason for choosing a mixed-methods design for this study was due to the fact that any one single procedure would have been insufficient in itself to capture the range of information needed to effectively analyze the research problem and to navigate through the complex issues that this study addresses. Green, Caracelli and Graham (1989) suggest that the mixed-methods approach does in fact complement the findings in both types of research and allows for a more complete analysis.

CHAPTER IV

RESULTS

The purpose of this study was to investigate whether or not the pedandragogic framework can be applied to a multiplicity of academic disciplines in higher education and to assess the attitudes of faculty members towards the learner-centered approach to teaching and learning. The data collecting processes used a pre-prepared survey instrument divided into five distinct sections with both quantitative and qualitative items, and were analyzed using descriptive SPSS analytical procedures. The survey instrument was posted via a web-based system, Survey Monkey, and the URL of the survey was sent electronically to faculty members of a southern university's mailing list in the United States of America. Participation in this survey was voluntary and completely anonymous. The qualitative section of the survey instrument was analyzed using thematic coding content analysis and significant themes were developed from the typed written responses of faculty members to open-ended question designed to complement the items in the quantitative sections.

Quantitative Data

The sample population of this study was taken from a southern liberal arts university representing a multiplicity of academic disciplines in the natural and social sciences. One hundred and forty-eight faculty members responded to the survey out of four hundred requested. Table 3.0 presents the demographic information. Among them 75 (50.7%) were male and 71

(48.0%) were female and 2 participants did not indicate their gender. The age of participants was comparably distributed in the four age ranges from 30 to 70, with Mdn = 4 (range 50-59) and SD = 1.26. Participants were predominantly Caucasians (N = 131, 88.5%), with seven Blacks and few others. The following analysis details the findings.

Factor structure of Motivation to Change Teaching Style

Table 4.0 lists ratings on the 8 motivation items, which were measured along a 4-point Likert scale. An examination on the means revealed that participants scored systematically lower on item 1 and item 5 than on the other items. This suggested a potential structure which put all motivation factors into discrete categories. An exploratory factor analysis was then conducted.

Table 4.0

Ratings on the motivation items (4-point Likert Scale).

Motivation Items	**Mean**	**SD**
1. A pay increase	2.68	1.13
2. Personal satisfaction in my job	3.58	.73
3. If it would make my job easier	2.97	1.01
4. If it maximizes students' learning experience	3.77	.62
5. The recognition I may receive	1.82	.91
6. If it brings success to my students	3.72	.70
7. If attrition rates will be reduced	2.97	1.12
8. If the department can experience significant growth	2.79	1.05

Using Principal Axis Factoring method, two factors were extracted with eigenvalue greater than 1. Further employing an oblique rotation method Promax, we found factor A with an eigenvalue of 2.56 and accounting for 31.59% of total variance, factor B with an eigenvalue of 1.06 and accounting for 13.24% of total variance. Factor A was defined by five items. These items covered motivations to benefit students, department growth, and personal job satisfaction.

Factor B was defined by three items which covered motivations in pay increase, lifting job burdens and receiving recognitions. I reasoned that factor A tapped into an intrinsic motivation in the improvement of teaching, while factor B treated teaching as a means to some materialistic ends, such as making money. I therefore, labeled factor A as intrinsic motivation and factor B as extrinsic motivation. Table 4.1 lists standardized loadings of items on their respective factors.

Table 4.1

Factor analysis result for the extraction of two factors defining motivations for changing one's current teaching approach and methods.

	Intrinsic Motivation	**Extrinsic Motivation**
6. If it brings success to my students	.847	-.178
4. If it maximizes students' learning experience	.834	-.011
7. If attrition rates will be reduced	.616	.090
2. Personal satisfaction in my job	.583	.043
8. If the department can experience significant growth	.540	.108
1. A pay increase	-.003	.675
3. If it would make my job easier	.116	.669
5. The recognition I may receive	-.064	.453

Summary of major variables

Responses to Learner vs. Teacher Centered teaching style were coded so that higher numbers suggested favoring learner centered teaching. Responses to Independency of Students were coded so that higher numbers indicated favoring independency of students in the process of learning. Responses to items of attitudes to assessment were coded so that higher numbers represented valuing assessment in the process of teaching. Similarly, higher scores indicated higher intrinsic or extrinsic motivation to change one's teaching approach. Scale scores were calculated as the mean of items measuring each variable. Means, standard deviations, and

internal reliability alphas were reported in Table 4.2. All of the five scales had acceptable internal reliability (>.60). Note that learner centered, independency, and assessment were measured on 7-point Likert scale, while motivations were measured along 4-point Likert scale.

Table 4.2

Summary of variables.

Variables	**Mean**	**SD**	**Cronbach's α**
Favoring Learner Centered Teaching	4.99	.70	.672 (12 items)
Favoring Independency of Students	5.13	.78	.731 (12 items)
Valuing Assessment	5.50	1.02	.694 (6 items)
Intrinsic Motivation	3.37	.64	.791 (5 items)
Extrinsic Motivation	2.49	.77	.626 (3 items)

Correlations among continuous variables

Table 4.3 presents bivariate correlations among continuous variables. An older age was significantly correlated with more years of teaching (rs = .60 and .69), favoring independency of students (r = .18), favoring learner-centered teaching (r = .16), valuing assessment (r = .33), and less extrinsic motivation (r = -.41). Years of teaching were associated with less extrinsic motivation (rs = -.22 and -.31). There were strong correlations among learner centered, independency, and assessment (rs > .50). High intrinsic motivation was also associated with favoring independency of students (r = .41), favoring learner-centered teaching (r = .34), valuing assessment (r = .33), and with extrinsic motivation (r = .19). Most relevant to the current investigation, age and intrinsic motivation were found to be important factors influencing a teacher's attitudes towards adopting learner-centered teaching styles and use of assessment.

Table 4.3

Correlation of continuous variables.

	2	3	4	5	6	7	8
1. Age	.602**	.685**	.183*	.164*	.330**	-.406**	.079
2. Years in this department	.	.830**	.042	.025	.064	-.224**	-.091
3. Years in higher education		.	.082	.042	.129	-.305**	-.093
4. Independency of Students			.	.738**	.526**	-.148	.408**
5. Learner Centered				.	.614**	-.119	.339**
6. Assessment					.	-.250**	.325**
7. Extrinsic Motivation						.	.189*
8. Intrinsic Motivation							.

*p < .05, **p < .01

Comparing major variables by demographics

A series of one-way ANOVAs were conducted to compare major variables across different levels of demographics. Table 4.4 lists the dependent variables as learner centered teaching, independence of students, assessment, intrinsic motivation, and extrinsic motivations. Independent categorical variables are gender, race, program teaching, teaching graduate, undergraduate upper division, general education courses or not, and if one had training in teaching theories. Noting the disproportionate size of ethnic groups, I coded race into two categories as Whites vs. others.

For attitudes toward learner centered teaching, there was a significant effect of gender. Female teachers had more favorable attitudes to learner-centered approach than male teachers, $F = 7.77$, $p < .01$. Teaching in different programs did not generate a main effect, $F = 1.67$, ns; however, an LSD post hoc test showed that teachers in Education and Health had more favorable attitudes than teachers in Business. Finally, having training in teaching was associated with more favorable attitudes toward a learner-centered approach, $F=4.46$, $p<.05$.

For attitudes toward independence of students, there was a significant main effect of gender. Female teachers had more favorable attitudes to learner independence than male teachers, $F = 7.39$, $p < .01$. Teaching in different programs did not generate a main effect, $F = 1.60$, ns, however, a liberal LSD post hoc test showed that teachers in Education and Health had more favorable attitudes than teachers in Arts and Social Science. No other variables were significant.

