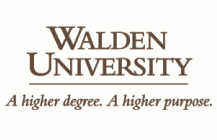

2015

Relationships Among Adult Student Performance and Satisfaction Variables for One Campus of a Career University's MBA Programs

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This is to certify that the doctoral dissertation by

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has been found to be complete and satisfactory in all respects,
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Walden University
2015

Abstract

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by

Curtis G. Smith

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Adult Educational Leadership

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Abstract

The number of adult learners has grown significantly since World War II, and workplace environments have expanded to embrace many new areas of expertise and knowledge. The expectations of these learners in terms of the courses offered by career universities have become increasingly diverse. University personnel need to find ways that optimize and align courses offered with those expectations. The purpose of this correlational study was to understand the relationships between outcome variables in adult education programs and students' perceptions of the quality of their educational programs. Five historically tracked variables were examined: program GPA, job placement rate, program completion rate, Net Promoter Scores, and student satisfaction. The study was underpinned by 3 andragogical areas as understood through the lenses of Mezirow and Knowles: adult student perceptions of educational experiences (as measured through student-completed evaluations), adult learner motivation, and content and curriculum design. The research question addressed relationships between and among the 5 variables for each of the 14 specialized MBA programs at a career university in the northwestern United States. Data for 400 adult students from the years 2008 to 2014 were used. Spearman's Rho correlations revealed no consistently significant relationships between the variables. Other metrics may be more useful to assess the overall effectiveness of programs. Possible future research can explore different variables so that university staff will have better data to address the demands of adult students, which will contribute to their educational and social wellbeing and to the needs of their present and future employers.

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Acknowledgments

I wish to dedicate this to my loving best friend, soul-mate, and wife who stood by me during the process. Thank you.

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Chapter 1: Introduction to the Study

In this study, I am concerned with student perceptions of the value of courses provided at career for-profit universities, those highly focused on guiding students into career professions, in the United States. As the expectations of learners have changed and as the diversity of courses has expanded considerably over recent decades, the possibility exists that courses offered and student expectations have become misaligned. This may mean that some students are wasting their time and money and institutions are in danger of losing hard-won reputations.

Examining the extent of the misalignments at one campus of one university may enable inferences to be made for that university concerning the courses offered as well as providing a basis for further studies at other institutions. A careful and extensive search of recent as well as more historic work has shown that such a specific study had not yet been conducted using the approaches and methods that are proposed. Such a study, therefore, had the potential to promote an important social change in terms of student satisfaction as well as career enhancement. Alongside this, it also had the potential to provide economic and competitive advantages to the institution that is the subject of the study.

In this chapter, I introduce the topic of the study, discuss the research problem, purpose, and research questions, present the nature of the study, the theoretical framework, and the assumptions as well as the scope, delimitations, and limitations. I will close with the significance of the work and summarize the chapter.

Background

Higher education in the United States for the last half of the 20th century and into the 21st century has struggled with a well-defined and unified identity. Competing

dogma are pulling its purpose from a traditional role of providing a liberal education for students and towards a functionality based role of meeting the economic needs of society (Kızıltepe, 2010). Many students are approaching their education from a practical stance of how it can advance their personal goals. The curriculum in some institutes of higher education, therefore, is changing to reflect the shift from a faculty led pedagogy to a student-centered one.

Not all people in higher education feel that the shift from a classical to a functional educational pedagogy is in the best interest of society or students. Sleeper (2012) argued that this shift is an unfortunate trend based on commercial and political motivations. Other researchers have contended that the spiraling cost of higher education tuition has resulted in many students demanding a return on their investment (Hirt, 2007). Hirt (2007) argued that historically the central purpose of higher education in the United States was to ensure an educated citizenry for societal well-being. Currently, however, many students go to school solely for the opportunity of advancing their socioeconomic standing. Hirt called this ideological shift in focus from public to private rewards of higher education a trend toward the development of human capital.

Data show that adult learners comprise 44% of all students in higher education (National Center for Education Statistics, 2013). This rapid growth has strained the abilities of traditional public colleges to service all adult learners (Wildavsky, 2011, p. 10). Increasingly, adult learners have turned to private sector, or for-profit, educational institutions because of their presumed flexible, career focused, and accelerated programs. In July, 2012, a study conducted by Senator Tom Harking of Iowa, as Head of the U.S. Senate Committee on Health, Education, Labor, and

Pensions, found that the number of students enrolled in for-profit schools increased from 766,000 in 2001 to 2.4 million in 2010, which is 13% of all enrolled students in higher education (United States Senate, 2102). Furthermore, between 2004 and 2010, the number of associate degrees awarded by for-profit colleges increased 77%, and the number of bachelor's degrees awarded increased 136% (United States Senate, 2012). For-profit schools, therefore, are the fastest growing subsector of education and were valued by the World Bank's International Finance Corporation at about $400 billion worldwide in 2006 (Wildavsky, 2011, p. 18).

Highly specialized MBA degree programs fill a niche market in higher education today at universities and are increasingly popular with students in graduate business schools (Datar, Garvin, & Cullen, 2010). These programs have evolved in response to industry demands for skilled employees to enter the labor force prepared for their positions (Johnson, Thomas, & Peck, 2010). However, the proliferation of MBA programs may have exceeded the needs of the job market and, therefore, may have diminished value of the degree for the student (Datar et al., 2010). Some researchers have suggested that the MBA degree is no longer relevant in the business climate for practicing managers (Rubin & Dierdorff, 2009).

Giving learners choices in their education is reflective of the adult learning theory of Knowles (1950), which suggests adults are self-directed learners who desire autonomy in selecting the knowledge they deem useful for their studies. These programs, however, are expensive to develop and maintain for universities due to the increased costs of maintaining a diverse faculty and for the development of differentiated curricula materials. The cost and complexity of maintaining these programs becomes particularly problematic for private sector career universities,

which rely solely on tuition for their revenues. Consequently, schools pass on the associated costs to their students. Thus, research is needed to determine if the multiplicity of specialized MBA programs are worth the investment for students and the campus by analyzing their effectiveness and level of student satisfaction. A thorough review of the current literature on this subject is presented in Chapter 2.

In sum, career universities distinguish themselves from traditional institutes of higher education by being highly focused on guiding students into career professions through their program so that they may obtain employment in their field upon graduation. While this educational approach may or may not be in keeping with conventional andragogical theories, career universities have grown significantly in the last part of the 20th century and some offer a plethora of very specialized programs.

According to Duderstadt (2009), one of the challenges that higher education faces in the 21st century is shifting from a pure knowledge focus to an applied skills focus where educated people the knowledge that they possess, and the innovation and entrepreneurial skills they have are recognized by society as the means to greater socioeconomic mobility. Because society looks to higher education, as Duderstadt noted, as a means to help overcome the challenges facing our society. One tool that higher education uses to promote the social good is career-oriented education.

A preliminary review of the trends noted above might show that for-profit schools are meeting the demand of a changing student population. Indeed, as noted in the United States Secretary of Education's Commission on the Future of Higher Education report, institutes of higher education must be more responsive to serving all students so that the United States maintains its globally competitive position. This is

even more imperative as the country's demographic and socioeconomic status is changing (Stokes, 2012, p. 4).

However, there is little evidence to show that the types of programs offered at for-profit schools are in the best long-term interests of students (Coleman & Vedder, 2008). The committees' report noted that because higher education is necessary for a career in the new knowledge economy for most working adults, obtaining accurate data on job placement and student's ability to secure economic parity is vital (Stokes, 2012, p. 4).

As Stokes (2012) further noted, education is changing to reflect the paradigm that learning is supposed to have a return on investment for the student. Therefore, the for-profit education sector focuses primarily on career fields. For-profit education relies almost exclusively on student tuition to operate schools. Therefore, for-profit education must ensure that programs are economically attractive to students who are judging cost versus benefits of the degree (Bennett, Lucchesi, & Vedder, 2010, p. 1).

The debate on the purpose of higher education is difficult and multifaceted (Nussbaum, 2009). Bennett et al. (2010) noted that critics of career for-profit universities accuse them of being diploma mills that push students through programs of dubious quality in order to make a profit for the company while supporters of for-profit schools assert that they provide educational opportunities to underserved students in areas of study that directly increase students' employability. The question that remains is whether career for-profit universities are in keeping with the theories of Knowles (1980) and others such as Maslow (1943) and Mezirow (2000), whose work is discussed at greater length in Chapter 2.

Highly specialized MBA degree programs fill a niche market in higher education today at career universities (Damast, 2011). Consequently, they are gaining in popularity with students in this sector of education. These programs have evolved in response to industry demands for skilled employees to enter the labor force prepared for their positions (Johnson et al., 2010). They are rooted in the adult learning theories of Knowles (1950), which suggest adults are self-directed learners who desire autonomy in selecting the knowledge they deem useful for their studies. The programs, however, are expensive to develop and maintain for career-focused universities due to increased funding for a diverse faculty to meet the needs of small student cohort groups and developing differentiated curricula materials. Therefore, the cost and complexity of maintaining these programs becomes problematic for career universities seeking to prepare students for the work force. Consequently, schools pass on the associated costs to their students. Hence, research is needed to determine if specialized MBA programs are worth the investment for students by analyzing their effectiveness while maintaining a high level of student satisfaction. Student perceptions dictate how well they feel that the university fulfilled its stated mission (Dixon, 1992; Hu, 1996).

Problem Statement

The problem addressed by this study was that diverse expectations put strains on the limits of career universities to accommodate wide and varied curriculum offerings, specifically specialized MBA programs. These specialized programs reflect the concept that the student is also the customer. Whether these specialized programs are effective, however, in meeting the diverse needs of the students, providing opportunities for employment of graduates, maintaining high standards of academic

achievement, and delivering student satisfaction is not clearly understood or agreed upon (Stokes, 2012; United States Senate, 2012). Since career university staff and faculty struggle to meet students' expectations, administrators at career universities need to prioritize programs accordingly in order to optimize finite resources. This study used student satisfaction data and other variables that indicate student performance and employability to inform those administrators.

Purpose of the Study

The purpose of this correlational study was to understand the relationships between variables in adult education programs and students' perception of the quality of their educational programs. By specifically investigating the relationships between identified variables (program GPA, job placement rate, program completion rate, and the Net Promoter Scores [NPS]) and student satisfaction for each of 14 specialized MBA programs at one campus of one career university, I hoped to identify which variables from which programs are seen as most aligned with student expectations and the needs of the university as far as quality of program offerings is concerned.

Research Question

What are the relationships between university-identified quality variables (program GPA, job placement rate, program completion rate, and NPS) and student satisfaction for each of 14 specialized MBA programs at one campus of a career university?

H_o: There are no statistically significant correlations between student satisfaction and GPA, job placement rate, program completion scores, and program NPS recorded at one university during the years between and including 2007 to 2012.

H_a: There are significant correlations between student satisfaction and GPA, job placement rate, program completion scores, and program NPS recorded at one university during the years between and including 2007 to 2012.

Nature of the Study

The population for the research is adult students who graduated from each of 14 specialized MBA programs at one campus of one career university. Archived data collected from more than 400 students from 2007 through 2012 were obtained. This career university offers 14 different specialized MBA programs in on-ground, on-line, and blended learning environments. While this career university has multiple campuses dispersed over the United States, the population was limited to one specific campus in the Pacific Northwest. The relationships between student self-reported satisfaction and program GPA, job placement rate (percentage), program completion rate, and NPS scores for each of 14 specialized MBA programs were analyzed. Nonparametric data were analyzed, and a multiple correlation study using a series of Spearman Rho coefficients was employed. The coefficients show the relationships between different sets of variables. The works of Creswell (2008), Vogt (2006), and Pike (2008) have helped to guide the research design.

A correlational study was considered the most suitable for this work, as it is perceived as being the most effective means of understanding the truths that exist, the relationships that can be seen, between the variables. As it has an explanatory design, it does not assume causal relationships but, rather, "the extents to which two or more variables co-vary, that is, where changes in one variable are reflected in changes in the other" (Creswell, 2008, p. 358). Some important inferences are drawn from the relative strengths, positive and inverse, that came from the statistical analysis.

I used the Statistical Package for the Social Sciences (SPSS) version 21.0 software to catalog and analyze the data. The variables are mean values for each course for each year for each variable, these being student self-reported statistics class course satisfaction values, course GPA, NPS, and career data in the MBA programs. These variables were chosen because each is represented routinely by collected data on student experience and is, therefore, readily available. Furthermore, the researchers noted above have not linked the variables to any relationships. In addition, there is not a problem of multilinearity in the analysis as the prediction of a dependent variable is not applicable. Table 1 presents the variables. More details related to the methodology are presented in Chapter 3.

Table 1

Variables

Variable	Literature support	Data source 2008-2012
Program satisfaction	Jackson et al. (2010); Rogers (2009); Adams & Umbach (2012), Rogers (2009)	End of course student surveys (archived from 2007-2012) – Specific questions on satisfaction
Program GPA	Pardini & Priscilla (2007); Pike et al. (2012)	Archived student management system data base, Banner (archived from 2007-2012)
Program NPS	Woodall et al. (2012)	End of course student surveys (archived from 2007-2012)
Placement rate for students graduating MBA programs	Finley (2012)	Career Services tracking report (2007-2012)

Theoretical Framework

The research was based on three andragogical areas understood through the lens of Mezirow (2000) and Knowles (1984): student perceptions of educational experiences as measured through student evaluations, adult motivation, and content and curriculum design. Mezirow asserted that adult education should further the development of the individual. Knowles argued that an adult learners' orientation to learning changes as they mature such that "his time perspective changes from one of postponed application of knowledge to immediacy of application, and accordingly his orientation toward learning shifts from one of subject-centeredness to one of problem centeredness" (p. 12). Within the views of Knowles and Mezirow, however, there is sufficient commonalty to derive and work within a theoretical framework, and justification for this is developed in greater detail in Chapter 2.

Definitions of Terms

Adult learner: A student who meets the National Center for Education Statistics (NCES) criteria for a nontraditional student. The NCES literature describes nontraditional students as having the following characteristics entry level to college delayed by at least 1 year following high school, having dependents, being a single parent, being employed full time, being financially independent, attending part time, and not having a high school diploma (Ross-Gordon, 2011, p. 26). According to Choy (2002), 73% of students may be viewed as nontraditional under the NCES broad guidelines (p.1). In addition, NCES (2009) reported that 38% of the 2007 enrollment were 25 years of age or older.

The rationale for using the NCES guidelines is that the center clearly defined them, and they are easily identifiable as opposed to the more traditional definition of an adult learner set out by theorists such as Knowles (1950) and Mezirow (2000). Although their definitions and theories on adult learning are pertinent to my research and form the basis of my theoretical framework, their definition of an adult learner as one who is self-directed, autonomous, and critically thinking is difficult to measure for my study. Therefore, characteristics that are more categorical and definitive will be chosen.

Andragogy: The art and science of helping adults learn (Knowles, 1980, p. 42). Although other definitions exist, this one will be used because the research study is being viewed through the theoretical lens of Knowles.

Career university: An institution of higher education that is highly focused on adult learners and career preparation and enhancement (Clark, 2012).

Student evaluations: Surveys taken either on paper or online at the end of a college course or program by students for the purpose of gathering information to make the future educational experience better (Kherfi, 2011).

Assumptions

I assumed that all archived data had been properly and truthfully collected. Another assumption is that student surveys are reliable indicators of educational practices. According to Amrein-Beardsley and Haladyna (2012), Skowronek, Friesen, and Masonjones, (2011), Serdyukova, Tatum, and Serdyukov (2010), Ginns, Prosser, and Barrie (2007), and Culver (2010), student evaluations of educational experience can be effective tools if employed properly. Therefore, it was assumed that the data collected are accurate representations. Another assumption was that the courses taught in the programs under study are in alignment with currently established best practices in adult education. Several researchers showed a variety of strategies to engage students in the learning process more fully (Ameny-Dixon, 2008; Cercone, 2008; Cornelius-White, 2007; Moore & Fetzner, 2009; Pardini & Priscilla, 2007; Pike, Smart & Ethington, 2012; Rogers, 2009; Scrottner, 2008; Vella, 2002).

Since a Spearman Rank Correlation was used, four assumptions about the analysis were made. First, all of the data are ranked or ordinal. Second, there is a monotonic relationship among the variables, which means as one increases another decreases or vice versa. Third, the data do not meet normality, homoscedasticity, and linearity. Fourth, the data are nonparametric.

Limitations

This research study had some limitations. First, it was blind to gender, age, ethnicity, and ability. These may or may not be factors that affected the variables.

Therefore, other research could be conducted to determine if they are mitigating factors. The study population is from a single for-profit career college. Furthermore, the results of the study may not be applicable to other institutions of higher education. Therefore, generalization to a larger population of institutions and to different types of institutions is limited.