For attitudes toward assessment, there was a significant effect of gender. Teaching in different programs had a main effect, $F = 3.86$, $p < .01$. Post hoc test showed that teachers in Education and Health had more favorable attitudes than teachers in Arts and Social Science, Business, and Engineering. Professors who were teaching graduate courses also showed more favorability towards assessment than professors who were not teaching graduate courses, $F = 12.65$, $p < .01$. Finally, having training in teaching was associated with more favorable attitudes toward assessment, $F = 10.41$, $p < .01$.

As for the two types of motivation, professors who were teaching upper-division undergraduate courses had higher intrinsic motivation to adopting new teaching protocols than professors who were not teaching upper-division, $F = 4.36$, $p < .05$. Professors who were teaching graduate courses were less motivated by extrinsic motivation if they considered adopting new teaching protocols than professors who were not teaching graduate courses, $F = 13.43$, $p < .01$. Also, teachers in the Business program were more motivated by extrinsic factors than teachers in Engineering and Education, although the main effect of program was not significant, $F = 1.81$, ns.

Table 4.4

Comparison of dependent variable across demographic information.

	Learner	Indep	Assess	Intrinsic	Extrinsic
Gender	7.77**	7.39**	.21	1.35	.00
Male	4.88 (.07)	5.00 (.68)	5.49 (.92)	3.31 (.68)	2.48 (.82)
Female	5.16 (.07)	5.32 (.69)	5.56 (1.05)	3.44 (.58)	2.48 (.71)
Race	3.54	1.68	2.70	.16	.01
White	4.95 (.06)	5.10 (.79)	5.45 (.99)	3.36 (.83)	2.49 (.76)
Other	5.29 (.16)	5.36 (.70)	5.88 (1.02)	3.42 (.61)	2.51 (.87)
Program	1.67	1.60	3.86**	.96	1.81
Science	4.96 (.14)	5.19 (.14)	5.46 (.23)	3.34 (.23)	2.43 (.17)
Arts and Social Science	4.96 (.10)	5.04 (.11)[a]	5.38 (.13)[a]	3.33 (.09)	2.55 (.10)
Engineering	4.81 (.17)	4.91 (.21)	5.19 (.21)[b]	3.36 (.17)	2.26 (.28)[a]
Business	4.63 (.15)[a]	4.87 (.19)	4.80 (.19)[c]	3.09 (.18)	3.04 (.18)[ab]
Education and Health	5.18 (.09)[a]	5.37 (.11)[a]	5.96 (.15)[abc]	3.51 (.10)	2.35 (.11)[b]
Graduate Courses	2.63	2.34	12.65**	3.30	13.43**
Teaching	5.08 (.07)	5.24 (.08)	5.80 (.11)	3.27 (.08)	2.26 (.09)
No	4.90 (.09)	5.03 (.10)	5.21 (.12)	3.46 (.07)	2.71 (.09)
Upper-Division	3.66	2.35	1.74	4.36*	.01
Teaching	4.90 (.07)	5.05 (.08)	5.41 (.11)	3.28 (.07)	2.48 (.08)
No	5.13 (.09)	5.26 (.10)	5.65 (.14)	3.51 (.08)	2.50 (.11)
General Education	.11	.01	1.70	1.34	.47
Teaching	5.00 (.07)	5.13 (.08)	5.40 (.11)	3.42 (.08)	2.53 (.10)
No	4.97 (.09)	5.14 (.11)	5.62 (.13)	3.30 (.09)	2.44 (.09)
Training in Teaching	4.46*	3.22	10.41**	.03	.01
Yes	5.08 (.08)	5.22 (.09)	5.71 (.11)	3.37 (.07)	2.49 (.08)
No	4.83 (.08)	4.98 (.09)	5.15 (.12)	3.35 (.08)	2.50 (.11)

Values listed for each independent variable are F statistic, for levels of each independent variable are Mean (S.E.). *p < .05, **p < .01, [a,b,c] signifies post hoc pair-wise mean difference significant at .05.

Factors influencing attitudes towards learner centered teaching

Two full hierarchical multiple regressions were conducted using learner centered and independence of students as criteria respectively, and all other associated variables explored

above as predictors. Predictors were entered into the equation in three steps. On the first step, relevant demographic variables (i.e., gender, age, and training in teaching) were entered; on the second step, relevant factors (i.e., assessment, intrinsic and extrinsic motivations) were entered; and on the last step, product terms indicating interactions between assessment and age (Assessment*Age), assessment and gender (Assessment*Gender) were entered. To eliminate multicollinearity in the test of interaction, z-scores of age and assessment were used in these regression models.

Table 4.5 columns two and four report the regression coefficients and significance for the full models of learner-centered approach and independence of students. For learner-centered approach, only gender turned out to be a significant predictor, $t=2.37$, $p<.05$. Neither of the two interaction terms were significant, nor did inclusion of them not significantly increase the variance explained. For independence of students, gender and intrinsic motivation were significant predictors, $t=2.44$ and 3.69, $ps<.05$. Neither of the two interaction terms were significant and inclusion of them did not significantly increase the variance explained , $\Delta R^2 = .006$.

Two partial multiple-regression models were then tested with step-wise elimination of nonsignificant terms. Table 7 column 3 and 5 reports these results. For the learner-centered approach, gender and valuing assessment remained as significant predictors, $t=2.68$ and 8.09, $ps<.01$. Eliminating the non-significant terms decreased total variance explained by 2.6% compared to the full model.

For independence of students, gender, assessment, intrinsic motivation were significant predictors, $t=2.60$, 5.07 and 3.40, $ps<.05$, respectively. Eliminating the non-significant terms decreased total variance explained by 1.6% compared to the full model. The partial models were

a good balance of parsimony and effectiveness to account for the factors that could influence attitudes to learner-centered approach and the independence of students.

To summarize, gender and assessment were factors influencing one's attitudes towards learner-centered approach. Specifically, being a female valuing assessment in class made a teacher more favorable to adopting a learner-centered approach. Gender, assessment and intrinsic motivation were factors influencing one's attitudes towards independence of students. Specifically, being a female valuing assessment in class and loving teaching intrinsically made a teacher more apt to encourage students to be independent learners.

Table 4.5

Factors predicting favorability to learner-centered teaching style and to independence of students in the learning process.

	Learner full model	**Learner partial model**	**Independence full model**	**Independence partial model**
Being Female	.17 (2.37*)	.19 (2.68**)	.18 (2.44*)	.19 (2.60*)
Older Age	-.06 (-.79)	--	-.00 (-.02)	--
Had Training	.04 (.48)	--	.08 (1.09)	--
ΔR^2	.086**	.043*	.103**	.051**
Valuing Assessment	.38 (1.57)	.56 (8.09**)	.08 (.30)	.38 (5.07**)
Intrinsic Motivation	.14 (1.81)	--	.30 (3.69**)	.26 (3.40**)
Extrinsic Motivation	.02 (.25)	--	-.07 (-.85)	--
ΔR^2	.289**	.311**	.220**	.263**
Assessment*Age	-.04 (-.60)	--	-.01 (-.18)	--
Assessment*Female	.15 (.64)	--	.26 (1.07)	--
ΔR^2	.004	--	.006	--
Total R^2	.380**	.354**	.330**	.314**

Values listed are standardized coefficient beta (t-statistic), *p < .05, **p < .01

Qualitative Data

The qualitative data in this study are the results of the responses of three open-ended inquiries used in the faculty attitude survey. The three are listed below and provides the framework for the findings.

1. How do you distinguish teacher-centered versus learner-centered learning?
2. Based on you definition of learner centered learning would you be willing to adjust your teaching method to be learner-centered? If not, what are the obstacles that inhibit you from taking a learner-centered approach.
3. Do you think that we, as educators, should encourage the independency of learners? Why?

The purpose was to find out the attitude of the respondents towards the learner-centered approach to teaching and learning, and to compare this aspect of the study with the findings of the quantitative analysis. Further, by the nature of the qualitative methodology, I would be able to get responses to the questions in the very words and statements of the subjects. While there were other sentiments expressed by an expressed minority of the respondents against the learner-centered approach, no significant theme was apparent in the negative. However, I will discuss those views since, to a larger extent, they fit into the overall discussion that I specifically dealt with in the literature review of this study. The results indicate several significant themes addressed in four categories which are consistent with the findings of the quantitative analysis and will be addressed hereinafter as positive, negative, neutral, and obstacles.

Positive Themes

The first positive theme that was clearly decipherable from the majority of respondents to the first question was the clear expression of knowledge that most faculty members demonstrated

concerning the definition of what constitutes teacher-centered versus learner-centered teaching and learning. The question was, how do you distinguish teacher-centered versus learner-centered learning? The concepts of self-efficacy articulated by Bandura, (1970, 1986, and 1988), autonomy addressed by Brookfield (1988), self-direction as suggested by Malcolm Knowles (1970), and self-engagement dealt with by numerous authors including Tinto (1993) were all expressed in the responses by both genders to this question. The literature review addresses in greater detail the contents of these concepts. However, the following statements reflect a clear theme of the responses, which demonstrates a clear apprehension of the terms:

> "Teacher-centered refers to the teacher being in complete control of all that takes place in the class-room whereas, learner-centered suggests that the student is at the center of the learning process, not that the teacher does not have an active role."
>
> "A teacher-centered learning is a learning environment totally dominated by the teacher as opposed to the student or learner-centered approach in which the learner is directly involved in the learning process."
>
> "Teacher centered = lecture, little student participation, student-centered = student participation, student guided activities."
>
> "Learner-centered learning is focused on the students and their backgrounds, learning styles etc., teacher-centered learning focuses on the teacher talking, lecturing to students versus with them."
>
> "Teacher-centered focuses on instructing based on what is best for the facilitator. Learner-centered focuses on instruction based on what is best for the student."

"Teacher-centered learning generally focuses on a transfer of information. Learner-centered learning focuses on encouraging students to find ways to apply their own interest to the class instruction."

"Teacher-centered learning places greater emphasis on the needs of the instructor versus the needs of the student. Learner-centered learning places emphasis on the student needs versus the needs of the instructor."

The second positive theme that emerged from the responses was that the majority of respondents held a positive view of the learner-centered approach and in most cases, particularly among female faculty members they stated that they have either already embraced the learner-centered approach to teaching and learning or have used and applying a significant amount of effort to encourage and apply techniques and features in their class-room activities to develop in learners an appreciation for independent learning. This was in particular reference to question two: Based on your definition of learner-centered learning, would you be willing to adjust your teaching method to be learner-centered? If not what are the obstacles that inhibit you from taking a learner-centered approach? The following responses were selected to reflect this thematic mode from the majority of respondents who identified themselves as female;

"There is no need to adjust my teaching method since I recognize that the learner is integral to the teaching-learning process."

"Yes, I already incorporate as many learner centered objectives as possible into my classes."

"I feel my teaching methods are already largely learner-centered, but would gladly learn new and improved ways to enhance the learner-centered teaching approach."

"Yes, I would be willing to adapt my teaching methods. Constraints include class size, student teacher ratio, lack of team-teaching, top-down institutional management style."

"Lecturing to a large group of students is not the best way to teach anything. It is the cheapest. I take every opportunity to improve my teaching style…the thing that limit my effectiveness are class size, budgetary restraints, and my own lack of intelligence."

"Obstacle is that we are standard driven and have to meet specific State requirements."

"Every semester I try to improve my course to make them less lecture-oriented, and directed more to student' construction of knowledge."

The next positive theme discovered from the responses to the third question came from both genders. The question was; do you think we as educators should encourage the independency of learners? Why? In some cases the response was stated in one word or a short phrase. The overwhelming majority of respondents held a positive attitude towards the learner-centered model, particularly as it relates to learner independence. The following statements and phrases reflect the themes found in the responses;

"Absolutely! After a student is hired into a profession grades don't matter. What the student remembers from the class-room doesn't matter. The only relevant issue is how we help develop in students to apply what they know, and depends entirely on learner independence. We don't create scientists to tell us what we already know. We need students who are independent enough to learn about things that aren't in the text-book. Without them there is no progress."

"Yes, because it generates interest among the learners."

"Yes, otherwise they will never be able to do it for themselves."

"Yes, because we want all of our students to become successful, independent, critical thinkers."

"Of course"

"Education is a conquest not a bequest. For learning to take place there must be ownership by the student of the course content. Independence of thought comes as a consequence of trust in and dependence upon the instructor."

"Absolutely, the independency of learners should be our goal. When a student has become an independent learner and no longer needs the professor to help him or her, it's like he or she has grown up and is ready to live independently."

Negative Themes

There were also some negative findings in this portion of the study. A few of the responses showed that some of the participants of both genders have a negative view toward learner-centered approach to teaching and learning. These were the same across the spectrum of questions and in a couple of cases were "aggressive." One respondent stated, "Of course, who says no? Do people really say no; we should encourage our students to be slave? I wonder what possible serious research value could be obtained from research like these." However, in response to the first question the same subject stated, "Not familiar with this terminology." This will be addressed later in the discussion section.

Another negative response in this section of the study stated, "All of your obnoxious statements reflected teacher-centered learning…students must know who they are as learners to best capitalize on learner-centered courses." The same respondent to question number three states, "Only if you want them to vote later. It is our sole significant task; the rest is self-

aggrandizement." A similar negative response to question three by another faculty member stated;

> "I am not sure what this means. If you mean being intellectually engaged and curious about the outside world, I thought that those characteristics were what, at least in theory, separated those who choose to go to college and those who don't."

Neutral Responses

The third category of responses that clearly stood out was neither positive nor negative. I have categorized this to be neutral. Some of the respondents appeared to be non-committal in their position to the teacher-centered or the student-centered approach to teaching and learning. The theme indicated clearly that some of the respondents felt that certain academic programs are more geared towards the learner-centered approach than others. The consensus among those faculty members was that they were willing to incorporate a learner-centered approach if the particular program would facilitate it. Some of the statements on this theme were:

> "Certainly, but some courses do not allow for this the way others do, for example mathematics is heavily dependent on instructor led teaching."
>
> "I would be willing to adjust my teaching methods but it depends on the course and what was asked. I would be open."
>
> "Engineering is based on math and science concepts that are difficult to adapt to some learning styles. Professors are also under a lot of pressure to squeeze more and more material into each course by legislature which makes it more apt for professors to move towards the most efficient means of imparting knowledge."

"There are some courses that I have a harder time adapting to this approach. In French, this would be grammar courses where there are rules to me memorized in addition to application exercises."

Obstacles

The final thematic category that emerged from the qualitative questions was the fact that there were obstacles to the use of the learner-centered model of teaching and learning. In all of these responses the particular faculty members were interested in, and had a positive attitude toward the learner-centered approach, but they were concerned about the implementation and use of the model because of several obstacles that they identified as an impediment to them even if they decided to change their current teacher-centered approach. These obstacles included "state and federal regulations to meet certain criteria in the courses," "no support and even antagonism, from the department which favors the lecture test model where the professor is the authority," "the hesitancy of the college and or the department to reward and recognize innovation or experimentation and even work actively against it," "a local student culture," "high student enrollment and greater use of adjuncts with little oversight of what they do in the class-room."

The obstacles identified by the respondents to the question were found among some of those faculty members who answered positively to the first and third questions and appeared to be eager to change their established model if these obstacles could be addressed. Some of the respondents commented on the "lack of intellectual curiosity of students" and the "variety of learning styles found in the class-room." The limitation of time and the demands of the course

syllabus to satisfy “accreditation requirements” were also highlighted by one of the respondents, who went on to say that “I would love to do more in the learner-centered approach.”

Summary of Results

The analysis of data helps in understanding the attitudes of faculty members towards the leaner-centered model of teaching and learning, and also gives an insight into the intrinsic and extrinsic factors that would motivate a faculty member to adopt the model if he or she was not already using it. More important were the several obstacles and impediments that the respondents identified. Looking at the results of factor analysis, I categorized two such factors: intrinsic and extrinsic motivation. High intrinsic motivation (Table 4.3) is associated with favoring learner-centered, independency, and assessment. High extrinsic motivation showed the opposite pattern.