Scope and Delimitations

This research study was limited in scope to keep the data manageable and meaningful to a target audience, which is the segment of the academic profession that is concerned with MBA programs at career universities. Second, the data were collected on a specific program only, the MBA. Other programs may yield different data, so they could be explored in other research studies. Third, five variables were selected for analysis. Other variables may or may not play a role in the understanding of students' perceptions of their higher education programs.

Significance of the Study

A possible outcome of my research may be the development of a metric that will help predict the possible academic, employability, and satisfaction outcomes of specialized MBA programs. Perhaps this metric may be useful to all career universities that offer or plan to offer specialized MBA programs. Potentially, administrators, course developers, and curriculum writers could employ this metric to determine a program's efficacy and adjust, merge, or cancel existing programs. Therefore, career universities can operate more efficiently and effectively, which in turn benefits the students. One possible benefit may be the lessening of the financial burden to students paying tuition.

Summary

The adult education theories of Knowles (1980) and Mezirow (1981) suggested that adults are autonomous learners who require academic freedom to pursue personal interests in their studies, which will lead to self-actualization and transformation. Educators in institutes of higher education often struggle with balancing the accepted andragogical theories of adult learners with the practical necessities of maintaining a sustainable institute of learning. Further research is needed to determine if individual programs, such as specialized MBAs, truly are in keeping with adult learning theories. Adult education theories as they apply to programs in higher education in Chapter 2 have been analyzed.

Current research supports the idea that student evaluations can provide useful data to educators and researchers to help improve the quality of instruction and programs in higher education if they are based on an adult education theoretical framework. Most of the validity concerns of student evaluations were shown to be false or at least debatable among the researchers presented. Despite long-standing debates about the reliability of students to accurately report on course and instructor quality, some institutes of higher education have found student evaluations useful. Therefore, student evaluations can be used to help guide decision-making in course and program offerings in higher education. In Chapter 2, student evaluations are explored in detail.

The study was aimed at examining one type of niche program, specialized MBAs. In Chapter 2, the current and relevant literature on student evaluations to determine the reliability and accuracy of students to evaluate their programs has been

explored. Theories of adult learning to determine if highly specialized programs in higher education are in alignment with best practices in andragogy were examined.

Chapter 3 includes a detailed explanation of the research study methodology. How data were collected, the population for the study, and ethical considerations are all discussed. In addition, I explain why I chose my particular method over other possible ones. Chapter 4 provides a discussion of the results of my study. Chapter 5 summarizes my findings and offers recommendations for further research in this area along with possible applications of the findings.

Chapter 2: Literature Review

The problem that this study addressed is that diverse expectations put strains on the limits of career universities to accommodate wide and varied curriculum offerings. Since these institutions and their staff and faculty struggle to meet students' expectations, administrators at career universities need to prioritize programs accordingly in order to optimize finite resources. Knowing which programs are effective is paramount for achieving the goals of the university, knowledge that is currently lacking. The purpose of the work was therefore to determine whether specialized MBA programs are worth the investment for students by analyzing their effectiveness alongside the maintenance of a high level of student satisfaction.

There are a number of libraries that were used; however, the main one was that of the university. Where this was found to be insufficient in any area that has been investigated, others were used. The databases used, apart from those that are held by the library, include Applied Social Sciences Index and Abstracts (ASSIA), Education Resources Information Center (ERIC), Social Services Abstracts, Sociological Abstracts, the Social Sciences Research Network and ProQuest.

Where possible, the articles used are 5 or fewer years old; however, there are a number of caveats, which are subject to the values placed on the work by the researcher. For example, seminal theories, theory propositions that have been subsequently developed, and where there is a current lack of relevant material. Thus, where there was little current research, or where its perceived value was comparatively lacking, either earlier articles were used and/or inferences drawn from other work within this field or even from across disciplines.

The search terms used were many, varied, and contingent upon the specific area within the broader headings. It is, therefore, not realistic to identify every single one but the broad headings included *adult education, for-profit education, career universities and institutions, student evaluations, cross-cultural education*, and *higher education demographics*.

Literature and Text Criteria

The literature and texts cited in this review have been selected based on several criteria. First, all of the articles came from peer-reviewed journals. The journals I selected are professional in nature. The authors directed their works towards professional adult educators in the field of adult education who wish to remain current in terms of developments and research. Second, and as noted above, the articles were 5 or less years old. In a few instances, older articles were used out of necessity because of the lack of more current data. Where applicable, it will be indicated in the review that the information cited was the most current available. Third, all articles pertain specifically to the field of adult education, sometimes referred to as andragogy in the literature. Student evaluations and surveys as they relate to primary or secondary education are not be part of the focus of this literature review and so have been omitted intentionally. Fourth, the texts cited in this review represent landmark theories from seminal theorists. The theories help provide continuity to the research and a theoretical framework for the reader. In addition, they do not represent all of the adult education theorists, but ones that are believed to have been pertinent to the discussion.

In this review, I focused on the realities of modern adult education in the United States, which means that the cultural diversity, both within its domestic

student base and within the community of international students, is a central theme. In doing this, it attempts to show a better understanding of nonwestern educational influences so that at least some of the diverse cultures and approaches to education and learning are holistically considered. Against this background of cultural diversity, relevant points concerning adult learning and its perceived differences with, for example, the experience of children, are highlighted so that a focused understanding of adult education could be gained. The areas of adult education include the definition of roles, teamwork, competition, and praxis. Further areas that are explored and considered essential to give the work a necessary breadth of understanding include adults as decision makers in the learning process, relative satisfaction, motivation, feedback and reinforcement, curriculum, technology, and nontraditional learning.

Theoretical Foundations

The intent in this literature review was to explore the research on best practices in adult education as they pertain to student satisfaction with the choice of higher education programs. While there is no one unified definition of adult education or andragogy, the works of Knowles (1950), Mezirow (1981), Brookfield (1988), Lindeman (1926), and Freire (1968) provided a theoretical framework to guide my research. Each of these seminal theorists offered a unique perspective on the fundamental objective of adult education programs.

Knowles (1950) is regarded by many as the preeminent theorist on adult education and is credited with popularizing the term andragogy in the United States. According to Knowles, andragogy is "the art and science of helping adults learn" (1980, p. 42). More specifically, he explained that andragogy is a dynamic process where the learner takes control of his or her learning in order to achieve a greater level

of knowledge so that he or she can become more self-reliant with the end goal of bettering himself or herself and thus influencing social change. This affirms the idea that adult education should be directed by the learner and should yield measureable outcomes.

Knowles's (1980) theory of andragogy relied on assumptions about human behavior and psychology. Knowles theorized that adult learning builds upon five foundational principles:

> 1. Self-concept: As an individual becomes more mature, his/her self-conception moves from one of being a dependent personality toward one of being a self-directed person
> 2. Experience: As a person matures, he/she accumulates an increasing pool of experience that becomes a growing resource for education.
> 3. Readiness to learn: As an individual matures, his/her readiness to be taught becomes increasingly oriented to the developmental duties of his/her social roles.
> 4. Orientation to learning: As an individual matures, his/her time viewpoint changes from that of postponed knowledge application to immediacy of knowledge application, and consequently his orientation to learning changes from that of subject-centeredness to that of problem centeredness.
> 5. Motivation for learning: As an individual matures, his/her motivation to learn becomes internal (Knowles, 1980, p. 41)

These five principles form the basis from which Knowles (1980) formulated his theory of andragogy. The principles involve broad generalizations of human motivation and nature but are not about a theoretical framework for adult teaching practices. Knowles approached adult learning from a humanistic worldview instead of a theoretical model. He advocated that the primary objective of adult learning should be to assist learners in becoming self-actualized (Knowles, 1980). Once becoming self-actualized, the highest form of psychological development (Maslow, 1943), learners develop their emotional, psychological, intellectual, and professional abilities to their optimum potentials.

Knowles (1980) identified that adult learners are more autonomous and self-directed when compared to conventional learners. Through this assertion, Knowles (1980) further elaborated that the role of the instructor is mainly to facilitate the learning process and let the adult learners take the leadership role in the learning process. Knowles also identified that adult learners were subject to immense life experiences, family responsibility, and work-related knowledge, which affected their learning process (Knowles, 1980).

Furthermore, Knowles (1980) observed that adult learning is traditionally based on the teacher's ability to identify the best internal motivating factors for adult learners. However, Knowles identified professional career motivation as being a form of personal motivational factor. Similarly, Knowles explained that adult learners were goal-oriented and relevancy-oriented, such that they often took courses, which propelled them to attain a specific objective relevant to their lives.

Knowles (1980) also identified voluntary participation among adult learners as being a factor that ideally should not be based on material rewards but rather on

immaterial reward. From a wider perspective, restricting voluntary participation can be seen as being a rather extreme limitation and is contrary to what Knowles said when defining andragogy. This is because the only legitimate benefit of andragogy would be learning for personal benefit or self-actualization. Specifically, Knowles asserted that contrary to generally accepted assumptions, most adult learners are motivated by more intrinsic factors, like self-esteem, personal recognition, better quality of life, greater self-confidence, and self-actualization, rather than external factors, like money and better jobs (p. 281).

Knowles (1980) noted that the difficulty in designing successful adult learning programs in higher education is the strain in developing high quality products, which not only affect the personal lives of the students but also transfers the learned knowledge into the professional lives of the students (Knowles, 1980). Though many institutions spend considerable amounts of money developing workable adult learning programs, the results of such processes may not reflect the same level of investment.

Knowles (1980) noted that talking about this issue is not enough; instead, good standards of practice should be modeled. Developing a workable adult learning program not only allows students to synchronize their learning experiences with their professional development but also assists those around them to do the same. Usually, professional adult learning programs are well planned, and, therefore, learners are able to plan their follow-up activities in the same fashion.

Developing a professional adult learning program depends on the level of original groundwork undertaken to make the process a success. The first step involves identifying the right need for undertaking the entire process in the first place and

ensuring the process steps meet this need (Knowles, 1980). This is one challenge facing higher education today.

Mezirow (2000), on the other hand, developed his adult education theory around the central theme that learning should be transformational. This was, fundamentally, that education should transfer the individual from a state of complacency to becoming "aware of one's own tacit assumptions and expectations and those of others and assessing their relevance for making an interpretation" (Mezirow, 2000, p.4). Mezirow argued that adult learning potentially emancipates adults from their unquestionably accepted belief systems, which individuals establish through their respective life experiences, cultures, religions, and relationships. Therefore, according to Mezirow, adult learning is a process not an end product. As the learner acquires more knowledge and reflects and contemplates on the new knowledge in light of what he or she assumes to be true, transformation occurs. Mezirow (1990) presented a unique definition of adult learning. He stated that an often overlooked, but critical, component of adult learning is reflection on the learning to determine if it is still applicable under new and changed circumstances. He believed that this is even more important than the semantics of defining adult learning (p. 5).

Mezirow further argued that adult learning should cause learners to reevaluate their lives and then remake them based on the newly acquired knowledge. He termed this type of adult education "transformative learning" (Mezirow, 1990, p. 4). This, according to Mezirow, takes precedence over the subject matter that the learner originally intended to study.

Each theorist, Mezirow (2000) and Knowles (1984), contributed to the overall body of knowledge in the field of adult education. Mezirow asserted that adult education should further the development of the individual, and Knowles argued that an adult learners' orientation to learning changes as they mature such that "his time perspective changes from one of postponed application of knowledge to immediacy of application and, accordingly his orientation toward learning, shifts from one of subject-centeredness to one of problem centeredness" (p. 12). By synthesizing their works, a more comprehensive theoretical framework of adult education should emerge. Through this theoretical framework, researchers in higher education can determine the efficacy of adult learning programs.

However, some researchers have concerns that adult learning programs are not adequately addressing the needs of the learners, which is integral to the health of the Unites States economy (Stokes, 2012; Wildavsky, 2011). According to a report issued by the United States Secretary of Education's Commission on the Future of Higher Education, a critical absence of reliable data on adult student needs is hampering institutes of higher education and adult learning from identifying potential target populations for outreach efforts (Stokes, 2012, p. 2). With more adult students seeking higher education opportunities, this issue should be addressed.

As noted above, the trend of adults entering or reentering higher education began in the 1940s with returning World War II veterans using veteran's education benefits to fund schooling. The trend steadily persisted for the next 2 decades and in the 1970s increased markedly as significantly more women and part-time students attended schools (Hardin, 2008, p. 49). The need to learn developing technologies, an increased access to school funding sources, and changing social norms, encouraged

many adults to pursue higher education opportunities. From 1978 to 1983, participation by adults in higher education grew 235% (Hardin, 2008, p. 49).

In sum, adult education according to Mezirow (1990) may be defined as a reflective process where the effect of the learning is unique to the individual. This definition is distinct from Knowles (1980), who asserted that all adult learners were essentially of the same mentality and thus had similar motivations and outcomes for their learning. For Mezirow, adult education was a solo journey of self-discovery. He called this personal journey perspective transformation, which is the learning process by which adults come to recognize their culturally induced dependency roles and relationships

Some of the components of Knowles's (1952) work can be seen in the theories of Mezirow. Mezirow (1981) believed that critical thinking was a key component of adult education. Mezirow differed, however, in his concept of critical thinking from Knowles by specifying that critical thinking should be guided towards self-reflection. Critical reflection as he termed it was the most important teaching tool of transformative learning. Through critical reflection, teachers develop in adult learners "a crucial sense of agency over ourselves and our lives" (Mezirow, 1981, p.20). Clearly, Mezirow advocated that a primary goal of adult education was to enable individuals to take control of their own lives.

Taking control of one's own life was also a core ideology of Knowles (1952), as noted earlier. Knowles and Mezirow (1981) shared a similar worldview that all adults should strive to reach their potential. Through the process of reaching one's potential, an adult learner assumes control. Therefore, specialized MBA programs relate to the theories of Mezirow and Knowles.

Brookfield (1988) argued that adult education should produce critical thinkers who challenge beliefs, knowledge, and opinions. An adult educator using Brookfield's theory guides learners through the process of changing their worldviews. Lindeman (1926) argued that adult education should be an ongoing process that prepares learners for the real world. He concluded that adult education programs should focus on practical and applicable knowledge. Furthermore, Freire (1968) asserted that adult education has the ability to free learners from oppression by enlightening them on issues.

A synthesis of the theorists' works reveals some commonalities. First, the theorists advocated that adult education ideally should fully develop the individual's intellectual or cognitive ability for some desired outcome. The theorists do not agree on a specific single outcome, however. For Knowles, the outcome was to achieve self-actualization, for Freire it was to achieve freedom from oppression, for Mezirow it was to enable transformation, for Lindeman it was for real-world functioning, and for Brookfield it was to develop critical thinking skills. All agree, however, that higher education should have an end result in mind beyond just the acquiring of content knowledge.

Second, the theorists argue that learning takes place through experiences. All of the theorists exhibit this empiricist tendency in the explanations of their theories. For example, Brookfield argued that the best teachers understand the learners and the learners must continually reflect on their experiences to make the learning meaningful (1988, p. 57). Similarly, Mezirow advocated for learners to engage in individual self-examination of their experiences with expert opinion in order to start the process of transformation (2000, p. 166). Mezirow defined learning as "the process of using a

prior interpretation to construe a new or a revised interpretation of the meaning of one's experience to guide future action" (2000, p. 5).

Lindeman directly attributed experience as the best learning tool for adults (1926, p. 14). His theories support Knowles' work in that Knowles subscribed to a humanistic philosophy of education where individual human experience offers more value than prescribed doctrine or faith to a learner's education. Both theorists argued that adult learners bring life experiences to the classroom, which are important contributions educators need to know.

Freire argued against the traditional educational system in place in most of the Western world. He called the teacher-student relationship in education the banking concept (Freire, 1970, p. 53). In this manner, teachers deposit information into their students' minds while students passively receive the new knowledge and accumulate it over time. Instead, he envisioned education as an experience where the learner is guided by the teacher.

Third, all of the theorists placed great importance on the relationship of the teacher and the student. Freire advocated that teachers should enrich the lives of their students by providing them with meaningful learning experiences where both teacher and student engage in the process together (1970, p. 62). According to Mezirow (1994), the role of an educator includes, "helping the learner focus on and examine the assumptions that underlie their beliefs, feelings and actions, assist the student in dialoguing about the consequences of their assumptions, identify and explore alternative sets of assumptions, and test the validity of assumptions through effective participation in reflective dialogue" (p. 222-223). These four adult educator practices

are the foundation for facilitating transformational learning. The educator plays a critical role in establishing them in the learning environment.

Brookfield (2006) advocated that adult educators should engage in meaningful discourse with their students to help them question their beliefs and opinions. This type of discourse leads to critical reflection, which is the necessary component of adult education according to Brookfield (2006). Lindeman (1926) also favored teacher-student discourse as the preferred learning method in adult education. Adult learners are those, "who are led in the discussion by teachers who are also seekers after wisdom and not oracles" (p. 12). The three commonalities discussed, adult education as specific outcomes, adult education as centered on experiences, and adult education relationships between teachers and students, are the foundation for my research work. Current adult education programs should incorporate them into their curricula. I have explored how current research in adult education is utilizing the theorists' ideas in their research.

Adult Motivation to Learn

Cultural Effects on Student Perceptions of Learning

The United States is one of the most culturally diverse countries in the world. Consequently, classes in institutes of higher education tend to reflect a broad representation of ethnicities from around the world. Most international students come from Asia, Latin America, and Europe with a significant number coming from the West Indies and Africa (Banks, 2008). Therefore, higher education instructors and curriculum designers need to adjust the learning experience accordingly. "In the 21st century, the adult learner should be culturally sensitive and internationally focused with an orientation toward the future rather than the past" (Ameny-Dixon, 2008).

According to Knowles (1950), adults are self-directed learners who need greater autonomy in choosing their subject matter than child learners. This is largely due to the fact that as individuals age, they accumulate a wealth of experiences and knowledge that influence their worldview. This evolving worldview is what dictates which learning is uniquely important and necessary and what is irrelevant to an individual (Knowles, 1950). If this theory is correct, then learning is highly subjective across individuals. Therefore, educating across cultures may be a paradox.

According to the literature reviewed in this chapter, little is understood about the effect of globalization on adult education. As globalized learning expands into all nations and cultures, however, researchers are investigating its ramifications. Schrottner (2008) examined the effect the globalization process has on the meaning of educational conceptions and philosophies. Her qualitative analysis demonstrated that education systems mainly concentrate on the needs of economic globalization and thus can be seen as amplifiers of the globalization phenomenon (Schrottner, 2008, p. 119). She argued for alternative educational paradigms that are able to adapt to the pressures of globalization. She concluded for social cooperation, global solidarity, and a worldwide culture of peace as needed educational topics in higher education (Schrottner, 2008, p. 118).

Most theories on adult education are grounded in Western thinking (Yang, 2011). In a multicultural class, effective adult education requires an acceptance of other modalities of thinking by educators. Kiung (2010) noted that the teachings of the ancient Chinese philosopher, Confucius, might help open dialogue on understanding the Eastern viewpoint. Confucianism applied to adult education presents a distinct viewpoint on philosophy, politics, ethics, education, and culture

that is unique from Western thought (Kiung, 2010, p. 15). Therefore, adult educators of all cultures need to cross-train in different ideologies in order to be most effective. Cross-cultural competency was supported by Beuckelaer, Lievens, and Becker (2012) by their research on culturally diverse classes and instructors.

Research suggested that there are several benefits to multicultural education. The inclusion of multicultural education in the various curriculums will (a) increase productivity because a variety of mental resources are available for completing the same tasks and it promotes cognitive and moral growth among all people; (b) increase creative problem-solving skills through the different perspectives applied to same problems to reach solutions; (c) increase positive relationships through achievement of common goals, respect, appreciation, and commitment to equality among the intellectuals at institutions of higher education; (d) decrease stereotyping and prejudice through direct contact and interactions among diverse individuals; and, (e) renew vitality of society through the richness of the different cultures of its members and foster development of a broader and more sophisticated view of the world (Banks, 2008, p. 11).

Knowles' (1950) theory on self-directed learning is the primary influence on Western adult education theories. Self-direction entails an individualistic approach to learning. As Kiung noted, the individualistic culture orientation of the United States dominates most research and analyses of adult education (2010, p 24). Eastern thought processes place greater emphasis on the whole society, rather than the individual. Hence, there exists a fundamental cultural divide between the two ideologies.

Conley (2009) echoed this concern. She argued that adult education practitioners need to integrate best practices that account for the diversity of adult learners. Conley worked with indigenous peoples of different geographic areas and determined that these people were often under served by the education establishments due to their ethnic minority status in the host culture. She argued that adult educators need to embrace different paradigms and often uncomfortable truths (Conley, 2009, p. 22). Therefore, adult educators need to be trained in cultural diversity as it relates to differentiating educational practices.

Best Practices in Adult Learning

Clearly Defined Roles

Pardini and Priscilla (2007) cited the identification of clear roles between the learner and the teacher as an important component of adult learning programs. This aspect of learning is important despite the need to uphold dialogue and merge the input of both instructors and learners in the planning process. Vella (2002) reiterated that, "a teacher can be intent upon a dialogue with an adult learner, but if the learner sees the teacher as the professor with whom there is no possibility of disagreement, no questioning, no challenge, the dialogue is dead in the water" (p. 21).

Though the concept of role may not be considered as an important component of learning, it is a crucial issue for analyzing adult learning in a multicultural context because it is a strong cultural issue. For instance, in some Muslim countries, the roles of a woman are very important for the survival or existence of the community (Cole & Ahmadi, 2010). Since dialogue is already highlighted as an important component of adult learning, it is important to focus on eliminating all the impediments to this dialogue. In the same manner, any issues that favor the improvement of this dialogue

must be safeguarded. For instance, fostering dialogue in a more relaxed environment such as a party where learners will feel free to converse with the teacher about anything is important. Pardini and Priscilla (2007) observed that, in this kind of environment, learners might find recreating the context of the new knowledge learned in the classroom easier and, therefore, be better able to apply it in their personal or professional contexts. The clarification of roles and the importance of initiating dialogue are very important components of adult learning programs and, by extension, they should be perceived to be the most important aspects of adult learning.

Teamwork

The concept of teamwork manifests Lindeman's views on adult learning. Freire observed that the philosophy of teamwork includes the two components of learning, principles and processes, because teamwork is a principle and a process (Roberts, 2007). In the adult learning process, teamwork is important because it provides some sense of safety and shared responsibility in the learning process. Despite the cultural application of adult learning, teamwork is always welcomed. In addition, teamwork should never be taken for granted. There are many aspects of teamwork that should be taken into consideration before the development of teams. Most of these aspects can be gathered during the needs-assessment stage. From this stage, the teacher can take advice about the collection of teams and the instructor can allow the learners to invite their friends or colleagues for the teambuilding exercise. Thus, a sense of safety can be upheld in this kind of setting. Freire explained that this perceived sense of safety will be helpful to the students in undertaking difficult tasks (Roberts 2007). The best environment for ensuring the maximum benefits of teamwork are achieved is often referred to as the optimum environment (Roberts,

2007). The optimum environment is often realized when all stakeholders in the team receive the maximum benefit for participating in the team. This environment also includes everything in the field that facilitates the achievement of team success.

The concept of treating learners as subjects highlights Knowles's (1980) understanding of adult learning because it allows the learners to choose their teams in group work. Again, team building is often important when the learning tasks are often difficult or complex (Chapman, 2010). For instructors, it is important to consider different aspects of team composition such as gender, age, race, color, religion, and the like. Teams represent the real world and therefore, instructors should be wary of the fact that they need to make such teams represent the dynamics of the real world (Roberts, 2007). Some people may find difficulty in thinking of team efforts as vicarious or contrived because this goes against the nature of teamwork. Therefore, the intrigues of teamwork are represented by everyday undertakings and adult educators should know that feelings are not simulated. For instance, if a team exercise is not properly designed and some adults feel left out of the program, such feelings are bound to be real. The adult learners are bound to act on such feelings and destabilize the learning process or absent themselves from the learning exercise. It is therefore crucial for the instructors to design the learning process in a manner that all learners feel included in the program.

Freire (1977) explained that, like other aspects of quantum thinking, which are identified in earlier sections of this study, nothing in this world develops or grows alone (Roberts, 2007). People are intertwined and we live and grow together through participation. This is the ideology behind teamwork. However, the influence of peers in the team should not be overlooked in the learning process because they hold a

greater power than the instructors do. Peers have a strong influence on learners because they share the same experiences with other adult learners and, in the same regard, they are likely to challenge the learners in ways that the instructor cannot. Peers create a sense of safety for other learners as they struggle to understand new knowledge and skills. Peers also provide their colleagues with serious mentoring by offering them more clarity in the learning process through tenderness and skill (Roberts, 2007).

Competition is another element of learning that is fostered through teamwork. However, the duty of the instructors is to ensure that a win-win situation is established in competitive environments because competition can at times be destructive if there is a win-lose situation. Constructive competition always works where there is a mutually fulfilling sense of achievement from working together as a team. However, there are situations where learners' objectives may contravene the objectives of the team. Such situations are normally witnessed when the learners show some indifference in their team activities (Roberts, 2007). The duty of the instructor is usually to assist such learners and engage them again in the learning process. Sometimes, instructors may discover that the learners should not be in the learning session at all. The principle of safety manifests again in this situation because this entire analogy hinges on the concepts of respect for the teachers and learners.

Praxis (Action With Reflection)

There is little contention among adult educators that the act of doing is the way most adults learners comprehend new knowledge. The concept of praxis refers to the act of doing but it also includes the concept of reflection. By extension, praxis includes deductive and inductive forms of learning. Inductive learning tends to move

from specific concepts to concepts that are more general, while deductive learning moves from general concepts to concepts that are more specific. In addition, if learning occurs through deductive teaching, new content will be used in new situations. In both situations, the concept of praxis demands the examination of new content and its application to establish its usefulness. The concept of quantum thinking also surfaces in this scenario because it enables an understanding of how each learner will recreate the new contents of the learning program and uses it in a practical setup. In this situation, the learners may decide to realign their newly learnt skills and knowledge, as they deem fit and applicable in their practical environments.

Praxis should not be assumed to be an event because it is an ongoing process. In fact, many people use it on a daily basis through a reflection of their daily actions. In the learning situation, praxis can be used in the analysis of past cases, inviting descriptions, analysis and similar aspects of learning because if a group of adult learners are nagged in a practical exercise and they are later invited to review their practice, the learning process moves to praxis. Therefore, the practice of new ideas, skills, and knowledge and a reflection of the same move the process from a mere exercise of practice to praxis (Vella, 2002, p. 18).

Respect for Learners as Decision Makers

Respect for adults as decision-makers in the learning process is part of a larger acknowledgement that adults are decision-makers in their lives (Roberts, 2007, p. 126). Healthy adults would like to be perceived this way as opposed to objects or subjects to be used by other people. In this regard, adult learners need to understand that what transpires in the learning process should be their own creation. However, the concept of quantum thinking stretches beyond the people-object analysis to

highlight a universe of subjects who mutually respect one another (Roberts, 2007, p. 126). Therefore, as subjects, our perception of the world is our creation.

There are several ways that learners can show their subjects that they are respected in the learning process. For instance, if the topic to be studied involves a study of history, the teacher may pose an open question such as "Here are the dates of important events in the history of this nation. Which one seems the most important to you in terms of reaching independence and why did you choose that date?" (Roberts, 2007, p. 126).

Furthermore, if an instructor teaches new steps of a computer program, he may ask, "Which of these steps seems like it is going to be most useful to you in your work?" (Roberts, 2007, p. 126). Lastly, if the learning process occurs in a work environment, the instructor may say, "Here is our company process for taking sick leave. Look at all the steps. Which ones would be difficult for you? How does this process differ from the process you knew in another organization you worked for?" (Roberts, 2007, p. 126). Asking these questions leaves no party in the learning process superior to the other. It makes the teacher and the learner subjects of the learning process.

An important note is the difference between suggestions and decisions. Suggestions are synonymous to consultative voices while decisions are synonymous to deliberative voices. Usually, adult learners would make suggestions and decisions about the learning process almost at the same time and, therefore, it is important for the instructors to distinguish between the two. Roberts (2007) argued that treating the adult learners as subjects in the learning process is a powerful motivation for learning but the question regarding what can be done to offer the adult learners as many

opportunities as possible is the main dilemma in this analysis. Roberts (2007) recommended that instructors should refrain from doing what the adult learners can do and similarly, they should refrain from making decisions that the adult learners can make for themselves. As can be seen from subsequent sections of this study, successful development of adult learning programs lie in doing and deciding on actions.

There are many advantages for instructors to recognize learners as subjects. One such advantage is fewer dropout rates because the learners will feel more respected and important in the decision-making process (Warren, 2011, p. 9). Proper use of finances and personnel can also be realized through the recognition of learners as subjects because learners will be in a better decision to make healthier choices in life. Many researchers have reported immense benefits of empowering learners. Paulo Freire is one such researcher because through his book, *Cultural Action for Freedom*, he equated learner empowerment to be the true essence of freedom (Warren, 2011, p. 19).

Measuring Satisfaction

Many researchers have faulted many adult education activities as lacking the primary goal of attaining skills and expertise (Clark, 1991). In this regard, there is enough evidence to suggest that many adult learners are increasingly participating in various learning activities, merely for the pleasure they derive from it. Chapman (2010) affirmed that there is a strong need for instructors, using the andragogy approach, to measure the learner's level of satisfaction in this light. Chapman's views borrowed from Knowles's (1980) works on andragogy. Knowles explained that though assessment criteria is not basically recommended, if achievement is not the

essential goal, satisfaction in the learning experience should be measured in virtually all spheres of the administration of andragogy because the diverse measurement criterion influence adult learners when enrolling for learning. Andragogy instructors should, therefore, measure the variables related to the educational activity, but researchers also recommended that they couple the same with the learner's interests (Chapman, 2010).

From the analogy presented in this paper, the researchers noted that learning occurs through a stimulation of the senses and some people use certain senses better than others do. Considering the truthfulness of this fact, Chapman (2010) recommended that adult learning instructors should use more learning materials that stimulate most senses. Based on this fact, four fundamental learning concepts should always be included in the learning curriculum; they include motivation, reinforcement, retention, and transference.

Motivation is a critical element in the development of the learning curriculum because if students are not motivated to learn, then any efforts made by the instructor to achieve the desired learning outcomes will be in vain. This strategy improves student motivational levels but instructors can still motivate their students using other learning strategies such as setting a positive feeling or tone for the learning process. This includes establishing an open and friendly atmosphere, which will aid the students learning (Chapman, 2010).

Alternatively, instructors can set an appropriate level of concern where tension levels are checked to ensure they support the achievement of the learning objectives. Sometimes, if the learning objectives are critical for the success of the student, a higher level of tension will be established. However, this is not the ideal situation

because higher levels of tension act as a barrier to learning. Lastly, another strategy for improving student motivation is to set an appropriate level of difficulty for the students.

Feedback is also important for the learning process (Budden, Budden, & Hall, 2010). The feedback should be very specific to the learning process because adult learners tend to learn better if their learning process gives them prompt rewards (Budden et al., 2010). Nonetheless, the reward should not be misunderstood to be financial rewards only; it would be enough to show a probable benefit for the learning experience. Also of importance is for the participants to demonstrate interest on the study program because there is a direct correlation between interests and rewards.

The concept of reinforcement is another principle of adult learning and motivation because it enables instructors to establish the right code of behavior and performance among the adult learners. The teaching of new skills is a critical component of adult learning that depends on positive reinforcements. Its desirability to promote good performance and behavior stems from the name itself "positive reinforcements".

Negative reinforcements are also critical in eliminating bad behaviors that hinder student performance (Chapman, 2010). For instance, attaching some form of punishment or penalty in a given section of the learning curriculum is a classic example of negative reinforcement. However, there is enough evidence to suggest that negative reinforcements will not entirely lead to the elimination of a bad behavior. Nonetheless, based on the recommendations of this paper, it is crucial for adult instructors to apply both positive and negative reinforcements. This teaching tool is useful in ensuring students retain what they have learned. In this analysis,

reinforcement helps in ensuring learners maintain a positive and correct behavior through the learning process (Chapman, 2010).

A desirable learning outcome for the adult learning process is ensuring there is a high retention rate among the students, regarding what they have learned. Retention is a critical concept of adult learning because it affirms what learners have learned. An instructor's work is therefore incomplete until the students have retained what they have learned. Based on this analysis alone, there is a direct link between the characteristics of adult learners and the way the adult curriculum should be designed. In addition, there is a direct link between the characteristics of the adult learners and the expectations of the learning experience. For instance, the concept of retention depends on the adult characteristic of identifying the goal or objective of the learning process. Therefore, some students may find retaining information that they do not deem important as being impossible.

Nonetheless, information retention is not enough; the students must also be able to interpret and apply the information (Chapman, 2010). Learners should be able to apply the right type of importance to the learning materials. In other words, if the participants did not correctly understand the taught concepts from the start, they would not be able to retain such knowledge. Nonetheless, adult instructors should emphasize the link between retention and application. Therefore, instructors should not assume students who achieve high levels of performance have a successful learning experience.