Professors who were teaching upper-division undergraduate courses had higher intrinsic motivation toward adopting new teaching protocols than professors who were not teaching upper-division. Professors who were teaching graduate courses were less motivated by extrinsic motivation if they considered adopting new teaching protocols than professors who were not teaching graduate courses. Also, teachers in the Business program were more motivated by extrinsic factors than teachers in Engineering and Education.

Gender and assessment were factors influencing one’s attitudes towards learner-centered approach. Specifically, being a female valuing assessment in class made a teacher more favorable to adopting learner-centered approach. Gender, assessment, and intrinsic motivation were factors influencing one’s attitudes towards independence of students. Specifically, being a female valuing assessment in class and loving teaching intrinsically made a teacher more apt to encourage students to be independent learners.

CHAPTER V

SUMMARY, DISCUSSION, AND CONCLUSIONS

The purpose of this study was to investigate whether or not the pedandragogic framework can be applied to a multiplicity of academic disciplines in higher education, and to assess the attitudes of faculty members towards the learner-centered approach to teaching and learning. This was a case study with the sample population taken from a southern liberal arts university that represented a diverse array of academic disciplines encompassing the natural and social sciences. Previous studies have shown that the traditional academic-reward structure that keeps faculty focused primarily on disciplinary development is a major obstacle to greater interest in teaching and learning outcomes (Latioles, Holland, and Sutter, n.d). Cabrera and La Nasa (2002) found that the reason professors engage in class-room lecturing, as opposed to adopting new and different methods of learning and teaching, was primarily due to the way in which faculty members were inducted into the teaching profession and the reward system reported by Lotioles et al based on extrinsic elements particularly financial and promotional incentives (p.21).

This study contributes to the existing body of literature by looking at the attitude of faculty members towards the learner-centered approach and the factors that may contribute to the successful adoption of a new teaching protocol, or the obstacles that confound the adoption of a new method. Also, the study looks at the demographic factors that may assist us in supporting a

higher acceptance of the learner-centered approach and the attitude towards assessment and how it interacts with those demographic variables.

Review of Methodology

The study was executed with a mixed-methods approach with greater emphasis on the use of quantitative data. The quantitative data used were obtained by use of a survey administered to faculty members of a southern liberal-arts university in disciplines encompassing the natural and social sciences. The university's institutional review board approved this study. The survey instrument was posted on a web-based survey system, Survey Monkey, and the URL of the survey was sent electronically to the respondents via the university's electronic mailing system. Participation to this study was voluntary and anonymous.

Analysis of the results employed a mixed-methods approach. The first nine questions in the survey questionnaire were analyzed using descriptive quantitative SPSS analytical procedures. The first nine research questions used a combination of Chi-sq. test, Exploratory Factor Analysis, Analysis of Variance (ANOVA), Correlations, and OLS Multiple Regression. The remaining three research questions were qualitatively analyzed using thematic coding processes and content analysis to aid in effectively managing the data (Morse & Richards, 2002, as cited in Berg, 2007).

The survey instrument underwent a rigorous process of design for validity and reliability and was supervised by faculty members with expertise in psychological measurements after which it was pilot tested by a panel of seven experts from varying academic disciplines who suggested modifications which were implemented wherever necessary. The entire process was reviewed and approved by the University of Tennessee at Chattanooga's Institutional Review Board before data were collected.

Summary of Results

The results of the study revealed both statistically significant findings and other findings that were not statistically significant. The research first demonstrated that older teachers with more years of teaching favored independency of learning. Age and intrinsic motivation were found to be important factors influencing a faculty's attitude towards adopting a learner-centered approach, and female professors had a more favorable attitude than their male counterparts. Those who taught in Education and Health had more favorable attitude than those members in Arts and Social Sciences.

For attitudes toward assessment there was a significant effect for gender and those who taught in Education and Health had a more favorable attitude than their colleagues in Business, Engineering, and Arts and Social Science. Those who taught graduate courses also showed more favorability towards assessment that those who were not teaching graduate courses. The study also demonstrated that those faculty members who had experienced courses and training in teaching and learning theories showed a more favorable attitude towards assessment.

The statistical analysis also demonstrated that those faculty members who were teaching upper-division undergraduate courses and those teaching graduate courses had higher intrinsic motivation to adoption a new teaching protocol or model. However, those faculty members who were in the Business program were more motivated by extrinsic factors than their colleagues in Engineering and Education. Therefore, gender, assessment, and intrinsic motivations were factors influencing one's attitude towards independence of students. More importantly, being female and being intrinsically motivated to teach made a faculty member more apt to encourage students to be independent learners.

The qualitative analysis demonstrated a consistent theme with the findings of the quantitative SPSS analysis in that female faculty members were more positive in their attitudes towards the learner-centered approach to teaching and learning. The positive themes demonstrated also that faculty members were quite knowledgeable in what is involved in both models. Although the majority of positive respondents were female, a significant amount of male professors were willing to embrace a new model of teaching and learning if the obstacles to its implementation and application can be addressed.

Data gathered from the qualitative analysis were focused on the obstacles involved with the adoption and implementation of a learner-centered approach to teaching and learning. This included departmental autonomy and control, state and federal guidelines to meet legislative mandates, and the perceived lack of interest by various departmental heads, and the university in rewarding and encouraging experimentation and innovation among faculty members.

Discussion

Interpretation of the Findings

Once all the quantitative and qualitative data were collected and analyzed, the answer to the primary research question became evident. The primary research question in this study was: Can the pedandragogic framework be practically applied to a multiplicity of academic disciplines in higher education? In an effort to further explore the variables of the study a set of questions were broken down into quantitative and qualitative categories to aid in the analysis of the collected data. After the quantitative data were analyzed using SPSS analytical tool, I conducted a thematic coding process for content analysis of the qualitative data, through which I identified several clear themes taken from the responses to three open-ended research questions.

One hundred and forty-eight faculty members responded to the survey with 75 (50.7%) male and 71 (48.0%) females. Two participants did not identify their gender. The ages of participants were comparably distributed into four age range from 30 to 70. With Mdn= 4 (range 50-59) and SD= 1.26. The majority of participants were Caucasian (N = 131, 88.5 %), with seven Blacks and a few others. Almost one half of all the participants teach in the areas of Art and Social Science, including Art, Communication, Economics, and Psychology etc. As indicated in Chapter three, the second major college represented in the study was Education and Health (N = 41, 27.7 %). There were fewer faculty members represented in Engineering and Business and this may be due to the limited number of undergraduate and graduate programs in these colleges when compared to the College of Education and Health with Early Childhood Education, Health and Human Performance etc. While the current data may not be representative of the distribution of faculty members in different academic disciplines, the findings of this study are significant for further research in the field of self-directed and learner-centered approach to learning and teaching, particularly as it relates to the advancement of the pedandragogic model's promotion of self-engagement and the independency of learning. The following is a breakdown of the five sections in the survey instrument with a related discussion on the implications of the findings.

Demographics

This section of the survey instrument provided data concerning the age of the particular participant, the number of years teaching in higher education, the amount of hours and training in learning and teaching theories whether they were teaching undergraduate, graduate, upper or lower division courses and/or general education courses. Finally, participants were asked to identify their ethnicity and number of years teaching in the particular department or college.

The data obtained from this section were used to conduct a series of one-way ANOVAs comparing major variables across different levels of demographics. The independent categorical variables of age, gender, race, program teaching, whether teaching graduate, undergraduate upper-division, and general education courses demonstrated a significant effect for gender in which it was observed that female faculty members had a favorable attitude towards teaching than their male counterparts. Female faculty members were also shown to have a favorable attitude towards the independency of students, assessment. Faculty members who were in the department of Education and Health had a more favorable attitude towards assessment than those in Business and Engineering.