Finally, the concept of transference clearly manifests itself in the analysis of adult learning because the transfer of learning is a product of training. In a different context, transference represents the use of learned knowledge in a different setting

apart from the classroom setting. However, transference bears a close similarity with reinforcement because both concepts are dual, both positive and negative. Positive transference represents the use of positive ideas to come up with positive learning outcomes. Again, like negative reinforcement, negative transference represents a situation where learners learn by avoiding to do negative behaviors that hinder their performance (Chapman, 2010). Based on this understanding, adult instructors should be wary of the fact that transference occurs in an environment of association where students can relate their newly learned information with their preexisting information.

Transference also occurs in an environment of similarity where students are able to identify the similarity between what they have already learned and what they already know. In this analysis, similarity refers to the revisit of a logical framework or pattern. Again, like the concept of reinforcement, transferability occurs best in a situation where the level of original learning was high. Finally, transference occurs in an environment where there is a critical element, which manifests where the learned experience contains beneficial knowledge (Chapman, 2010).

In conclusion, adult learners are distinct from child learners. They require respect, autonomy, and application of knowledge in order to feel that they have had a successful learning experience. Research, for example by Budden et al. (2010), showed that adult learners have specific instructional strategies that have been shown to be effective, such as role playing, experiential learning, team work, and reflection. Adult learners' satisfaction in their educational experience requires that instructors in adult learning programs implement the strategies suggested by the researchers reviewed in this section.

Curriculum and Instruction

Theorists

Since Knowles (1950) first proposed that adult learners may be different to child learners, researchers in education have studied possible learning styles to help make adults successful. Brookfield (1987), like Knowles, understood that learning occurs differently in adults. Both Knowles and Brookfield recognized that most adults learn best when they establish their own objectives, discover their own learning resources, choose instructional methods, and self-evaluate their progress. They supported the notion that the instructor is a mentor and guide, not the purveyor of all knowledge.

Brookfield (1987) advocated that adult education should develop critical thinking skills in students. He argued that critical thinking is the key component that separates the adult from the child learner. In order to develop critical thinking skills, adults need to engage in critical reflection first (Brookfield, 1987). Critical reflection consists of four key components: assumption analysis, which involves thinking in such a manner that it challenges our beliefs, values, cultural practices, and social structures in order to assess their impact on our daily proceedings; contextual awareness, which is realizing that our assumptions are socially and personally created in a specific historical and cultural context; imaginative speculation, which utilizes alternative ways of thinking about phenomena in order to provide an opportunity to challenge our prevailing ways of knowing and acting; and reflective skepticism, which advocates for questioning of universal truth claims or unexamined patterns of interaction (Brookfield, 1988).

Critical reflection is also a key component of Mezirow's (1981) theories on adult learning. He stated, "Perhaps even more central to adult learning than elaborating established meaning schemes is the process of reflecting back on prior learning to determine whether what we have learned is justified under present circumstances. This is a crucial learning process egregiously ignored by learning theorists" (Mezirow, 1990, p. 5). Essentially, Mezirow argued that true adult learning occurs when the learner re-evaluates his or her life and then re-shapes it. Mezirow called this process transformative learning. Transformative learning can happen regardless of the curriculum content being taught. Therefore, how the learning is structured can be more important than the actual knowledge being delivered.

Knowles, Brookfield, and Mezirow's theories of adult education subscribe to a constructivist andragogy. Constructivist theorists argue that the majority of adult learning is informal. Knowles (1950), for example, identified the importance of real-life scenarios as the primary learning modality as compared to the conventional subject matter orientated approach often used in formal education. If the constructivist strategies are correct, then applicable experiential learning may be the most effective teaching method for adult learners in higher education.

Adult Education Program

Some in higher education recognize that constructivism has merit. Researchers acknowledge that knowledge is not delivered to the student, but rather constructed by the student and that learning is a social process requiring active engagement with others in meaningful discourse and experience (Jamieson, 2009, p. 18). Similarly, Vella (2002) argued that adult learners need to be respected as decision makers in their education. Adult learners know what they need to learn and actively seek out

opportunities to pursue their educational interests. The educator's role is to guide them to the knowledge and help them interpret the information.

At the beginning of the 21st century, program planning in higher education to meet the needs of adult learners has been inconsistent and sporadic across institutes of learning (Warren, 2011). According to the literature reviewed in this chapter, there is no consensus or common practice among universities or colleges to implement best practices in adult learning as suggested by the researchers and theorists in this paper. Despite decades-long promotion of liberal education based on theoretical constructs by researchers, national data sets show that students fall short on measured outcomes that such an education should provide (Finley, 2012). Cercone (2008) argued that learning is about change and, therefore, adult learning needs to change also (p. 142).

Best Practices in Adult Education

Researchers have provided evidence of best practices in adult education. Cornelius-White (2007) demonstrated that positive teacher-student relationships are associated with optimal, holistic learning (p. 113). Learner-centered teacher-student relationships include classical humanistic education and constructivist learner-centered andragogy. Cercone's research supported the constructivist models of Knowles (1950), Mezirow (1981), and Brookfield (1987).

Dezfouli (2012) discovered that through exposure to a variety of learning methodologies, students can rapidly construct a model of their world and then choose an appropriate response to a situation based on abstract changes in environmental and evaluative demands. She argued that this educational model worked well for goal-oriented learning, but does not adequately explain habitual learning. She further argued that reinforcement learning may be a better model for habitual learning.

Therefore, integrating both approaches in adult education programs may be necessary to develop social action abilities in students, which is a focus of career universities where graduates learn to navigate the intricacies of the work force.

Changing Demographics in Higher Education

Higher education has become an increasingly diverse place over the last 60 years. Reason (2009) argued that researchers need to re-examine measures of student success based on new demographic data that reflect the modern diverse student population on campuses. Variables that previously predicted student retention may no longer be applicable to a culturally different student population. Program planners, curriculum developers, and faculty need to adjust to a changing paradigm.

The world is becoming increasingly more interconnected, in large part due to technological advances and the need to address global issues, such as war, climate change, disease, depleted natural resources, and terrorism. Ameny-Dixon (2008) advocated that higher education needs to embrace the global perspective of multi-cultural education in order to maintain democratic societies in a pluralistic world. In addition, she argued that having a global perspective enables students to have a competitive edge in a global economy (Ameny-Dixon, 2008).

Schrottner (2008) concluded that "a reorientation concerning educational topics, which focuses on social cooperation, global solidarity, and a world-wide culture of peace, has to take place" (p. 118). Schrottner, like Ameny-Dixon (2008), advocated for the development of innovative educational models and a critical educational theory in order to meet the demands of the globalized future. She argued that, "In the 21st century, the adult learner should be culturally sensitive and internationally focused with an orientation toward the future rather than the past"

(Ameny-Dixon, 2008). Therefore, program planners in higher education will need to consider globalization, multiculturalism, and diversity when developing adult education courses and curriculum. These factors may reshape some of the premises and tenants that adult education is built upon. Adult educators should, therefore, prepare for possibly significant changes in higher education.

For example, Banks (2008) challenged the traditional practice of assimilation for foreign students into the dominant culture. He argued that education should be reformed to reflect the home cultures and languages of students from diverse groups, which was supported by other researchers (Ameny-Dixon, 2008, Kumi-Yeboah, 2011 & Schrottner, 2008). He further contended that by allowing diverse groups to stay unique in a heterogeneous education setting, these groups can gain equality with the dominant culture. Currently, most institutes of higher education incorporate multiculturalism programs into their student experience (Banks, 2008). However, little research exists on the impact of multicultural education on adult learners (Kumi-Yeboah, 2001). Banks' research may have significant implications for transforming education.

Traditional Versus Nontraditional Students

Another trend re-shaping higher education is the shift from traditional students to non-traditional students. The National Center for Educational Statistics (NCES) defined non-traditional students as ones meeting any one of the following characteristics: entry to college delayed by at least one year following high school, having dependents, being a single parent, being employed full time, being financially independent, attending part time, and not having a high school diploma (Ross-Gordon, 2009, p. 26). I have chosen these criteria in my research.

Since most adults have multiple roles and commitments they have an increased tendency to enroll in higher education courses that afford them flexibility in time and location. In addition, many adults go back to school to gain the necessary skills required for employment in a career field or vocation (Varmecky, 2012). The pressure to prepare students for the workforce has never been as strong as it is today (Clark, 2012). The non-traditional student demands flexible, career-focused, relevant education so that they can obtain a better economic standing. This is a radical shift from liberal education designed to develop the holistic student.

Rogers (2009) conducted a preliminary analysis of learning style preferences of adult learners in higher education. She concluded that students want to be more successful in an increasingly competitive global market. Success defined by students in Rogers' study was the ability to compete for employment in a competitive market (2009, p. 13).

Non-traditional learners comprise a significant portion of the contemporary student population in higher education (Ross-Gordon, 2011, p. 26). This growing population has challenged adult educators to develop new, innovative methods of instruction and delivering education programs. Some institutes of higher education have shifted their focus to serve the different needs and demands of this population. Taylor and Kroth (2009) developed an instrument to gauge whether a course in higher education adhered more to pedagogical (knowledge based) or andragogical (experience based) learning. They concluded that more course were pedagogical based. This is an area of continuing research and development in adult education.

Technology in the Classroom

During the last two decades, technology has increased dramatically in education across all sectors. Some research suggested that the non-traditional adult learner is more technologically adapt and does well with either online or blended learning experiences (Jefferies & Hyde, 2010). Although once regarded as inferior to traditional education methods, online learning has been gaining acceptance for quality and rigor (Moore & Fetzner, 2009).

Online class formats afford educators the ability to provide better individualized instruction to meet the needs of a diverse population of learners. Therefore, online classes may help realize the educational theories of Knowles (1980). Rydzewski (2010) identified that the most important characteristic of online programs to adult learners is course availability, followed by quality, length, and cost. Rydzewski's research supported the andragogical principle set forth by Knowles that adult learners want to decide what learning is important to them.

Student Evaluations

While it is acknowledged that the use of student evaluations is a methodological issue, their use in universities and other educational institutions has been and still is a contentious issue. This means that it could be argued that using them within a study may give rise to issues of validity and relevance; on the other hand, it can also be argued that they are key records that reflect, unlike many other studies, the views and beliefs of students themselves. A further point that can be made is that even if they are not seen as being a perfect reflection of the experiences of all students at all institutions, they are a valuable record and, as a researcher, the best use of the best available material will be made (the alternative being the abandonment of

the work). Therefore, the following discussion is necessary and justified because these data must be shown to have been useful and worthy tools for the work in hand.

Critiques of Student Evaluations

Marsh (2007) argued that student evaluations in higher education serve two main purposes. First, student evaluations should provide instructors with accurate, unbiased, and pertinent information on their teaching ability so that they may improve. Second, student evaluations should provide administrators with valid and reliable indicators of instructor and course effectiveness so that they can make summative decisions. Whether or not current models of student evaluations serve these purposes is debatable.

Student evaluations are a controversial subject in higher education (Alok, 2011). Balam and Shannon (2010) suggested that student perceptions of their education as an indicator of academic quality is unreliable because of the misconceptions that many students tend to harbor, while other researchers like Dresel and Rindermann (2011) demonstrated that student evaluations of teaching can be constructive if accompanied by objective and insightful counseling on the results.

The concern with student evaluations is not a new debate (Calkins & Micari, 2010). Faculty discontent with student evaluations dates back almost to their inception. Calkins and Micari (2010) cited that the staff at Purdue University developed the first formal student evaluation system in the 1920s and it became wide spread among other universities by the 1950s. By the early 1960s, student evaluations caused animosity between students and faculty along with distrust between faculty and administrators (Calkins & Micari, 2010, p. 7). This contention still exists at the time of the writing of this paper among the parties.

In the early 1990s, researchers suggested that student evaluations may not accurately reflect student learning. Wilson (1998) argued that student evaluations may be unrelated to objective measures of instructor or program goals and objectives. Furthermore, he concluded that academics are giving attention to new studies that raise questions about the validity of student ratings of teaching and the tendency of professors to teach to the evaluations (Wilson, 1998, p. A12). Wilson's research indicated the growing concern in higher education with the validity of student evaluations. In the first part of the 21st century, this concern is supported by several other researchers (Brockx, Spooren, & Mortelmans, 2011; Calkins & Micari, 2010; & Culver, 2010).

Student evaluations are particularly a source of contention between students and faculty. According to Calkins and Micari (2010), student evaluations have long symbolized the often uneasy relationship between students and faculty (p. 7). The relationship between student and faculty member is largely based on power. Traditionally, in higher education, the faculty member is viewed as authoritarian and the student as submissive (Jamieson, 2009). With the democratization of higher education campuses across the nation, students are challenging this paradigm (Bie & Meng, 2009; Cornelius-White, 2007). The changing paradigm aligns with the Knowles' (1950) theory of adult informal learning.

Another cause of the changing relationship between faculty and students that is reflected in student evaluations is the increased awareness of the student as a customer (Molesworth, Nixon, & Scullion, 2009; Woodall, Hiller, & Resnik, 2012 & Levin, 2005). Several factors have influenced the evolution of the student into the customer. Aggressive recruitment by public four-year institutions and the rise of

private sector institutions of higher education have resulted in an increasingly competitive market for students (Levin, 2005, p. 11). As the demand for students rises, institutes of higher education are forced to compete for enrollment in order to secure funding. Therefore, administrators in higher education rely on student evaluations or surveys to help determine what students want from a school.

Due to the continuous polling of students to analyze their needs and the use of that data to guide policy within the institution, many in higher education are concerned that learning is being compromised by being turned into a commodity to be sold and consumed (Kay et al., 2006; Muncy, 2008). Student evaluations, therefore, are looked upon by many faculty and staff members as nothing more than thinly disguised market surveys and not legitimate academic feedback sources. Thus, there is not a consensus among researchers as to the effectiveness of student evaluations. Researchers are studying the opinions of students to see how well they correlate to actual pedagogical performance (Calkins and Micari, 2010).

Students and government officials increasingly demand greater accountability of higher education performance (Allison & Cohen, 2010; King, 2007). In order for higher education administrators to gain accurate and useful information on program effectiveness, they rely on feedback from students. In addition, school faculty members need feedback on their teaching performance in the classroom to understand student learning outcomes (Wesp & Miele, 2008). However, student evaluations may not accurately describe the students' educational experiences.

Some evidence indicates that student evaluations may be subjective. Cayson and Haley (2011) conducted a research study to determine if students told the truth on their evaluations of their instructors. Their investigation showed that 30% of students

knowingly gave false information on their student evaluation response forms. Furthermore, their literature review indicated that students ignore or falsify answers to skew responses in favor of their opinions of important characteristics or behaviors, give subjective answers in response to objective questions, and give purposefully misleading and false responses. In addition, they discovered that a majority of students knew of respondents who had falsified student evaluations.

Factors Effecting Student Evaluations

Students' perceptions of their learning can be influenced by factors other than the actual learning process (Kherfi, 2011). For example, Wesp and Miele (2008) argued that several authors who assessed both effectiveness and opinion ratings noted incongruences between overall ratings of effectiveness of the instructor by the students and overall exam performance by the students (p. 361.). The researchers concluded that a more direct way to measure pedagogical effectiveness is warranted.

Another issue with analyzing student evaluations was that studies discovered that students tended to rate the course based on the instructor who taught the course as opposed to the actual course itself (Al-Sather, 2008). The inability of many students to distinguish the instructor from the course is problematic for researchers. The student evaluation questionnaire, therefore, comes into question as well as the focus of the researchers' studies.

Often, researchers presented research findings that were contradictory. For example, Brockx et al. (2011) discovered a positive relationship between course grades and student evaluation of teaching. Their research suggested that students tend to rate instructors who award them high marks favorably compared to ones that award them low marks. This research supported studies conducted by Backer (2012) and

Bowling (2008), which asserted students punish instructors for failing their work by giving the instructor low scores on student evaluations. In addition, Zabaleta (2007) showed in his study that a moderate correlation between low grades and low evaluations existed, but no correlation between high grades and high evaluations existed. Therefore, he argued that student evaluations should not be used during critical discussion between faculty and administrators on teaching effectiveness.

However, a study by Davidovitch (2009) concluded that no such correlation between grade and lecturer existed. She argued that the grade-evaluation link is a myth in academia. A separate study conducted by Barth (2008) supported Davidovitch's findings that students largely base their instructor evaluations on the quality of instruction. All other factors influencing student evaluations are secondary.

In contradiction of Backer's (2012) study, some research suggested that student evaluations are actually biased in the positive direction to favor instructors. Kherfi (2011) argued that students who were pleased with the class or instructor were more apt to respond to student evaluations. He confirmed through a matched-pair test that students who do better in a course are more likely to participate in student evaluations. Therefore, his results did not support the premise that student evaluations attract disproportionally unsatisfied students.

Gender and age may also play a role in student evaluations of their instructor (Slocombe, Miller, & Hite, 2011). According to Slocombe et al., students tended to give lower marks to male instructors and to instructors under 55 years of age. In addition, their research was contradictory to Brockx et al., who argued that poor grades awarded to students adversely affected the students' evaluations of their teachers. Slocombe et al. found no such correlation. Their research populations,

however, were different. Slocombe's et al. research population was a small private business college, while Brockx's et al. research population was a large public university. No study was found during the literature review on the difference in student population on responses in regards to student evaluations.

Differences in faculty populations, however, may affect student evaluations. Smith (2009) studied 190 tenure-track faculty members at a private university in the southern United States. He categorized each member into six groups, white males, white females, black males, black females, male faculty from other racial groups, and female faculty from other racial groups, and found differences in overall ratings for each group based on student evaluations. Smith's research showed that women from all groups rated lower than men and Black instructors rated lower than the other ethnic groups. Smith recommended because of these differences that further studies are needed to determine if this bias is more global.

Thus, race may play a role in student evaluations as Smith (2009) noted. A study conducted by Merritt (2008) discovered that minority professors at a university received significantly lower average ratings than white professors on the same class taught. Their data supported the premise that specific biases of students do negatively influence student evaluations of instructors.

Kozub's (2010) research concurred with Smith's (2009) work in gender influence on student evaluations. He concluded that although the correlation between gender and student evaluation ratings was typically small, it was significant enough to warrant consideration when assessing an instructor.

Faculty self-promotion, however, may be negatively correlated to student evaluations (Farreras & Boyle, 2012). Farreras and Boyle discovered that students'

perceived boastful self-promotion by the instructor lead to lower evaluation of that instructor on end of course evaluations. Of the five personality traits of self-presentation studied, ingratiation, intimidation, self-promotion, exemplification, and supplication, only self-promotion had any effect on student perceptions of the instructor's competence. Therefore, the researchers concluded that among the 322 student participants, personality traits accounted for 67% of the students' perceptions of the faculty (Farreras & Boyle, 2012).

Cultural awareness may also be a determinant of student evaluations (Beuckelaer, Lievens, & Becker, 2012). They discovered that faculty members are apt to receive higher ratings from students if they possess a high level of multicultural competence compared to faculty members who demonstrated cultural ignorance or indifference, regardless of the faculty's cultural background. This study further demonstrated the issues presented by Smith (2009) and Merritt (2008) on race as a factor in student evaluations. The works of these three researchers explored the sensitivity students have with respect as it applied to cultural differences.

Pinto and Mansfield (2010) explored the thought processes that students use when answering evaluations on instructors. They concluded that students tend to employ one of two possible evaluation strategies. System one processes are utilized by hurried students who put minimal effort into the evaluation and, consequently, provide superficial and emotional feedback. System two processes are utilized by more engaged students who place more thought into their deliberate answers. According to Pinto and Mansfield, the process that a student selects determines the evaluation rating more than any other single factor.

The last factor that may influence student evaluations that I examined was individual student preference in teaching style and instructor. Studies showed that personal tastes played a role in student rating on instructors and courses (Gross, Lakey, Edinger, Orehek, & Heffron, 2009). Students unconsciously favor certain teaching styles and even some instructors over others, based on factors that have nothing to do with the actual quality of the learning. Student bias, therefore, may negate the objectiveness of student evaluations and skew their results.

In conclusion, 32 of the research studies cited above brought attention to possible inconsistencies in student evaluations. Researchers investigated the effects of grades, gender, age, culture, race, instructor personality, student preferences, and student perceptions on student evaluations of their learning experience. The studies support the concerns that many in academia have with administrators using student evaluations to make staffing and program decisions. If administrators in higher education are to have confidence in the data from student evaluations, then researchers must discover if they are valid and accurate.

Support for Student Evaluations

Despite the research noted above, which highlighted possible problems with the usefulness of student evaluations in higher education, other researchers have shown that student evaluations can be valuable to administrators in higher education looking for decision making tools on instructor and course efficacy. Amrein-Beardsley and Haladyna (2012) argued that student evaluations that are grounded in educational theory can be effective tools. Their research concluded that most student evaluations in higher education are not rooted in an andragogical theoretical perspective (p. 18). Essentially, student evaluation questions typically inquire about

specifics of the instructor and course, but not about the learning experience. Amrein-Beardsley and Haladyna demonstrated that aligning student evaluation survey questions with a specific educational theory significantly increased the validity of the responses (p. 38).

Amrein-Beardsley and Haladyna (2012) formulated their study from the findings of previous researcher work done on student evaluations (p. 18). Skowronek, Friesen, and Masonjones, (2011) previously developed an effective student evaluation tool for higher education. They based their instrument on research into the components of best practices in teaching and student learning (p. 3). The theoretical framework for the instrument provided a lens that focused the survey questions on a specific adult education outcome. Skowronek et al. demonstrated that an instrument could be created that reliably and accurately analyzed the components of effective teaching practices by measuring the impact on student learning which was not influenced by other factors.

Serdyukova, Tatum, and Serdyukov (2010) showed that student evaluations can be an effective instrument in higher education. The survey that they analyzed from a large university showed a high degree of reliability and validity (Serdyukova et al., 2010, p. 185). The survey measured four andragogical areas: self-assessment of learning, assessment of teaching, assessment of course content, and assessment of web-based technology. Survey questions targeted specific learning outcomes that the university had identified as important to their students' educations. The researchers concluded that this survey approach met with a high degree of validity.

Other researchers' studies supported the theory that student evaluations can be developed that are reliable indicators of student learning. Ginns, Prosser, and Barrie

(2007) concluded that despite persistent perceptions of bias, student evaluations of teacher quality can be valid and useful. They argued that the student evaluation instrument that they studied, the Student Course Experience Questionnaire (SCEQ), was valid for purposes such as competitive performance-based funding of teaching and faculty reviews (Ginns et al. 2007, p. 611).

Some researchers did not find the same inherent bias in student evaluations as noted above by Brockx et al. (2011), Backer (2012), and Bowling (2008). Culver's (2010) research indicated that student grades do not necessarily influence the mark that students give to their instructors. He argued that the students' engagement with the course material significantly moderated the relationship between the course grade and the student evaluation of the instructor. Culver recognized that faculty are particularly concerned about the perceived relationship between student grades and student evaluations, which contributes to the faculty doubting that student evaluations are valid (2010, p. 331). This perception has contributed to the debate on student evaluations as an authentic assessment instrument.

Another misconception contradicted in the research review above is that there is a positive correlation between course workload and student evaluations of the instructor. Dee's (2007) investigation demonstrated that student ratings of workload and instructor performance in engineering courses were not positively correlated. Dee suggested that instructors should focus on teaching methods, student interaction, and course curriculum instead of the course workload (2007, p. 69).

In conclusion, 12 of the researchers in this literature review concluded that student evaluations of instructors and courses in higher education can be valid indicators of student learning. However, the caveat is that student evaluations must be

grounded in a theoretical framework of adult education and measure specific desired outcomes. All of the researchers acknowledge that faculty buy in of any student evaluation method was difficult. Perceptions of bias and subjectivity persist among academicians and will be difficult to overcome. However, it is argued that the points made in favor of student evaluations support the work in hand and, despite the caveats noted, the arguments against are, indeed, mainly based in perceptions and perceived subjectivity. Thus, with the reservations noted, and an understanding of the perceived disadvantages noted, the study, it is argued, retains credibility with the use of student evaluations.

Summary

Educators are facing a changing student population that is going to school with different aspirations, goals, and motivations than previous generations. Essentially, many if not most students want education that will help them achieve greater economic parity. If this were not self-evident, it would be difficult to justify the financial investment made by students or their families (Yorke, 2005), given that a limited number (who can afford to) may wish to pursue their studies for aesthetic reasons. They actively look for educational opportunities that will allow them to achieve their goals in the most flexible, efficient, and cost effective manner. This is a significant departure from the traditional model of higher education and places pressure on institutes of higher education to adapt to a changing climate.

In addition, student populations on campuses of higher education are becoming increasingly diverse. The traditional model of multiculturalism where minority students assimilate into the dominant culture is being replaced by a contemporary model of global perspective where minorities maintain their distinct

cultural heritage (Bourne, 2007). This changing paradigm adds more challenges to educators in higher education.

Technology is enabling some institutes of higher education to serve the various needs of a culturally, generationally, and motivationally diverse student population which has specific goals and expectations. Research in best practices in adult learning indicated that online learning as well as other instructional strategies may actually facilitate the learning of non-traditional students while in keeping with the andragogical framework established by the seminal theorists.

Student surveys may be useful tools for educators in higher education for the gathering of data on course and program effectiveness. Despite several concerns noted by some researchers, student evaluations can be accurate and reliable if based on a theoretical framework. Researchers showed that surveys can be valuable to administrators in higher education in guiding decisions on course content, instructor effectiveness, student satisfaction, and learning outcomes.

The research question asks about relationships between variables and the significance of these relationships between the variables selected: student self-reported satisfaction, program GPA, job placement rate (%), and the NPS scores, in each of 14 specialized masters of business administration (MBA) programs at a career university. These variables help determine if the specialized MBA programs are in alignment with the andragogical principles described by the theorists because it is based in an assumption that significant symmetries between the variables are indicative of their relative worth.

However, while it can be and is argued that this chapter has provided sufficient justification for the work and adequately identified the gap in the present

understanding of it, its potential to be accepted and regarded was contingent upon a rigorous and sufficiently valid method and research design. These are presented and discussed in Chapter 3.

Chapter 3: Research Method

The purpose of this correlational study was to understand the relationships between variables in adult education programs and students' perception of the quality of their educational programs. By specifically investigating the relationships between identified variables (program GPA, job placement rate, program completion rate, and the NPS) and student satisfaction for each of 14 specialized MBA programs at one campus of one career university, I had hoped to identify which variables from which programs are seen as most aligned with student expectations and the needs of the university as far as quality of program offerings. The variables were selected after a thorough review of the literature, which showed that they were relied upon by administrators in higher education to guide decision making on program effectiveness.

In this chapter, the methodology for the study is presented. I discuss the design, the data collection and analysis plans, ethical issues, and validity and reliability.

Research Design and Rationale

Little research exists on how administrators choose which programs to offer at career universities. Therefore, more research is needed to understand what programs best meet student requirements, which include employability and professional satisfaction with program choice. Currently, marketing research tends to drive course offerings at career universities. Marketing derives recommendations for program and course offerings based on the ability to sell the school to perspective students. This approach may not be the most appropriate method for basing such decisions.

A correlation analysis for the study was chosen. Correlation analysis is a type of quantitative strategy that invokes the postpositivist worldview (Creswell, 2009, p. 12). In keeping with the postpositivist research approach, the study aims to create new knowledge that will support social movements that aspire to change the world and contribute towards social justice. In a small way, this study may help reshape higher education thought processes on education offerings. By only offering courses that have been thoroughly scrutinized in a rigorous study for effectiveness, institutes of higher education can better serve students. In turn, students hopefully will not enroll in programs that do not meet specific criteria. Students, therefore, will not accrue unnecessary student loan debt that they are unable to pay back or earn degrees with which they are not fully satisfied.

Correlation analysis allowed the relationships that the variables have with each other to be analyzed as well as the possibility that multiple correlations exist. Specifically, a Spearman's Rho has been employed. The reason for this selection of statistical test is that primarily nonparametric data have been used. According to Frankfort-Nachmias and Nachmias (2009), a nonparametric test is one where the data is not normally distributed or arranged on a specific interval-level measure (p. 452). All of the variables, student self-reported satisfaction, program grade point average (GPA), job placement rate, program completion rate, and NPS are nonparametric. Each variable can be placed on a rank ordering of observation, or ordinal measure, which is nonparametric. In addition, they are not on a normal distribution scale.

Spearman's Rho is used when the researcher assumes that the variables under consideration are measured on at least one ordinal scale. It is the nonparametric equivalent to a standard correlation coefficient. In my research study, it was useful

because it allowed me to analyze the relationships, if any, among my ordinal variables.

Other correlation models exist, but either do not apply to my research question or do not yield the information that the research hoped to find. Since the data are not on an interval scale, the Pearson correlation was not appropriate. Furthermore, whether all of the variables exhibit linear relationships cannot be determined.

A chi-square test is another common correlation analysis that can be conducted for nonparametric ordinal or nominal data (Frankfort-Nachmias & Nachmias, 2009, p. 451). However, it is primarily used to test a hypothesis. Although this research study does involve hypothesis testing, chi-square is a measure of association among nominal variables. For these reasons, the chi-square test is inappropriate for my analysis.

The power α level was set at .05. This is the standard value in the social sciences (Creswell, 2008). Correlations in the data by using a correlation matrix were sought. A correlation close to an *R*-value of 1 or -1 was considered strong; conversely, a correlation close to 0 was considered weak. By conducting a correlation analysis, it was hoped to determine if the variables interact. Using Creswell's (2008) data, α value of .05, power of .8, 5 independent variables, and *r* value of .2, requires a sample size of 312. I used data from 400 students, which is an adequate sample size.

Data to be analyzed were all available, including the archived end of course student surveys, course GPA records, program completion rates, career placement rates, and NPS. These student surveys were anonymous and are grouped by cohort and not individual student responses. New data were not collected. The data are stored in the career university database, and I obtained approval to access and use. To make

sure the rights of the owners of the data were protected, I obtained IRB approval from the campus being studied as well as from Walden University.

Research Question

What are the relationships between university-identified quality variables (program GPA, job placement rate, program completion rate, and NPS) and student satisfaction for each of 14 specialized MBA programs at one campus of a career university?

H_o: There are no statistically significant correlations between student satisfaction and GPA, job placement rate, program completion scores, and program NPS recorded at one university during the years between and including 2007 to 2012.

H_a: There are significant correlations between student satisfaction and GPA, job placement rate, program completion scores, and program NPS recorded at one university during the years between and including 2007 to 2012.

I was interested in the relationships that may exist between four variables and the extent and strength of the relationship that each may have on a further one (program outcomes). The rationale was that some useful inferences could be drawn from these relationships, specifically the extent to which elements of programs, either singularly or as combinations, may have an effect on program outcomes (recalling that the main purpose of adult education from the perspective of students is held to be enhanced career prospects). This may lead to useful recommendations being made to program administrators and strategic planners. As noted below in Figure 1, the relationship of the variables to outcomes is multidimensional.

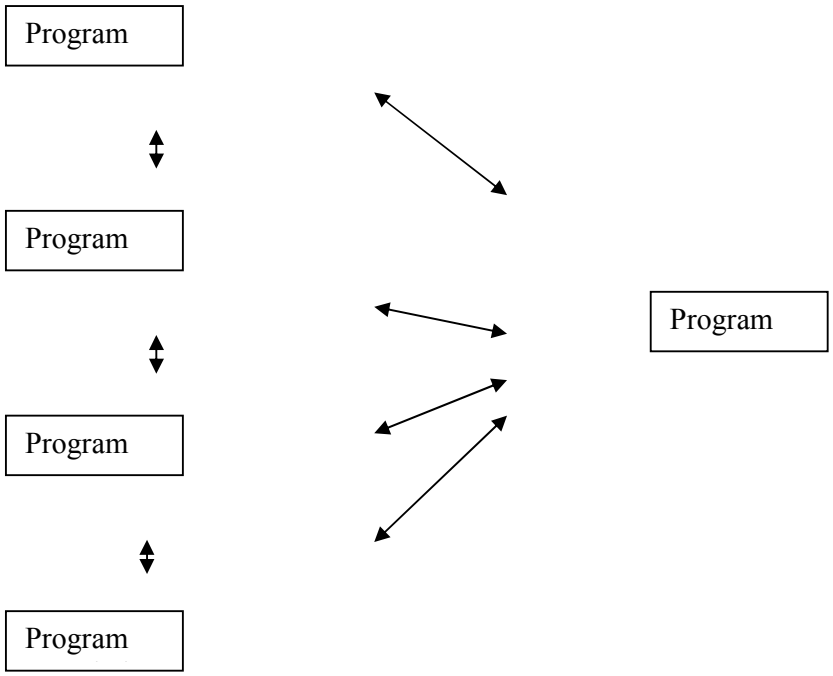

Figure 1. Potential relationships between the variables.

An extension to the study is possible, whereby individual course outcomes may be used to draw further inferences about the components of courses. However, this is a recommendation for a further study rather than as a part of this one.

Setting

The site for the research study was one campus of a private career university in an urban setting. The school is regionally accredited and has been in existence for over 80 years. It belongs to a larger international organization with over 95 campuses. The campus has approximately 600 students in various degree programs ranging from associates to bachelors to masters level. Instruction is accomplished via a hybrid model consisting of both on site courses and online assignments. This particular school was selected because it is a recognized leader in career education. It has

maintained its status as a viable education alternative to more traditional higher education models by remaining responsive to changes in the education industry. The school administrators are always looking for ways to serve students better while keeping operating costs at acceptable levels. The dynamic nature of the school makes it ideal for studying change management as it relates to program offerings.