The findings of this part of the study can be used to assist in recruiting support for the implementation of a new learning-and-teaching protocol. It can also assist educational administrators in identifying preferred areas to concentrate efforts to promote a student-centered approach to learning and teaching.

Attitudes towards learner-centered versus teacher-centered approach

This scale consisted of 12 items with six positively worded and six negatively worded. Here again there was a significant effect for gender. Female faculty had a more favorable attitude towards learner-centered teaching and learning than males, and a post-hoc test indicated that the teachers in Education and Health had more favorable attitudes towards learner-centered teaching than those in Business. Another significant finding from this section demonstrated that that having experienced training in teaching-and-learning theories was associated with more favorable attitudes to a learner-centered model. This finding was consistent with what was expressed in responses to the qualitative questions, where female faculty expressed confidence in

the adoption of the learner-centered approach and in most cases said that they were already using aspects of learner-centeredness in their class-room exercises.

Attitudes towards independency of learners

This scale also consisted of 12 items six positively worded and six negatively worded. A liberal post-hoc test was conducted with results indicating that those faculty members in the Education and Health disciplines had more favorable attitudes than teachers in Arts and Social Science towards the independency of learners. Results also demonstrated that female respondents had more favorable attitudes towards learner independence than male respondents. Themes emerged from qualitative questions were significantly comparable to the findings in this section, with female respondents expressing in glowing terms their support for learner independence and their concerns that there existed several obstacles to its implementation that should be addressed at the administrative level of the university. The qualitative section will be addressed in greater detail in a subsequent section.

Motivation

In this section eight motivational factors were included with a view of capturing the possible factors that might induce faculty members to adopt a new teaching protocol in their teaching methodology. The factors were divided into intrinsic and extrinsic variables. The findings were remarkable for practical purposes. Those professors who were teaching upper-level and graduate courses were more motivated by intrinsic factors like “job satisfaction” and “if it will bring success to students” than extrinsic factors like “pay increase” and “personal recognition.” Faculty members who were teaching for a longer time when compared to those who were younger and less experienced were also motivated by intrinsic factors. Also, there was

a clear demonstration of motivational factors associated with academic disciplines. Those faculty members who were in Education and Engineering were more motivated by intrinsic factors when compared to their colleagues in Business who were motivated by extrinsic factors.

Attitudes towards assessment

Six items were used to measure favorability towards using assessment in the teaching process. Two of those were positive, e.g. "Assessment is a valuable teaching and learning tool," while four were negative, e.g. "Assessment by the learner is not a significant aspect in improving learning." It was demonstrated using a post-hoc test that different programs had a main effect, as in the case of Education and Health courses, which reveal that faculty members were more favorable toward assessment than those in Arts and Social Sciences, Business, and Engineering. Equally significant was the finding that professors who were teaching graduate courses also showed more favorability than those who were not teaching graduate courses. Those who had training in teaching and learning theories were sexpressed a more favorable attitude to assessment than those who had not received such training.

Qualitative analysis of open-ended questions

This section elicited responses from participants to three open-ended questions. A content analysis was conducted to draw out significant themes from the responses. The following questions were asked; (1). How do you distinguish teacher-centered versus learner centered learning? (2). Based on your definition of learner-centered learning would you be willing to adjust your teaching method to be learner-centered? If not, what are the obstacles that inhibit you from taking a learner-centered approach? (3). Do you think that we, as educators, should

encourage the independency of learners? Why? The purpose of these series of questions was to allow the participant to express their opinions and views in open responses.

A significant observation made from the several themes that emerged from the analysis was the extent to which the qualitative data correlates with the quantitative analysis. But before I delve into the specifics of the correlations I will first discuss briefly the major themes. In response to the first question, the majority of faculty members responded positively in their knowledge of what constitutes teacher-centered versus learner centered teaching and learning. This was coded among the positive themes that emerged. Another positive theme that emerged was that the majority of respondents held a positive view of the learner-centered approach, particularly female faculty members. In almost all cases where female participants responded, they were either positive about the implementation of the learner-centered model of teaching and learning, or they stated that they currently use aspects of this model in their teaching methodology.

I also categorized a second set of responses into negative themes. The responses here were relatively small and taken from both genders. One of the participants questioned the validity of a divide in the literature about the division between the teacher-centered approach and the student- or learner-centered approach. However, the same participant stated that she was not familiar with the terminologies. Another participant insisted that "students must know who they are to capitalize on learner-centered courses." The statement was not clearly articulated, and, as such, I could not come to a definitive interpretation of what she was intending to express.

A third significant theme that was observed in the data was categorized as neutral. In this set of responses the participants were non-committal to the general adoption of the learner-centered model of teaching and learning and suggested that they do in fact, support the concept

but were uncertain whether or not it will apply to all the academic disciplines. This is consistent with the views expressed by Palmer (1997) who found in his study that faculty members in the field of mathematics are not willing to support the student-centered approach. Braxton, Eimers and Bayer (1996) reported in their study, which involved 70 universities, that the majority of faculty surveyed were not supportive of several recommendations made and suggest that this may be due to "teaching norms held by the faculty and the nature of the recommendations" (p. 6-7).

The final theme that evolved from the responses was categorized as obstacles to the use of the learner-centered approach. In their responses to the implementation of the learner-centered approach, the participants were unanimous in their view that the greatest impediments were departmental rigidity and autonomy, and the failure of departmental heads to recognize creativity and to reward innovation and experimentation.

Relationship of the Study to Previous Research

This literature review for this study sets out a panoramic view of the literary landscape which has evolved over the decades since Malcolm Knowles (1975) insisted that self-directed learning is "in tune with our natural processes of psychological development" (p. 15). Tinto (1997) found that students who had significant academic involvement were more likely to have greater social connections. Fisher et al. (2009) found in their study of the learner-centered approach to teaching and learning that the difference between those students who withdrew voluntarily from academic institutions and those who persisted depended heavily on the student-faculty interaction. The literature is consistent on the benefits to students, faculty, and academic institution when faculty members adopt a more student-centered approach to their teaching. One such benefit is that of student retention.

Alexander Astin (1975) provided some of the landmark studies on the factors that influence student retention, which includes high school GPA and entrance exam scores. But these in themselves do not guarantee that students will stay and continue with their academic goals. Fredericks et al (2004) found that a major aspect of addressing the problem of student attrition rates has to do with how well students become engaged in university life and experience, and that is not only in regards to the social aspect as suggested by Tinto (1997). According to Frederick et al. (2004) "young people who are engaged emotionally, cognitively, and behaviorally in their education, are less likely to show signs of alienation…such engagement increases their connectedness to school" (p. 2).

The American College Teacher: National Norms for the 2007-08 HERI Faculty Survey found that faculty members who make classrooms more interactive, collaborative, and engaging contribute to the improvement of student learning and degree attainment (p.1). This is also consistent with the finding of Gabb, Milne and Cao (2006) reporting on the many risks that prevent students in the Australian context from performing at their best. They highlighted some of these risks as being course preference, teaching quality, social background, student engagement. and work demands. Braxton and Hirschy (2005) insisted that universities must have an institutional commitment to student welfare and should, in effect, promote "academic communities" in the class-room. They posited that the enhanced interaction between students and faculty, with the promotion of collaboration between them, will produce this academic environment (p. 278-294).

The current study is, in effect, a continuum of existing models and concepts which promotes this teacher-student interaction. But before universities can make an institutional commitment to the establishment of the model suggested by Braxton and Hirschy (2005) and

others, it is important to understand the attitudes of faculty towards the model, and the obstacles that may impede any effective implementation. This study takes the idea forward, and the findings can be used as a platform to continue the discussion about the student-centered approach. This is what pedandragogy is about. It is in effect the creation of this academic conversation, which will invariably concern itself with a more self-engaged learning environment which could have a significant effect on current attrition rates.