Selection of Data

The data collected for the research study were from existing archived records at the university. The data are collected each year and maintained on a continuing basis by the institution. Some of the data are generated by student and alumni self-reporting in surveys (job placement rate, NPS, student satisfaction), and others are generated by course system reporting (program GPA, program completion rate). All data are de-identified or reported in aggregate form. Approval from the appropriate authority at the university to use the records was obtained. Permission from individual students was not required as the data are aggregated into end of course surveys, which do not reflect specific students.

All data files are archived electronically in the university's data storage program. Examples of the data sources and types are shown in Appendices A and B. Mean scores are generated for student satisfaction, GPA, NPS, and percentages are recorded for job placement and completion rates. NPS is a newer metric introduced by Reichheld in 2003 and is based on the fundamental perspective that every company's customers, including students in higher education, can be divided into three categories: promoters, passives, and detractors. By asking customers if they would recommend the company to a friend or colleague, personnel can track the three groups and get a measure of performance (Reichheld, 2013). To calculate the raw score,

customers respond on a 0 to 10 point Likert-type rating scale and are categorized into the three groups. The final score is supposed to measure customer loyalty to the company. Administrators in higher education may use this model to help decide which programs are viable at their campuses. Since maintaining highly specialized programs can be cost prohibitive and unsustainable due to limited faculty and resource allocations, administrators need to be conscious of cost savings wherever possible. This research study may help improve such efficiencies in higher education.

The files were sent to me via email and stored on my password-protected computer. I transcribed the data into Microsoft Excel so that they could be compiled and categorized for ease of review. From there, the data were loaded into the SPSS for analysis.

Data Analysis Plan

As noted above, the software used is the SPSS. The data were double entered into variables and cleaned before analyses begin.

The use of Spearman's Rho enables the strength of the relationship between two variables to be measured, with the only condition that both are on an ordinal scale (Frankfort-Nachmias & Nachmias, 2009). Thus, the strength of the relationship between, for example, program GPA (see Table 1 for the full list of variables) and placement rate gives some insight into the value of the degree and the abilities demonstrated by the student as perceived by employers. Similarly, the strength of the relationship between program satisfaction and placement rate potentially allows the inference that students perceive satisfaction in terms of their enhanced employability.

Threats to Validity

In research, a researcher needs to be aware of both internal and external validity (Creswell, 2008). Internal validity deals with concerns that the experiment may affect the outcome of the study and, therefore, skew the data. External validity deals with the issue of generalization, where the concern is the degree that the outcomes of the research study can be applied in other settings or to a larger population. In general, as a researcher attempts to increase internal validity, external validity decreases (Creswell, 2008). This phenomenon is largely because as the researcher controls all of the variables, the study less resembles the real world or cannot replicate the study elsewhere.

I am concerned with internal validity in my study because even though it is not experimental and not cause-effect, inferences are drawn from the relationships that may exist between the variables. External validity in the research study will be enhanced by ensuring that there is a sufficient population size. As previously noted, using Creswell's (2008) data, α value of .05, power of .8, 5 independent variables, and R [r for correlation] value of .2, requires a sample size of 312. More than 400 students meet this minimum criterion. Therefore, it is believed that there is an adequate sample size. The sample of program evaluation data was randomly selected. Random sampling also helps increase external validity because it minimizes bias in the study.

In order to increase reliability, programs from 2007 through 2012 were examined in my research study. This time frame represents 5 consecutive years of program data for comparison. In addition, the literature reviewed in Chapter 2 supports that the variables I selected are reliable indicators of what they measure. In

addition, the data are triangulated. All five variables have been shown by the research in Chapter 2 to contribute to student satisfaction with their program selection.

Ethical Considerations

Since students for the research study were not directly observed, and data are limited to whole program averages, individual anonymity has been maintained, and there are no human participants according to IRB definitions. This means there are no recruiting materials, selection criteria, or individual consents required. I have liaised with the student records office and both they and I are satisfied that no confidences or anonymity will be breached. Institution personnel have signed the data use agreement, and I followed IRB protocols and obtained IRB approvals from both Walden (09-15-14-0129247) and the host data site before the study was conducted. Data are stored on my password-protected computer, and I will not share the raw data with others. The final report will be shared with institution personnel, so I will create an executive summary for that purpose. I will destroy the particular data files used for my study after the 5-year period identified in IRB materials.

No personal interviews were needed for this research study. As an area of future study, individual student interviews could be used as a qualitative analysis to support the quantitative study. Future researchers perhaps could conduct a mixed methods research study to compare the nuances between the statistical evidence and actual student perceptions of their programs.

Summary of Design and Methodology of the Method of Inquiry

In Chapter 3, a detailed methodology for conducting the research study was outlined. A justification for using a Spearman Rho correlation as well as reasons for not using other methods was included. The setting was described, the selection of the

sample population explained, and the data collection method was detailed. Furthermore, how concerns with validity and reliability would be addressed was discussed. This leads to a presentation of the results obtained and thus to Chapter 4.

Chapter 4: Results

The findings that are presented below are set out in an objective and equitable manner to show that there have been no prejudgments made and that there is no attempt to direct them towards a desired result. The fundamental aim of the research was to establish the strength and consistency of relationships that may exist between variables that are used to make judgments with regard to MBA scores at one U.S. university. Of particular interest is the relationship that each of four variables may have with a fifth, which is program outcomes (effectively placement rates among different professions). The rationale was that some useful inferences may be drawn from these relationships, specifically the extent to which elements of programs, either singularly or as combinations, may have an effect on these program outcomes (recalling that the main purpose of adult education from the perspective of students is held to be enhanced career prospects).

The statistical tool used for measuring the extent of relationships between the variables was Spearman's Rho. This may lead to useful recommendations being made to program administrators and strategic planners following an analysis of the results in the following chapter, and this in turn may lead to recommendations being made to program administrators and strategic planners as the work ends.

The research question posed for the study was the following: What are the relationships between university-identified quality variables (program GPA, job placement rate, program completion rate, and NPS) and student satisfaction for each of 14 specialized MBA programs at one campus of a career university? The null hypothesis set was as follows: H_o: There are no statistically significant correlations between student satisfaction and GPA, job placement rate, program completion

scores, and program NPS recorded at one university during the years between and including 2007 to 2012. H_a: There are significant correlations between student satisfaction and GPA, job placement rate, program completion scores, and program NPS recorded at one university during the years between and including 2007 to 2012. Before proceeding with the results, a brief summary of the variables and what they measure can be highlighted.

Variables

Program satisfaction scores are the results of a survey of students at the end of each course based on responses to a number of questionnaire items and expressed as a percentage, while program completion rates are the percentages of students who complete a course.

Program GPS scores are the all-important scores that enable students (and staff) to monitor the progress being made by individuals as they proceed through their time at university. The scores for each course, ranging from 0 to 4.0, are simply added to the existing total and the result is divided by the total number of courses. The GPA average that exists for groups of students on specific courses can be calculated.

Program NPS are based in the division of a group of stakeholders (such as customers and students) into three categories based on their response to the following one question: How likely is it that you would recommend your school to a friend or colleague? The results are placed on a scale where those scoring highly (9 – 10) are categorized as being promoters, followed by passives (7 – 8) and then detractors (0 – 6). An overall score is gained by deducting the percentage of students who are detractors from the percentage that are promoters.

Placement rates for students are the percentages of students who gain employment in their degree field within a year of graduating. Although somewhat controversial in terms of academic freedom, this has come to be a key metric that has to be reported by all institutions to the Department of Education and Labor. The realities of life (repaying student loans), and the perceived value of the education that they will receive, particularly at career universities, means that many students base their choice of university on this measure. The variables were organized and named as shown in Table 2.

Table 2

Variable names in SPSS

	Program satisfaction	Program completion rates	Program GPA	Program NPS	Program placement rates
2006	ProgSat2006	CompRate2006	ProgGPA2006	ProgNPS2006	PlacRate2006
2007	ProgSat2007	CompRate2007	ProgGPA2007	ProgNPS2007	PlacRate2007
2008	ProgSat2008	CompRate2008	ProgGPA2008	ProgNPS2008	PlacRate2008
2009	ProgSat2009	CompRate2009	ProgGPA2009	ProgNPS2009	PlacRate2009
2010	ProgSat2010	CompRate2010	ProgGPA2010	ProgNPS2010	PlacRate2010
2011	ProgSat2011	CompRate2011	ProgGPA2011	ProgNPS2011	PlacRate2011
2012	ProgSat2012	CompRate2012	ProgGPA2012	ProgNPS2012	PlacRate2012

As noted, the four variables, program satisfaction, program completion rates, program GPA, and program NPS can be analyzed with regard to the extent to which they may be related and the level of analysis is annually. The following seven subsections are divided accordingly.

Analysis for 2006

The results for Spearman's rank order correlations for the variables program satisfaction, program completion rates, program GPA, and program NPS for 2006 are shown in Table 3. There are an array differences in terms of the strengths of relationships between the variables, with the most significant being between program GPA and program NPS.

Table 3
Spearman's Rank Order Correlations for Four Variables, 2006

		ProgSat 2006	CompRate 2006	ProgGPA 2006	ProgNPS 2006
ProgSat2006	Correlation coefficient	1.000	-.116	.203	.203
	Sig. (2-tailed)	.	.827	.700	.700
	N	6	6	6	6
CompRate2006	Correlation coefficient	-.116	1.000	.714	.771
	Sig. (2-tailed)	.827	.	.111	.072
	N	6	6	6	6
ProgGPA2006	Correlation coefficient	.203	.714	1.000	.829*
	Sig. (2-tailed)	.700	.111	.	.042
	N	6	6	6	6
ProgNPS2006	Correlation coefficient	.203	.771	.829*	1.000
	Sig. (2-tailed)	.700	.072	.042	.
	N	6	6	6	6

Analysis for 2007

The results for Spearman's rank order correlations for the variables program satisfaction, program completion rates, program GPA, and program NPS for 2007 are shown in Table 4:

Table 4

Spearman's Rank Order Correlations for 4 Variables, 2007

			ProgSat 2007	CompRate 2007	ProgGPA 2007	ProgNPS 2007
	ProgSat2007	Correlation coefficient	1.000	.200	.086	-.086
		Sig. (2-tailed)	.	.704	.872	.872
		N	6	6	6	6
	CompRate2007	Correlation coefficient	.200	1.000	.314	.829*
		Sig. (2-tailed)	.704	.	.544	.042
		N	6	6	6	6
	ProgGPA2007	Correlation coefficient	.086	.314	1.000	.714
		Sig. (2-tailed)	.872	.544	.	.111
		N	6	6	6	6
	ProgNPS2007	Correlation coefficient	-.086	.829*	.714	1.000
		Sig. (2-tailed)	.872	.042	.111	.
		N	6	6	6	6

As can be seen from Table 4, while the correlations remain in the same directions, the statistically most significant relationship for this year is between program NPS and program completion rates. The relationship between program GPA and program NPS, while not statistically significant, continues to show some strength.

Analysis for 2008

The results for Spearman's rank order correlations for the variables Program Satisfaction, Program Completion Rates, Program GPA, and Program NPS for 2008 are shown in Table 5.

Table 5

Spearman's Rank Order Correlations for Four Variables, 2008

		ProgSat 2008	CompRate 2008	ProgGPA 2008	ProgNPS 2008
ProgSat2008	Correlation coefficient	1.000	1.000**	.600	.086
	Sig. (2-tailed)	.	.	.208	.872
	N	6	6	6	6
CompRate2008	Correlation coefficient	1.000**	1.000	.600	.086
	Sig. (2-tailed)	.	.	.208	.872
	N	6	6	6	6
ProgGPA2008	Correlation coefficient	.600	.600	1.000	.714
	Sig. (2-tailed)	.208	.208	.	.111
	N	6	6	6	6
ProgNPS2008	Correlation coefficient	.086	.086	.714	1.000
	Sig. (2-tailed)	.872	.872	.111	.
	N	6	6	6	6

For this year (2008), the significance of the relationship between Program GPA and Program NPS remained the same as for 2007. This aside, there were no statistically significant relationships recorded.

Analysis for 2009

The results for Spearman's rank order correlations for the variables Program Satisfaction, Program Completion Rates, Program GPA, and Program NPS for 2009 are shown in Table 6:

Table 6

Spearman's Rank Order Correlations for Four Variables, 2009

		ProgSat 2009	CompRate 2009	ProgGPA 2009	ProgNPS 2009
ProgSat2009	Correlation coefficient	1.000	.943**	.943**	.600
	Sig. (2-tailed)	.	.005	.005	.208
	N	6	6	6	6
CompRate2009	Correlation coefficient	.943**	1.000	.886*	.714
	Sig. (2-tailed)	.005	.	.019	.111
	N	6	6	6	6
ProgGPA2009	Correlation coefficient	.943**	.886*	1.000	.543
	Sig. (2-tailed)	.005	.019	.	.266
	N	6	6	6	6
ProgNPS2009	Correlation coefficient	.600	.714	.543	1.000
	Sig. (2-tailed)	.208	.111	.266	.
	N	6	6	6	6

As Table 6 indicates, there is no significance between Program GPA and Program NPS for 2009, but with strong statistical significance existing between Program GPA and Program Satisfaction and between Program GPA and Completion Rates.

Analysis for 2010

The results for Spearman's rank order correlations for the variables Program Satisfaction, Program Completion Rates, Program GPA, and Program NPS for 2010 are shown in Table 7:

Table 7

Spearman's Rank Order Correlations for 4 Variables, 2010

		ProgSat 2010	CompRate 2010	ProgGPA 2010	ProgNPS 2010
ProgSat2010	Correlation coefficient	1.000	.088	.771	.029
	Sig. (2-tailed)	.	.868	.072	.957
	N	6	6	6	6
CompRate2010	Correlation coefficient	.088	1.000	.000	.883*
	Sig. (2-tailed)	.868	.	1.000	.020
	N	6	6	6	6
ProgGPA2010	Correlation coefficient	.771	.000	1.000	-.086
	Sig. (2-tailed)	.072	1.000	.	.872
	N	6	6	6	6
ProgNPS2010	Correlation coefficient	.029	.883*	-.086	1.000
	Sig. (2-tailed)	.957	.020	.872	.
	N	6	6	6	6

The trend from earlier years of a relationship between Program GPA and Program NPS has, as Table 7 shows, completely dissipated by 2010, while there is statistical significance between Program NPS and Completion rates.

Analysis for 2011

The results for Spearman's rank order correlations for the variables Program Satisfaction, Program Completion Rates, Program GPA, and Program NPS for 2011 are included below in Table 8. As shown, there were no statistically significant relationships for 2011, with the strongest correlation being between Program GPA and Program NPS, a return to a trend that is in evidence for 3 earlier years (2006, 2007, and 2008).

Table 8

Spearman's Rank Order Correlations for four Variables, 2011

		ProgSat 2011	CompRate 2011	ProgGPA 2011	ProgNPS 2011
ProgSat2011	Correlation coefficient	1.000	.029	.486	.600
	Sig. (2-tailed)	.	.957	.329	.208
	N	6	6	6	6
CompRate2011	Correlation coefficient	.029	1.000	.143	.429
	Sig. (2-tailed)	.957	.	.787	.397
	N	6	6	6	6
ProgGPA2011	Correlation coefficient	.486	.143	1.000	.714
	Sig. (2-tailed)	.329	.787	.	.111
	N	6	6	6	6
ProgNPS2011	Correlation coefficient	.600	.429	.714	1.000
	Sig. (2-tailed)	.208	.397	.111	.
	N	6	6	6	6

Analysis for 2012

The results for Spearman's rank order correlations for the variables Program Satisfaction, Program Completion Rates, Program GPA, and Program NPS for 2012 are shown below in Table 9:

Table 9

Spearman's rank order correlations for four variables, 2012

		ProgSat 2012	CompRate 2012	ProgGPA 2012	ProgNPS 2012
ProgSat2012	Correlation Coefficient	1.000	.577	.371	.029
	Sig. (2-tailed)	.	.231	.468	.957
	N	6	6	6	6
CompRate2012	Correlation Coefficient	.577	1.000	.334	.213
	Sig. (2-tailed)	.231	.	.518	.686
	N	6	6	6	6
ProgGPA2012	Correlation Coefficient	.371	.334	1.000	.714
	Sig. (2-tailed)	.468	.518	.	.111
	N	6	6	6	6
ProgNPS2012	Correlation Coefficient	.029	.213	.714	1.000
	Sig. (2-tailed)	.957	.686	.111	.
	N	6	6	6	6

Although not statistically significant, the strongest correlation for 2012 is between Program GPA and Program NPS. This has been the consistently strongest relationship

over the seven years studied, having been the most significant in four of these seven years, and with only two years (2009 and 2010) when statistical significance or inferred significance cannot be claimed.

Placement Rates

As noted above, placement rates are considered a key metric that has to be reported by all institutions to the Department of Education and Labor and the resulting statistics are, in reality, often the basis for choices made by students at a university level. They may also be used at course levels but what is not known by institutions is the extent to which factors contained within course data may influence these outcomes. Table 10 below summarizes the placement rates for 14 professions from one university:

Table 10

Placement rates from MBA courses across course specializations (%)

MBA Specialization	2006	2007	2008	2009	2010	2011	2012
Accounting	100	100	100	90	100	100	100
Customer Experience Management	80	80	60	65	67	82	90
Finance	87	100	100	100	96	100	90
General Management	78	72	87	83	82	56	88
Health Services	92	90	92	91	100	90	92
Hospitality Management	88	84	64	64	71	76	89
Human Resources	92	86	76	87	89	88	76
Information Security	100	100	100	100	100	100	100
Information Systems Management	100	100	100	100	100	100	100
International Business	80	50	64	78	63	48	67
Marketing	90	85	89	90	73	86	78
Network & Communications Management	100	100	100	100	100	100	100
Project Management	96	88	94	78	90	90	85
Public Administration	84	76	78	45	72	54	78
Mean average	90.5	86.5	86.0	83.64	85.93	83.57	88.07
Standard deviation	8.01	14.22	14.93	16.43	14.15	18.43	10.36

Descriptive Comparisons

It is relevant to compare the results from Table 10 with the scores from each of the four variables measured for the years 2006 – 2012 inclusive. This is undertaken in Table 11:

Table 11

Comparison of mean values and standard deviations, five variables

	2006	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**
Program satisfaction	Ave 3.13 S/D .315	Ave 3.35 S/D .263	Ave 3.31 S/D .400	Ave 3.32 S/D .180	Ave 3.49 S/D .258	Ave 3.60 S/D .193	Ave 3.45 S/D .292
Program GPA	Ave 2.95 S/D .428	Ave 3.01 S/D .417	Ave 3.38 S/D .218	Ave 3.17 S/D .356	Ave 3.17 S/D .194	Ave 3.23 S/D .180	Ave 2.54 S/D .560
Program NPS	Ave 8.2 S/D .850	Ave 8.25 S/D .886	Ave 8.12 S/D .577	Ave 8.34 S/D .794	Ave 8.34 S/D .693	Ave 8.19 S/D 1.01	Ave 8.20 S/D .583
Program completion rates	Ave 82.3 S/D 6.28	Ave 86.8 S/D 8.26	Ave 82.3 S/D 9.71	Ave 92.3 S/D 5.28	Ave 95.5 S/D 4.18	Ave 91.0 S/D 6.45	Ave 89.8 S/D 5.23
Placement rates	Ave 90.5 S/D 8.01	Ave 86.5 S/D 14.2	Ave 86.0 S/D 14.9	Ave 83.6 S/D 16.4	Ave 85.9 S/D 14.2	Ave 83.6 S/D 18.4	Ave 88.1 S/D 10.4

Comparison Between Correlations and Placement Rates

In this section, placement rates are compared between the correlation coefficients found in Tables 3 to 9 inclusive. In the interests of relevance, only correlations above 0.75 are shown below in Table 12:

Table 12

Comparison of correlation coefficients above 0.75 with placement rates

Year	Placement rates average	Correlation coefficients above 0.7
2006	90.5	NPS/GPA 0.829 NPS/Completion Rates 0.771
2007	86.5	NPS/Completion Rates 0.829
2008	86.0	None
2009	83.6	Completion Rates/Program Satisfaction 0.943 GPA/Program Satisfaction 0.943 GPA/Completion Rates 0.886
2010	85.9	NPS/Completion Rates 0.883 GPA/Program Satisfaction 0.771
2011	83.6	None
2012	88.1	None

The research question and null hypothesis that guide this study have been reiterated several times through the course of it, including in this chapter. Without pre-empting the remainder of the work, it can be stated that because some statistically significant results have been found, the null hypothesis (that there are no statistically significant relationships between the variables) is rejected. As noted at the outset of this chapter, and in line with the aims of objectivity and equity, and to demonstrate that no pre-judgments have been made, the results have been set out with no analysis or comments so the research question is not here analyzed, this being the purpose of the chapter that follows.

Chapter 5: Discussion, Conclusions, and Recommendations

The purpose of this study has been to understand the relationships between variables in adult education programs and students' perception of the quality of their educational programs. The rationale for the study has been explained in detail in previous chapters, and this can be seen as the chapter that draws together and discusses the results from Chapter 4 and the theories that underpinned and justified their use, as presented above in Chapter 2.

While the relative value of adult education generally and of MBA programs specifically is not a new area of research, and while consideration of the content of such courses is also grounded within a range of studies and expressed views, a study that aims to quantify the relative value of them is a rarity, particularly one that seeks to draw upon data held by institutions that has been collected for other purposes. This effectively means two things. One is that that there are no yardsticks against which results may be compared and another is that the exploratory nature of such work may produce surprising outcomes or ones that indicate no or little significance. This latter point is a risk that any research in any new niche runs, and it should therefore not be judged so much by the fact of finding or not finding significance but in the fact of establishing whether such an approach using such data may or may not be worth pursuing further. In other words, it is the justified undertaking of the research, the aim of finding out, that matters most, and this is particularly so if an analysis of the results can lead to the recommending of alternative or complementary avenues for future work.

Summary of Findings

It was necessary in the interests of the nature of the research to first explore the relationships between the four variables (program satisfaction, program NPS, program GPS, and program completion rates) so that not only are any possible relationships established but also whether these relationships endured across the four variables for the 7 years studied. One key aspect of this was to demonstrate that there was internal validity within the data produced and this would be shown through the relative consistency of the findings. The strength of the relationships over time would have to be clear and relatively unambiguous because of the relatively small number of observations in each variable for each year (effectively one observation for each of the six terms in the academic calendar). Because it is this consistency (or lack of it) that is the key parameter of interest for this part of the discussion, the results are considered in terms of the relationships across the years rather than in terms of all of them for each year (as they were presented in the previous chapter).

Relationships Between Program GPA and Program NPS Across 7 Years

The results from Spearman's rank order correlations for the variables program satisfaction, program completion rates, program GPA, and program NPS for all of the years are shown in Chapter 4 (above). From these, the specific relationships can be scrutinized.

For 2006, the relationship between program GPA and program NPS was strong, with a correlation coefficient of .829 and a significance of .042 (which is within the normally used standard for significance, where $p \leq .05$). For 2007, the results remain in the same directions and are indicative of some significance, although not at the level of statistical significance, with a correlation coefficient of .714 and $p =$

.111. In 2008, the scores were the same, again indicating that there was significance but not a level where statistical rigor can be claimed. For 2009, the correlation was significantly lower at .543 and so, therefore, was the level of significance at $p = .266$. In 2010, this measure showed that these variables were slightly negative with a correlation of -.86 but the fact that this indicates close to no relationship at all can be seen by the level of significance of $p = .872$. For 2011, the results returned to those of previous years, with a correlation coefficient and significance level of .714 and $p = .111$ respectively and the same can be said for 2012, where the results were the same.

This raises several questions for this and, indeed, for other results that are presented below. One is whether the fact that in one year out of seven the results showed no level of correlation or significance means that this effectively invalidates any significance in any other years; another similar question is whether the setting of a standard at one point on a scale is a useful way of judging the worth of results, particularly when, as noted above, the statistical value of these results can be questioned because of a low number of observations used to construct each variable.

The standard assumption of significance at $p = \leq .5$ means that the chance of getting a random result is 1 in 20 at .5, but researchers must question if this is a valid measure of right or wrong, good or bad. Goodman (2008) made the point that just because a coin is flipped four times and comes up with heads every time does not mean that there is a .125 chance that it is double headed. Applying the same logic, the fact that something that has a p value of less than .5 does not mean that it is significant as judged by real world values any more than something that scores more than .5 has no significance; it can be assumed that there are no difference or relationships between the variables measured. A further point that can be made is that

the level of significance will be contingent upon factors other than the statistical test itself, for example different subject areas will have differing points of delineation and to make an arbitrary statement of significant or not significant is, surely, too simplistic and too reductionist. Similarly, the use of null hypothesis statistical testing can be criticized on a number of grounds; for example, it assumes that if the null is accepted, there will be no effect, that one variable will not change another at all, that effectively nothing will happen. Fundamentally, by rejecting something outright because a particular level of rigor has not been reached, any "continuum of uncertainty" is removed (Davis 2005, p. 3). I have to question whether real world values, those that exist within the metaphysical and human behavior realms, are best justified by the constricted yes/no narrowness of statistical significance, or whether wider judgments of significance should be applied so that rational inferences can be made. Upon consideration, my choice is the latter, and this is reflected in the following discussions.

With these points in mind, attention can return to the correlations between program GPS and program NPS. Program GPS contains the all-important scores that enable students (and staff) to monitor progress being made by individuals as they proceed through their time at university. Program NPS scores place students into three categories based on their response to one question, which effectively asks them for their opinion about how motivated they feel at their place of study. The discussion above suggests that in all but 1 of the 7 years, there was a positive correlation between program GPS and program NPS but that it was only statistically significant in one of those years. The question is whether it is a reflection of reality and truth to effectively state that because there were not consistent statistical significances, there is no

relationship between program GPS and program NPS or whether a real world view should be taken and that it should be stated that there is a relationship between the two variables. Intuition and common sense aside, the effect of taking the former view is that there is absolutely no difference between the academic results achieved by motivated and contented students and those who are less motivated and less contented.

As I cannot within my epistemological and ontological views accept such a simplistic and reductionist interpretation of the results, I argue that a relationship between the two variables has been established across the seven years in question.

Relationships Between Program GPA and Program Satisfaction Across 7 Years

For 2006, the correlation coefficient between program GPA and program satisfaction was measured at .203 and significance was measured at $p = .700$. This is clearly indicative of a very weak relationship with no significance. For 2007, the scores were similarly weak, standing at .086 and .872 respectively; for 2008, they were .600 and .208, while for 2008 the correlation coefficient is .600 and the significance $p = .208$. For 2009, the correlation coefficient was very strong at .943 and this was statistically significant at $p = .05$. This is a surprising result and one that is not at all in keeping with the years before it or the years after it, with 2010 showing a correlation coefficient of .771 and a significance level of $p = .072$, 2011 showing respectively .486 and .329 and 2012 a correlation coefficient of .371 and significance of $p = .468$.

It is argued that these results not only support a contention that we should look beyond the simplicity of yes/no significance and accept/reject hypothesis testing but also that they support the discussion concerning program GPA and program NPS.

This is because one set is what can be described as being erratically significant (as humans and their behavior often are) while the other can be described as being erratically insignificant (as humans and their behavior often are). While each had one very atypical year, the relationship between program GPS and program NPS was consistently in the range of .7 to .9 as measured by the correlation coefficients while the relationship between program GPS and program satisfaction was consistently in the range of 0.0 to .78.

Why, it may be asked, would there be no relationship between program GPS and program satisfaction when there so clearly is one between program GPS and program NPS. The answer is that program GPS is a measure of results up to a given point in time and so reflects all courses taken. Similarly, program NPS is also a measure of motivation and agreeableness towards the institution over a whole period of study. However, program satisfaction is a survey taken at the end of a course and so measures the feelings of the students towards a course, which includes many variables (for example atmosphere, perceived competence of the instructor, and presentation methods), and so it would be extremely surprising if there were a relationship found between this measure and program GPS.

Relationships Between Program GPA and Program Completion Rate Across 7 Years

For 2006, the correlation coefficient between program GPA and program completion rates is .714 while the significance is p - .111. For 2007, the scores are .314 and .544 respectively while for 2008 the correlation coefficient is .6 and the significance is p = .208. For 2009, the correlation coefficient is .886 and this is statistically significant, with p = .019. For 2010, the coefficient is 0 and significance

is 1, while for 2011 the scores are .143 and .787 respectively. The year 2012 shows a correlation coefficient of .344, with a significance of $p = .518$.

It is clear that for the whole period, no significance between program GPA and program completion rates can be claimed. At first glance, this may seem a rather counter-intuitive result based on a common sense understanding that the more likely it is that students would complete a course, the higher their overall GPA scores would be. Therefore, unwanted confounding variables must be considered and here intuition can move in different directions; for example, it may be that the more students who complete a course, the more there are likely to be those with lower scores at the margin between high and low levels of completion. There may be unknown reasons that explain this such as instructors using varying levels of tolerance with regard to allowing students to complete, with penalties for being given a second chance in failed exams or coursework or the likely fact that it is the students who are given the second chance *de facto* being likely to score lower marks. In such a scenario, it is the instructors who are less prepared to be tolerant towards students who would be given a further chance by others who are likely to have students with higher GPA scores. When all of these and other unknowns are considered within a measure of whole programs, rather than it being surprising that were no significant relationships, it would be surprising if there were.

Relationships Between Program NPS and Program Satisfaction Rates Across 7 Years

For 2006, the correlation coefficient between program NPS and program satisfaction rates is .203, with a statistical significance of $p = .700$, which indicates no measured level of correlation. For 2007, the figures are -.086 and .872, from which a

similar conclusion can be reached, while for 2008 the figures are the same. For 2009, the figures are .600 and .208 that, while indicative of some minor level of relationship, can be seen in similar light to the results for previous years. A similar pattern can be seen for 2010, 2011, and 2012 with results of .029 and 957, .600 and .208 and .029 and .957 respectively for correlation coefficient and *p* values respectively.

To a greater extent even than some previous measures, I accept that neither real world nor statistical significance can be inferred between program NPS and program satisfaction rates. This, again, may at first glance seem to be counter intuitive. This counter intuition stems from the fact that both are some measure of levels of student feelings towards their institution and their studies. Therefore, it is again likely that unwanted and unknown variables may have entered the equation. For example, while students may be satisfied with their wider experiences at an institution, they may be less satisfied with their learning experiences on courses that make up their programs. A further important (but less measurable) factor may be that students who are more likely to be enthusiastic and motivated by their whole experience may be more likely to be critical of the construction of courses and of individual instructors precisely because they are more motivated towards learning and succeeding. Thus, it can again be concluded that when considered more deeply and in light of the results obtained, there are likely to be unmeasured confounding factors that have been of such importance that the anticipated outcome was not found.

Relationships Between Program NPS and Program Completion Rates Across 7 Years

For 2006, the correlation coefficient between program NPS and program completion rates is .771 and the significance is .072. While outside the strict yes/no parameters of statistical testing, this result may be considered as being within a real world level of significance. This is more than supported by the results for 2007, which not only indicates real world significance but also a statistical one, with a correlation coefficient of .829 and a *p* value of .042. However, the result for 2008 is not significant by any yardstick, with results of .086 and .872 respectively, but 2009 brings the research back to at least real world significance with a correlation coefficient of .714 and a statistical significance of .111. This underlying trend over a number of years is more than confirmed in 2010 with statistically significant returns of .883 and .020 respectively but not in 2011 (.429 and .327) or 2012 (.213 and .686).

Although it may be very tentatively claimed that with real world or statistical significance in a majority of years, and against a background of relatively few observations, there is an indication of some relationship between program NPS and program completion rates, it is again necessary to consider whether there may have been confounding factors in at least some of the years that caused them to be untypical. Some students may, for example, be motivated by the experience of being at an institution to the extent of promoting its virtues while not completing their program because they acknowledge that the fault in not doing so is their own rather than anything to do with the quality of the university and the learning experiences it provides. Reasons for not completing in specific years may not be associated with having a positive view of an institution; for example, personal reasons or job

opportunities may have arisen that superseded the perceived value in completing a degree or even a particular program.

Relationships Between Program Satisfaction and Program Completion Rates Across 7 Years

For 2006, the correlation coefficient for program satisfaction and program completion rates is -.116 and the significance is $p = .827$, which indicates no level of relationship whatsoever. A similar result was obtained for 2007, with returns of .200 and .704 respectively, but this was followed by 2 years where there was very strong statistical significance with correlation coefficients of 1.0 and .943 respectively for 2008 and 2009 and significance values of .0 and .05 for the same years. The following 2 years, 2010 and 2011, returned to levels of no significance in any sense, while 2012 showed a weak correlation but no statistical significance. The correlation coefficients for these 3 years were .88, .29, and .577 respectively while the *p* values were .868, .957, and .231.

Despite the two years of strong statistical significance, no significance is claimed for the relationship between these two variables. As has previously been noted (see above), there are many reasons why a student may be relatively satisfied with their programs and with their courses that comprise them that may not be related to their levels of motivation to complete courses and programs. Similarly, several potential reasons have been suggested as to why there is a greater or lesser propensity to complete a program other than the fact of being satisfied with the learning and teaching experiences encountered. It is clear that the extent of these confounding factors varied considerable from year to year and this, combined with the fact of few observations, has clearly led to what can be described as inconclusive results.