Implications of the Study

The pedandragogic framework on which this study is built is a student-centered approach. The elements of the framework consist of the following;

- It is learner-centered
- It incorporates prior learning and learner experience
- It focuses of internal and external and external stimuli
- It encourages curiosity and exploration
- It employs problem solving techniques
- It fosters collaboration in the planning and diagnosing of needs
- It uses collaborative evaluation
- It enhances the independency of the learner
- It supports the concept of teacher immediacy in the learning process, as facilitator and learner
- It promotes self-efficacy in learners
- It promotes self-engagement (Samaroo, Cooper, and Green, 2010, p. 12).

The thrust of pedandragogy is the promotion of the concept of self-engagement and this study goes to the very heart of the subject by investigating some of the practical issues that must

be addressed in earnest before pedandragogy can be implemented as a model in higher education. The issue that I am referring to is one of faculty attitude towards that eventuality. This study gives an insight into how the concept of learner-centered teaching and learning is viewed from the very people to whom the task of implementation falls. This study also provides an insight into some of the obstacles that must be overcome, or, at the very least, addressed if this model is to be used in classrooms not only here in the United States, but in other academic jurisdictions around the world. The implications of this particular case study to the wider application of the learner-centered pedandragogic framework can be categorized into three areas. These are, the contribution it makes to the growing body of literature and to the debate between the teacher-centered versus learner-centered model of learning; the knowledge obtained by eliciting the views of faculty concerning the applicability of the learner-centered approach of teaching and learning; and the overall contribution it can have on the current attrition rates facing our universities and centers of learning.

The first implication of this study is its contribution to the growing body of literature. As demonstrated in the literature review of this work and other places throughout the study, there is no shortage of academic writings on the topic. When Malcolm Knowles (1970) put forward his concept of Andragogy he did so in the context of a more prevalent approach to learning adopted from 7th and 12th centuries where young boys were admitted into the monasteries to be taught by monks with a view of becoming faithful servants of the Church (Knowles, 1970). Brookfield (1991) who dealt extensively with the concept and who defended the position taken by Malcolm Knowles suggested that "it is simply another model of assumptions about learners to be taught alongside the pedagogical model of assumptions" (p.91). As pointed out in the introductory chapters of this study, pedandragogy is a continuum of the evolution of a concept that began by

the early proponents of those who favor a learner-centered approach, and it is hoped that the learning derived from this work will lay the foundation for future study on this and related topics.

Another salient implication of this study is the knowledge derived from the views expressed by faculty members of various academic disciplines. The analysis conducted on the data demonstrates several important and worthwhile issues that could be considered. It was found that older faculty and females had a more favorable attitude towards the independency of learners than males, and those who were teaching in Education and Health were more favorable than those in Arts and Social Science. For learner-centered teaching there was a significant effect for gender (i.e., Female were more favorable towards leaner-centered teaching), and those who taught in Education and Health had a more favorable attitude towards learner-centered approach than those in Business. Another impressive finding of this study is that faculty members who taught graduate courses and those who were teaching upper-division undergraduate courses were less motivated by extrinsic motivation to adopt the learner-centered model in their class-room than their colleagues in the Business department.

A further implication of this study is the attention it places on the current attrition rates facing our universities and centers of learning. Students who become disaffected from school due to factors in and out of the classrooms can have a negative effect on the overall reputation and economy of universities. Pedandragogy promotes self-engagement. Skinner and Belmont (1993) found that "students who become engaged in learning activities initiate action when given the opportunity, and exert intense efforts and concentration in the implementation of the learning task" (p. 572). Burgess and Sharma (1999) suggest that this student-teacher interaction is important if students are to become connected to the university community. As was pointed

out earlier, Braxton and Hirschy (2005) posited that universities can reduce attrition rates by having an institutional commitment to the development of "academic communities in the class-room" (p. 279).

The foregoing are just some of the implications of this study. But the lessons to be learned from the findings are much broader that those covered above. The study finds that females are more amenable to the idea of a learner-centered model. This can be a major avenue for administrators and departmental supervisors to use in promoting the adoption within a particular department, particularly those found to be favorable towards the model. The study also suggests that the more experienced professors who are motivated by intrinsic factors may also be fertile soil on which to sow the concept for adoption and promotion, particularly in Education, Health, and Engineering. Although the findings demonstrate that faculty in the Business department may be motivated by extrinsic rewards this should not be a factor that prevents the promotion of the learner-centered approach. The findings did not show that that they were hostile to the concept. This too is an area for further study and research.

Recommendations for Future Studies

While this study provides additional insight into the area of learner-centered teaching and learning it could be enhanced by broadening the scope of the findings in several areas. This study was a case study conducted at a southern liberal arts university with a smaller population of faculty members than other larger universities throughout the United States of America. A larger sample with greater diversity in its ethnic composition may yield different results. Also, as stated in the limitations section, there may be cultural dynamics that can be explored. Perhaps another case study in a northern state in a somewhat liberal culture may yield different results.

In addition to the increase sample size and the geographic consideration, a study conducted in a foreign country, particularly where the political environment is different from the United States, could be beneficial. In democratic societies the idea of learner autonomy may be more readily accepted, but the findings in a society where authoritarian leadership is acceptable among the population may yield a different set of results. Another significant area of study can be the actual implementation of the pedandragogic model in the class-room setting and a comparative analysis conducted which looks at student perception and attitudes in a pretest post-test analysis. While this study looked at faculty attitudes, it could be beneficial to obtain the perceptions of students and to find out what factors motivate them to stay in college. Expanding this study to include those students who have dropped out of college and did not return could prove to be invaluable if we are to comprehensively address the issue of attrition.

Further areas of research that expand on this study can seek to probe the reasons why female faculty may be more positive in their attitudes towards the learner-centered approach as opposed to their male colleagues. Looking at prior educational experiences, background in education, and world-views may yield significant and useful results. On the other hand a study that looks at males and their attitudes towards female in teaching can also contribute to the expansion of this study.

Finally, expanding on this study in the areas cited above will add significantly to the efforts of many in academia who have been working to address some of the problems currently plaguing higher education, particularly as they relate to student retention and attrition.

REFERENCES

Astin, A. (1975). *Preventing students from dropping out*. San Francisco: Joey-Bass.

Anderson, T. (2004). *Toward a Theory of Online Learning*. In T. Anderson & F. Elloumi (Eds.), *Theory and practice of online learning* (pp. 33-60). Canada: Athabasca University.

Argyris, C., & Schon, D. (1969). *Organizational Learning* 11. Reading, PA: Addison-Wesley.

Astin, A. W. (1984). Student Involvement: A Developmental Theory for Higher Education. *Journal of College Student Personnel* (25), 297.

Bandura, A. (1970). *Social Learning Theory*. Englewood Cliffs, NJ: Prentice Hall.

Bandura, A. (1986). *Social Foundations of Thought and Action: A Social Cognitive Theory*. Englewood Cliffs, NJ: Prentice Hall.

Bandura, A. (1988). Organizational application of social cognitive theory. *Australian Journal of Management*, 13(2), 275-302.

Berg, B. (2007). *Qualitative research methods for the social sciences* (6th ed.). Boston: Pearson Education ,Inc.

Blum, R. W., & Libbey, H. P. (2004). School Connectedness: Strengthening Health and Education Outcomes for Teenagers. *Journal of School Health*, 74(7).

Boshier, R. (April, 1983). *Adult Learning Projects Research: An Alchemist's Fantasy*? Invited address to American Educational Research Association. Montreal.

Braxton, J., Eimers, M., & Bayer, A. (1996). The Implications of Teaching Norms for the Improvement of Undergraduate Education. *Journal of Higher Education,* 67(6).

Brockett, R.G., and Hiemstra, R. (1991). *Self-direction in adult learning: Perspectives on theory, research, and practice.* New York: Routledge.

Brookfield, D. S. (1991). *Understanding and facilitating adult learning: A comprehensive analysis of principles and effective practices*. San Francisco, CA: Jossey Bass.