Relationships Between Variables Over the Whole Period

Although this part of the summary has thus far found some relevant correlations and established the potential of at least some of the variables in terms of addressing the questions posed, I acknowledge that there are relatively few observations and this in itself may be seen as the most important confounding factor. In this sense, one criticism that could be leveled at the Results Chapter is that there was no attempt to consider the co-relationships and their significance over the whole period, with a statistically acceptable number of observations of 42. The response to such a criticism would, of course, be that the aim of the work is to see if inferences can be drawn on data produced annually rather than over a 7-year period. However, such a response overlooks the fact that relationships, once established, would enable their application at lower levels. Thus, the oversight is acknowledged and the results of a statistical analysis using Spearman's rank order correlations for the four variables over a seven year period are shown below in Table 13:

Table 13

Spearman's rank order correlations for four variables 2006-2012 inclusive

		ProgSat	CompRate	ProgGPA	ProgNPS
ProgSat2012	Correlation Coefficient	1.000	.508	.303	.197
	Sig. (2-tailed)	.	..001	.051	.212
	N	42	42	42	42
CompRate2012	Correlation Coefficient	.508	1.000	.230	.452
	Sig. (2-tailed)	.001	.	.142	.003
	N	42	42	42	42
ProgGPA2012	Correlation Coefficient	.303	.230	1.000	.449
	Sig. (2-tailed)	.051	.142	.	.003
	N	42	42	42	6
ProgNPS2012	Correlation Coefficient	.197	.452	.449	1.000
	Sig. (2-tailed)	212.	.003	.003	.
	N	42	42	42	42

In a previous discussion, it was held that a real world relationship between Program GPS and Program NPS had been established when the variables were produced on an annual basis. When the results from Table 13 are considered, it can be seen that while the correlation score is a little weak at .449, the fact that this result has strong statistical significance ($p = .003$) endorses the previous contention.

In a previous discussion with regard to the annual correlation coefficients and p values for Program NPS and Program Completion Rates, it was similarly held that while real world significance could be argued for on the grounds that this held for a

majority of years, there may have been confounding issues in a minority of them which obscured the consistency of the findings. It is held that this prognosis is vindicated by the results from Table 13 because, while the correlation coefficient may again be seen as being a little weak at .452, this result also has strong statistical significance ($p = .003$).

In a previous discussion, there were very asymmetric, even polarized, results found in the correlation coefficients between Program Satisfaction and Program Completion Rates. These wide differences, it was argued, are likely to have been caused by differing levels of confounding factors on a year to year basis. The results from table 13 effectively evens these effects out and the result is a correlation coefficient score that has, in the epistemological view of the researcher, real world significance and this is very much supported by a strongly statistically significant result of $p = .001$.

In summary of this part of the Chapter, it is held that significant real world relationships have been found between Program GPS and Program NPS, between Program NPS and Program Completion Rates and between Program Satisfaction and Program Completion Rates. These relationships having been established, the discussion can move to the possibility that inferences can be made between these relationships and Placement Rates.

Four Variables and Placement Rates

If an association were to be made between the four variables and Placement Rates, it would be necessary that changes in the relationships between one and a number of the relationships would be reflected in changes in Placement Rates on a year to year basis. As some of the career placement categories, for example

Accounting, Information Security, Information Systems and Network & Communications have placements rates of 100% for every year in question, any difference will be motivated by annual variations in subject areas where not all graduates find jobs, for example Customer Experience Management, General Management, Health Services, Hospitality Management, Human Resources, Marketing, Project Management and Public Administration. One way of descriptively making the relevant comparisons is graphically and the annual fluctuations between all of the variables are shown in Figure 1 below. All data are converted to percentages in order that they can be presented on the same graph:

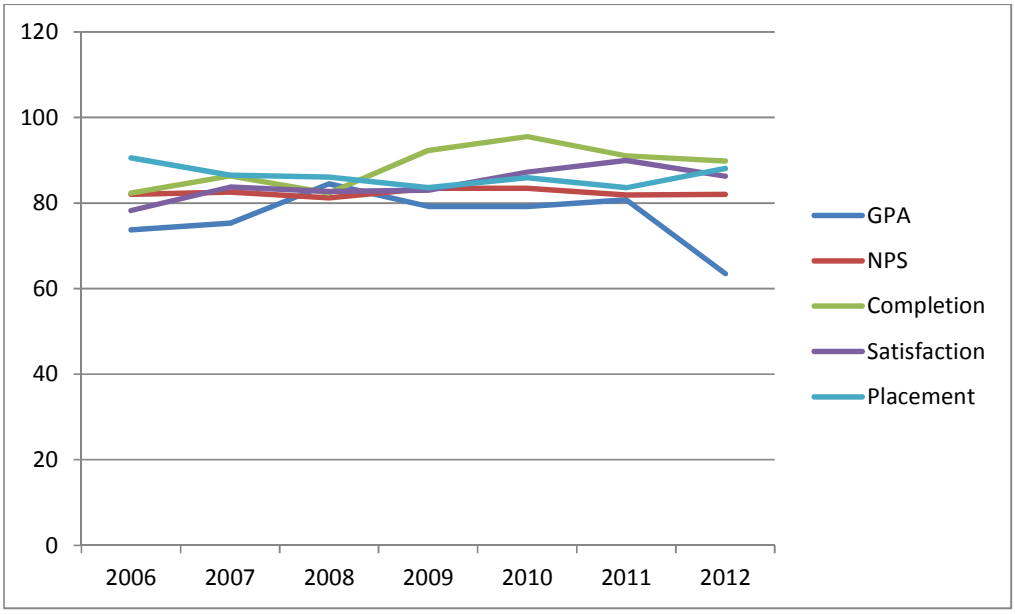

Figure 2. Comparison of four variables with placement rates.

Figure 2 brings confirmation and clarity to that which tables 11 and 12 (see Chapter 4) appear to show. This is that there are no identifiable relationships between the four variables that have been discussed in the earlier part of this chapter and Placement Rates. The question that this leads to is whether this finding is based in the

possibility that no relationship should exist or whether it would be likely to exist if the data for Placement Rates were more refined and better aligned with programs and with individual students.

With regard to the first question, it is held that there should be an alignment between Placement Rates and GPA scores for the obvious reason that employers will be very interested in the level of achievement of potential employees as well as in the fact that they have completed the course. The alternative scenario would be that they paid no attention to such an indicator and therefore GPA scores would not be considered to be of any relevance or importance to students and institutions, which clearly is not the case.

If it is accepted that NPS scores are a measure of motivation levels among students, and this surely is the case, then the implication of finding that NPS had no influence whatsoever on whether a student not only found employment but found it within the field relevant to his or her degree is that employers are not at all interested in whether potential students are motivated and able to decisively express this fact by expressing positivity towards the institution that educated them. It is accepted that this measure may not be as refined and so likely to be a significant factor as GPA but the fact that it was found to have a relationship with that measure reinforces its credentials as a positive influence on Placement Rates.

It can in turn be argued that the fact of a relationship having been established between NPS and Completion Rates provides some support for the intuitive and obvious likelihood that the more students complete their programs, the more likely it is that higher numbers of them will be placed with employers in their fields of specialty and interest. In turn, the association between Completion Rates and

Satisfaction supports an again obvious contention that the more satisfied students are with their courses of study, the more likely it is that they will be successful in them and, other things equal, the more likely that they will find suitable employment.

Thus, attention must turn towards the nature of the data that was used for Placement Rates is this study. As Table 10 (above – Chapter 4) shows, it is a list of 14 employment categories for each of the years in question, with a percentage for the numbers of students from various programs that were placed in these jobs. Of these 14 employment categories, 4 had 100% placement rates for all of the years in question and one had 100% placements for the majority of those years. This fact alone weakens the potential of the data to allow for any inferences based on differences between the years to be drawn. This becomes even more relevant when it is noted that in some years the rates were generally high but were disproportionately influenced by one or two untypical scores. One example is 2011, which had the lowest average score for Placement Rates out of all of the years for which data were obtained. However, most placements were at the same or even higher levels than in other years but two had untypically low results, namely Management International Business (48%) and General management (56%).

Perhaps of even greater importance is the fact that the data for Placement Rates have no direct association with specific MBA programs. One important observation that provided the motivation and the justification for this study is a belief that the value of specialized MBA programs are not necessarily aligned with the expectations of adult learners in terms of their future career aspirations. While it was hoped that the general nature of the data used may be capable of providing indications of the relationships anticipated, this was clearly too much of an expectation.

Therefore, in order to test the propositions made properly, it would be necessary to use data that are more sensitive. Fundamentally, it would be necessary that the data for the four variables and for the placement rates needed to be separable into specific MBA programs as well as the specific placement rates that resulted from these courses.

Limitations

The limitations include the fact that no attention would be paid to gender or other characteristics and that the results could not be generalized beyond the one institution from which data were obtained. The limited number of observations within the variables meant that the levels of significance found may not be as reflective of reality as would have been wished. The association between placement rates and programs lacked sensitivity in terms of associating specific areas of study (specific programs) with relative success in finding relevant employment.

Conclusions

The importance of this study, its new approach and its justification have been comprehensively considered in this and earlier chapters and there is therefore no purpose in repeating the points made. However, it is relevant to emphasize some points and these are that adult education, while it has expanded considerably in the US over recent decades, and while it has benefitted the career aspirations of many in a diverse, dynamic and changing economy, challenges and problems have risen and do exist, perhaps nowhere more obviously than in the extent and nature of specialized MBA programs.

In order that these programs are rationalized and can become more cost effective for institutions as well as students, ways of establishing relative worth can

only be of benefit and can only add value to society as well as to the US economy. A number of statistics and therefore sources of data are routinely collected from courses and programs and these may be a potentially rich source of information that can be used for the purpose described. This study set out to establish how and in which format these data could be best employed, if at all, as a source of information for institutions and their management in realigning existing programs and in constructing new ones.

It has been found that there are relationships between variables that can be constructed from data that is routinely collected at one institution and, indeed, at most if not all US universities. These relationships can be found in three sets of relationships and this means that all four of those considered – Program GPA, Program NPS, Completion Rates, and Satisfaction Scores – can, to a greater or lesser extent, hold the potential to be used as indicators of the relative worth of programs. The final link in the chain, associating these variables with the Placement Rates of students, proved elusive and not possible within the limitations of the data used within this study. A careful consideration of the potential reasons for this inability to make such inferences and associations revealed that it was not so much the nature of the data used but, rather, an inherent flaw in the approach and methods used which was most likely to have meant that the anticipated inferences could not be made.

This can only lead to a conclusion that while this study has not been able to find the sought associations between four variables constructed from statistics that are routinely collected from MBA programs in the US and Placement Rates, it has established that there are relationships between these variables and therefore between these data which rationally suggest that if these and the data for Placement Rates were

found and used at the appropriately sensitive levels, the potential still remains for important inferences to be made that will assist the management and strategic planners at institutions and better guide them in realigning existing courses and constructing new ones.

Recommendations

In these senses, this study can be seen as a first important stepping stone in a new area of research and therefore the only rational recommendation that can be made is that further studies are conducted which pay more attention to the nature of the data and its potential to be sensitive to relevant fluctuations before any work is embarked upon. Furthermore, it is important that the extent of the data be paid more attention so that higher levels of significance can potentially be found. Fundamentally, for progress to be made data should be utilized which relates specific programs with specific outcomes and they should have sufficient depth that comprehensive credibility can be claimed.

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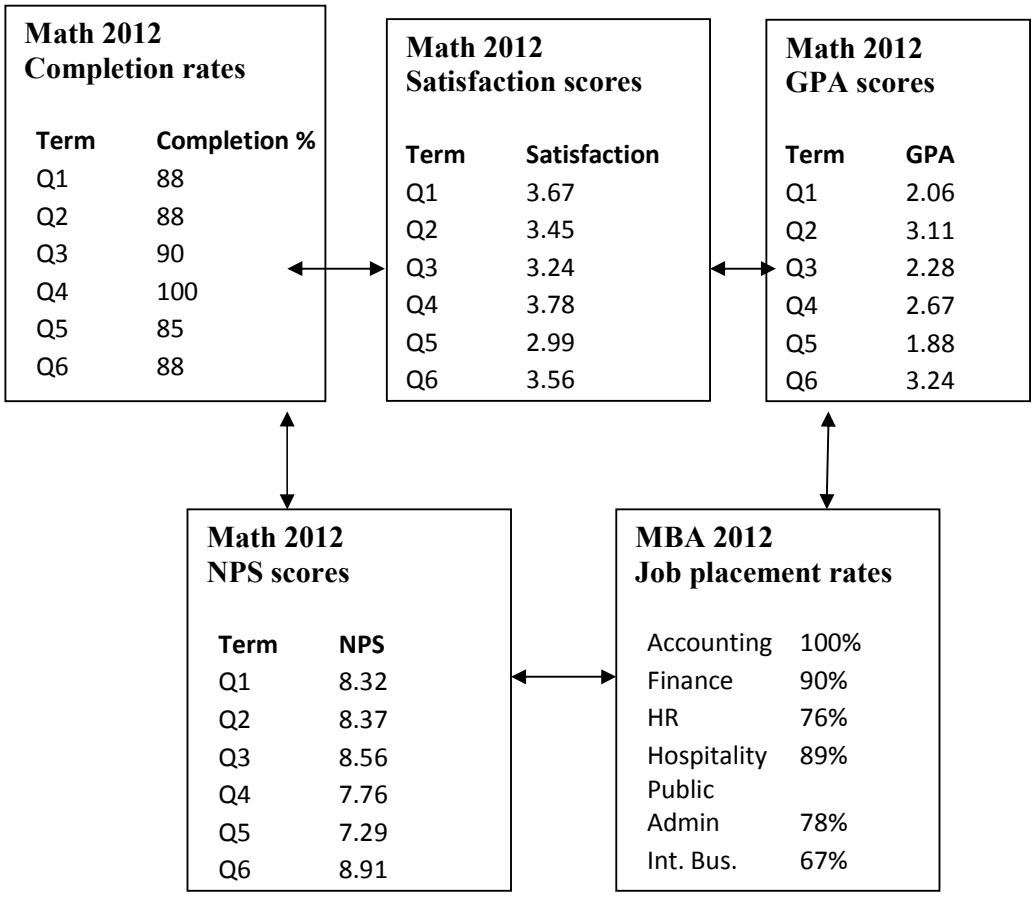
Appendix A: Example Matrix of Relationships

As is noted on page 64, the statistical test used to support the study was Spearman's Rho, which measures the strength of the relationship between variables. The strength of the relationship will be determined by the relative closeness of the R value to 1 or -1, the closer to these poles the stronger the relationship would be and vice versa with regard to 0. The matrix below shows a sample from one year of the type of data that will be used as well as the expectation that relationships will exist. For example, for 2006 the Spearman's Rho test showed a correlation coefficient of .829, at a statistically significant level or .042.



Appendix B: Samples of Data Sources

Instructor Performance	Exceeds Expectations	Fully Meets Expectations	Needs Improvement	Does Not Meet Expectations	Mean	StD
Professionalism (demeanor, respect for students, responsiveness, degree of preparation)	18	4	1	0	3.74	0.54
Knowledge/Technical Skills (relevant examples, practical insights, appropriate applications, course objectives)	16	6	1	0	3.65	0.57
Presentation Skills (organized, clear, summarizes theories and concepts, refers to prior and future topics)	12	9	1	1	3.39	0.78
Student Interaction (utilizes questioning strategy, probes for understanding, involves students, thought-provoking)	12	8	2	1	3.35	0.83
Feedback/Communication (interactive, timely and specific feedback, available office hours)	8	10	4	1	3.09	0.85

Course Evaluation	Exceeds Expectations	Fully Meets Expectations	Needs Improvement	Does Not Meet Expectations	Mean	StD
How would you rate your ability to demonstrate mastery of the Course Objectives?	20	3	0	0	3.87	0.34

	0	1	2	3	4	5	6	7	8	9	10	Mean	StD
How likely are you to recommend this course?	0	1	0	0	0	0	1	0	6	10	5	8.48	1.88

	Not At All Likely										Extremely Likely	Mean	StD

Why did you answer the previous question the way you did?

- The teacher is a very knowledgeable and has a lot of experience in the field. (MATH533-69231 201340GR-W01)
- Course provided me all of the information I needed to be successful. (MATH533-69231-20134 W01)
- The teacher was boring and lectured too much. (MATH533-69231-201440GR-W01)

What suggestions would you offer to strengthen this course experience for future students?

- The inclass software and its uses should be linked to youtube to view how to use the software. The minitab company has already posted videos that explain how to use minitab and many of its formulas. This will aid in learning. (MATH533-69231-201240GR-W01)