Brookfield, D. S. (1993). Self-Directed Learning, Political Clarity and the Critical Practice of Adult Education. Adult Education Quarterly, 43(4), 1-10.

Bulger, M. E., Mayer, R. E., Almeroth, K. C., & Blau, S. D. (2008). Measuring Learner Engagement in Computer-Equipped College Classrooms. *Journal of Educational Multimedia and Hypermedia*, 17(2), 129-143.

Burgess, Z., & Sharma, R. (1999). *Issues in Attrition and Retention in an Australian University*. Paper presented at the Australian Association of Institutional Research Conference, Australia.

Cabrera, A. F., & Nasa, S. M. (2002). *Classroom Teaching Practices*: Ten Lessons Learned. http://www.education.umd.edu/EDPA/faculty/cabrera/Classroom%20Teaching

Candy, P. (1991). *Self-direction for lifelong learning: A comprehensive guide to theory and practice*. San Francisco: CA: Jossey-Bass.

Chickering, A. W., & Gamson, Z. F. (1987). *Seven Principles of Good Practice in Undergraduate Education.* AAHE Bulletin (Electronic Version).

Clark, M. L., & Cocoran, M. (1986). A Freshman Engineering Design Course. *Journal of Engineering Education*, 82(2), 83-91.

Coates, H. (2007). A Model of Online and General Campus-based Student Engagement. Assessment and Evaluation in Higher Education, 32(2), 121-141.

Compayre, G. (1970). *The history of pedagogy*. London, England: Swan: Sonnenschein & Co.

Crosling, G.., Thomas, L., & Heagney, M. (2008*). Student success and retention*. Improving student retention in higher education: The role of teaching and learning. London: Routledge.

Darkenwald, G. G., & Merriam, S. B. (2001). *Adult Education: Foundations of Practice*. New York, NY: Harper and Row.

Diaz, D. P., & Bontenbal, K. F. (2001). *Learner Preferences: Developing a Learner-Centered Environment in the Online or Mediated Classroom.* Education at a Distance, 15.

Driscoll, M. P. (2000). *Psychology of Learning for Instruction.* Needham Heights, MA: Allyn & Bacon.

E., G. (1979). *A Future for Lifelong Education*. Manchester Monographs No. 13. Department of Adult and Higher Education.

Fairweather, J. S. (1993). *Teaching, Research and Faculty Rewards*: A Summary of Research Findings of the Faculty Profile Project. University Park, PA: Pennsylvania State University.

Fink, D. (2003). *Creating Significant Learning Experiences: An Integrated Approach to Designing College Courses.* San Francisco, CA: Jossey-Bass.

Fisher, C., Berlinger, D., Filby, N., Marliave, R., Cahen, L., & Dishaw, M. (1980). *Teaching Behaviors, Academic Learning Time, and Student Achievement: An Overview*. In C. Denham & A. Lieberman (Eds.), Time to Learn. Washington, D.C.: National Institute of Education.

Fredricks, J. A., Blumfield, P. C., & Paris, A. H. (2004). School Engagement: Potential of the Concept, State and Evidence. *Review of Educational Research*, 74(1).

Frost, S. E. J. (1966). *Historical and Philosophical Foundations of Western Education*. Columbus, OH: Charles E. Merrill Publishing Company.

Gabb, R. (2006). First year experience survey: Findings from Victoria University respondents. Melbourne, Australia: Post-compulsory Education Center, Victoria University.

Gabb, R., Milne, L., & Coa, Z. (2006). Understanding Attrition and Improving Transition: A Review of the Literature. Melbourne, Australia: Post compulsory Education Center, Victoria University.

Gattegno, C. (1970). *What we owe children: The subordination of teaching to learning*. New York, NY: Outerbridge & Diensfrey.

Gehring, T. (2000). A Compendium of Material on the Pedagogy-Andragogy Issue. ICE, 51(1), 151-162.

Gelpi, E. (1979). A future for lifelong education: Volume 1, Lifelong education: Principles, policies and practices. *Manchester Monographs*, No. 13. Department of Adult Higher Education, University of Manchester.

Glanz, K., Rimer, B. K., & Lewis, F. M. (2002). *Health Behavior and Health Education: Theory, Research and Practice.* San Francisco, CA: Wiley $ Sons.

Group, N. A. (1983). *Towards a Developmental Theory of Andragogy*. In U. o. Nottingham (Ed.), Monograph No. 9. Adults: Psychological and Educational Perspectives. Nottingham, England.

HERI. (2009). The American College Teacher: National Norms for the 2007-08 HERI Faculty Survey. Retrieved from http://www.gseis.ucla.edu/heri/pr-display.php?prQry=40

Hewitt, J., & Brett, C. (2005). The Relationship Between Class Size and Online Activity Patterns in Asynchronous Computer Conferencing Environments. *Computers in Education*, 49(2007), 13.

Horton, M. (1990). *The long haul.* New York. Doubleday.

Horton, M., & Freire, P. (1990). *We Make The Road by Walking: Conversations on Education and Social Change*. Philadelphia, PA: Temple University Press.

Hughes, J. A. (2004). Supporting the online learner. In T. Anderson & F. Elloumi (Eds.), Theory and practice of online learning (pp. 367-384). Canada: Athabasca University.

Investment, T. F. f. Y. (2005). Youth Engagement in Educational Change: Working Definition and Lessons from the Field. Paper presented at The Forum for Youth Investment, Washington, D. C.

Knowles, M. S. (1970). *The modern practice of adult education*: Andragogy versus pedagogy. New York, NY: Associated Press.

Knowles, M. S. (1975). *Self-directed learning: A guide for learners and teachers*. Englewood Cliffs. Prentice Hall. Cambridge.

Knowles, M. S. (1980). *The Modern Practice of Adult Education: From Pedagogy to Andragogy* (2nd ed.). Chicago, IL: Follett Publishing Co.

Knowles, M. S. (1984). *Andragogy in action: Applying modern principles of adult learning*. San Francisco, CA: Jossey-Bass.

Knudson, R. S. (1980). An alternative approach to the andragogy/pedagogy issue. Lifelong Learning: The Adult Years, 3(8), 810.

Kolb, D. A. (1982). *Experiential Learning.* New York, NY: Prentice Hall.

Kolb, D. A. (1984). *Experiential learning: Experience as the source of learning and development*. New York, NY: Prentice Hall.

Latiolais, P. M., Holland, D., & Sutter, K. Investigating faculty attitudes toward teaching. Retrieved September 4, 2011 http://www.mth.pdx.edu/~paul/preprints/article.doc

Leslie, D. W. (1998). Part-time, Adjunct, and Temporary Faculty: The New Majority? Paper presented at the Sloan Conference on Part-time and Adjunct Faculty, Arlington, VA.

Lindeman, E. C. (1926). *The Meaning of Adult Education* (1989 ed). Norman, OK: University of Oklahoma.

Meyer, A. E. New York, NY: McGraw-Hill.

Minich, E. (1996). Using student feedback to improve distance education. Florida Community College, Jacksonville. (ERIC No. ED 397893).

Monroe, P. (1912). *A Brief Course in the History of Education*. New York, NY: Macmillan.

Mortenson, T. G. (2005). Measurement of Persistence: College Student Retention. Westport, CT: Praeger Publishers.

Natriello, G. (1984). Problems in the Evaluation of Students and Students' Disengagement from Secondary Schools. *Journal of Research and Development in Education* (17), 14-24.

Nottingham Andragogy Group. (1983). Towards a Developmental Theory of Andragogy. Monograph No. 9. Adults: Psychological and Educational Perspectives. Nottingham: University of Nottingham. Department of Education.

Online etymological dictionary. Retrieved on January 10, 2011 from http://www.etymonline.com/index.php?term=pedagogue.

Pajares, F. (2002). Overview of social cognitive theory and self-efficacy. Retrieved January 2nd,2011, from http://www.emory.edu/EDUCATION/mfp/eff.html

Pascarella, E., & Terenzini, P. T. (1977). Patterns of Student-Faculty Informal Interaction Beyond the Classroom and Voluntary Freshman Attrition. *The Journal of Higher Education*, 48(5), 540-552.

Pascarella, E., & Terenzini, P. T. (1991). *How College Affects Students*. San Francisco, CA: Josey-Bass.

Piaget, J. (1967). *Six Psychological Studies*. New York, NY: Random House.

Pintrich, P. R., & De Groot, E. V. Motivational and Self-Regulated Learning: Components of Classroom Academic Performance. *Journal of Educational Psychology*, 82(1), 33-34.

Rogers, C. R. (1951). *Client-Centered Therapy: Its Current Practice, Implications, and Theory*. Boston, MA: Houghton Mifflin.

Rogers, C. R. (1969). *Freedom To Learn: A View of What Education Might Become*. Columbus, OH: Charles E. Merrill.

Samaroo, S., & Cooper, E. M. (2010). Pedandragogy: The Way Forward To Self-Engaged Learning. Manuscript submitted for publication.

Skinner, E. A., & Belmont, M. J. (1993). Motivation in the Classroom: Reciprocal Effects of Teacher Behavior and Student Engagement Across the School Year. *Journal of Educational Psychology*, 85(4), 571-581.

Smith, G. E. *The Ancient Egyptians: The Origin of Civilization*. Freeport, NY: Books for Libraries Press.

Stephenson, J., & Weil, S. (1994). Capability and Competence: Are They the Same and Does It Matter? *Capability*, 1(1), 3-4.

The Forum for Youth Investment. (2005). Youth engagement in educational change: working definition and lessons from the field. Washington, D.C: The Forum for Youth Investment, Impact Strategies Inc.

Tinto, V. (1975). Dropout from higher education: A theoretical synthesis of recent research. *Review of Educational Research*, 45(1), 89-125.

Tinto, V. (1993). Leaving College: Rethinking the Causes and Cures of Student Attrition (2nd ed.). Chicago, IL: University of Chicago Press.

Tinto, V. (1997). Colleges as communities: Taking the research on student persistence seriously. *Review of Higher Education*, 21, 167-178

APPENDIX A

MEASURES OF STUDENT-CENTERED VS. TEACHER-CENTERED TEACHING APPROACHES

Aggregative scores indicate favorability to student-centered teaching. * indicates reversed scored items.

*1. Instructor is the most important factor in student's learning process

2. Students should collaborate in the planning and diagnosing of their academic needs

*3. I expect students to follow the required texts and learning objectives of the course as set out in the syllabus

4. I can learn from the questions raised by my students

*5. Students should focus on knowing all the information taught in the class and getting high grades

6. Students should be encouraged to reflect and evaluate their own learning progress in this course

7. Course design should address the learning styles and academic needs of each student

*8. Instructors should determine the content and structure of the class irrespective of student learning styles

9. Students should be encouraged to use and research other materials not otherwise recommended for this course

*10. When I am in the process of teaching, students are not permitted to interrupt me with their own ideas

11. I would encourage my students to apply the knowledge they learned to solve problems outside the classroom

*12. The instructor is the only person who has the authority to assess student performance

APPENDIX B

MEASURES OF ATTITUDES TOWARD INDEPENDENCY OF STUDENTS IN THE PROCESS OF LEARNING

Aggregative scores indicate favorability to independency of students. * indicates reversed scored items.

1. Learners should be encouraged to work independently toward achieving their learning outcomes

2. In the learning process, there should be no power distance between instructors and students

*3. Students should follow closely the objectives and goals set by the instructor without making personal learning goals

4. Students should be encouraged to reflect on their own interest and preference for learning

5. I take students' prior learning histories into account when I design course structures and content

*6. A learner's experience outside this classroom is of no significance to their learning experience for this course

*7. Students should rely on the instructor for direction and goal setting

*8. The authority of instructors in the classroom should not be challenged by students

9. Students should be given an opportunity to openly predict how well they did on test and exams so as to help them reflect on their own strengths and weaknesses

10. Learners should be encouraged to keep their own diaries or journals for writing down reflections on class activities and comments about their learning

*11. Students' prior learning experience should have no bearing on their current learning objectives in a particular course

12. Learners are encouraged to work in groups to work on class materials and assignments

APPENDIX C

MEASURES OF MOTIVATORS THAT WOULD CHANGE ONE'S CURRENT TEACHING STYLE

Items 1, 3, and 5 compose the factor of “extrinsic motivation”, while the other items compose the factor of “intrinsic motivation.”

1. A pay increase

2. Personal satisfaction in my job

3. If it would make my job easier

4. If it maximizes students’ learning experience

5. The recognition I may receive

6. If it brings success to my students

7. If attrition rates will be reduced

8. If the department can experience significant growth

APPENDIX D

MEASURES OF ATTITUDES TOWARD USING ASSESSMENT IN THE PROCESS OF TEACHING

Aggregative scores indicate favorability to assessment. * indicates reversed scored items.

*1. Assessment by the learner is not a significant aspect in improving learning

*2. Faculty should focus on the teaching materials and students should focus on their grades

3. Assessment is a valuable teaching and learning tool

4. Assessment benefits the students not the faculty

*5. Learners should not be included in the assessment process

6. Assessing the background and experiences of learners is not an important aspect of the courses that I teach

MEMORANDUM

TO: Selwyn Samaroo **IRB # 11-172**
Dr. James Tucker

FROM: Lindsay Pardue, Director of Research Integrity
Dr. Bart Weathington, IRB Committee Chair

DATE: November 7th, 2011
SUBJECT: IRB # 11-172: An Investigation into the Practicality and Applicability of the Pedandragogic Framework: A Case Study of Faculty Attitude Towards a Learner-Centered Model of Teaching and Learning

The Institutional Review Board has reviewed and approved your application and assigned you the IRB number listed above. You must include the following approval statement on research materials seen by participants and used in research reports:

The Institutional Review Board of the University of Tennessee at Chattanooga (FWA00004149) has approved this research project #11-172

Please remember that you must complete a Certification for Changes, Annual Review, or Project Termination/Completion Form when the project is completed or provide an annual report if the project takes over one year to complete. The IRB Committee will make every effort to remind you prior to your anniversary date; however, it is your responsibility to ensure that this additional step is satisfied.

Please remember to contact the IRB Committee immediately and submit a new project proposal for review if significant changes occur in your research design or in any instruments used in conducting the study. You should also contact the IRB Committee immediately if you encounter any adverse effects during your project that pose a risk to your subjects.

For any additional information, please consult our web page http://www.utc.edu/irb or email instrb@utc.edu

Best wishes for a successful research project.

VITA

Selwyn Samaroo lived in Hixson, Tennessee in the United States of America at the time of this study. He moved to Trinidad and Tobago in May of 2012 to take up an appointment by the government of Trinidad and Tobago as a Judge in the Industrial Court of the Republic of Trinidad and Tobago. After completing his Undergraduate degree in Theology and Political Science from Lee University in Cleveland, Tennessee he completed his Master's Degree in Public Administration at the University of Tennessee in Chattanooga in 2004. Upon the acceptance of this dissertation in 2012 Selwyn received a Doctorate in Education, and Educational Doctoral Degree from the University of Tennessee at Chattanooga in Learning and Leadership.

Selwyn's professional experience spans several fields particularly in higher education. He has taught World Politics and International Relations at the university level and has been involved in Human Resources Management with the City of Chattanooga where he was employed with the Office of Performance Review to work in personnel management with policy review committees with then Mayor of the City of Chattanooga Bob Corker. Selwyn is also a student of law with the University of London's External program and has served in numerous professional and charitable organizations over the past two decades. In 1992 he was awarded a gold medal by the President of Trinidad and Tobago for his work in community and youth development in the President's Award Scheme, and was instrumental in the formation of a new

political party in Trinidad and Tobago called the Congress of the People in 2006, which today forms part of a coalition government referred to as The People's Partnership.