

A UTILIZATION-FOCUSED EVALUATION OF INSTITUTIONAL PERSISTENCE
AND WITHDRAWAL IN AN ACADEMIC UNIT

A Dissertation presented to the Faculty of the Graduate School
University of Missouri

In Partial Fulfillment
Of the Requirements for the Degree
Doctor of Education

by

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AUGUST 2008

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AND WITHDRAWAL IN AN ACADEMIC UNIT

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DEDICATION

This dissertation is dedicated to my family who has given me the encouragement and motivation to complete this project.

To my dad and mom, Buford and Sharon Austin, who never fail to encourage me and tell me how proud they are.

To the two main men in my life, Mark and Jonathan, who have put up with my disappearing acts for the last few years. Thanks to Mark for his encouragement, motivation and proofreading assistance. Completion of this project would have been unattainable without his support. Thanks to Jonathan for reminding me that sometimes there are more important things to do than work and write a dissertation. I am looking forward to some quality family time.

ACKNOWLEDGEMENTS

I would like to express my sincere appreciate to both Dr. Jerry Waddle and Dr. Ruth Ann Roberts for their leadership, guidance and encouragement for the past five years as instructors and dissertation chairs. Wednesday nights and Mizzou summers would not have been as meaningful without them. I would also like to thank the remaining members of my committee for their suggestions and advice: Dr. Lisa Bertrand, Dr. Robert Buchanan, and Dr. Zaidy MohdZain.

To my Southeast cohort members – Andy, Don, Donna, Dwayne, Jim, Kathy, Linda, and Rob – thanks for the wonderful learning experiences. I so appreciated the encouragement of you, Dr. Waddle and Dr. Roberts, especially when I considered “stopping out” for a while to focus on the unexpected adoption of a precious unhealthy baby. I’m glad you talked me into sticking with the program. Also to my Mizzou team – Chad, Kurt, Matt, Tracy, and Wendy – for helping me survive two summers, and for some great practice in being a team member.

To Dr. Patricia Ryan and Brenda Wissman, for the time they committed to gathering data for me from institutional records. Your efforts meant so much.

To the School of Polytechnic Studies faculty and staff, for their cooperation and desire to improve persistence of their students. A special thanks to Amanda, Brad, Courtney, and Indi for their work on the evaluation task force as members of the retention committee.

And last, but far from least, thanks to all of the students, both current and former, who participated in this study and provided invaluable input. Without their assistance, this dissertation would truly have been impossible.

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A UTILIZATION-FOCUSED EVALUATION OF INSTITUTIONAL PERSISTENCE AND WITHDRAWAL IN AN ACADEMIC UNIT

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ABSTRACT

The purpose of this evaluative study was to provide input toward the development of a plan to improve student persistence within one academic unit at Southeast Missouri State University. Since the framework guiding this study was Patton's (1997) Utilization-Focused Evaluation, the research questions, means for data collection, instrumentation and analysis were developed with the primary intended users. Methods and instruments that were utilized included a current student satisfaction survey, focus groups, graduate exit surveys, student records data, and contact with students who withdrew.

Although much of the evaluative data were positive, there was still room for improvement. Recommendations developed by the retention committee were categorized under the following headings: experiential learning, instructional content, classroom strategies, campus resources, intentional student contacts, value of a liberal education, communication with students, graduate follow-up surveys, student finances, transfer students, advising, student involvement, facilities and equipment, and recruitment. The retention committee will determine strategies for implementation, plus they will make decisions about measurements and further evaluations. Evaluation will lead to new strategies, implementation and further assessment (Braxton et al., 2004; Habley & McClanahan, 2004; Lotkowski et al., 2004; Swail et al., 2003). This continuous quality improvement cycle is what sets institutions, and academic units, that focus on improving student persistence apart from those who do not.

CHAPTER 1

INTRODUCTION TO THE STUDY

Introduction

“The retention of college students at the freshman and sophomore levels has been a top priority in higher education since the 1980s when fiscal concerns shifted administrative philosophies from survival-of-the-fittest competitiveness toward the desire for student continuance” (Molina & Abelman, 2000, p. 5). Administrators recognize that retaining enrolled students is more efficient and less expensive than expending resources to recruit new ones (Berger & Lyon, 2005; Schuh, 2005; Terenzini, 1982). Research by Levitz, Noel and Richter (1999) indicated that a four-year institution will, on average, gain between \$15,000 and \$25,000 in gross revenue over four to five years by reducing the number of freshmen dropouts by a single student. Even a small increase in an institution’s retention rate can have a quantifiable impact on institutional finances (Yockey & George, 1998).

Monetary impact alone is an important reason for retaining students, especially first-year students, although there are additional noble and notable reasons. Retention of college students through to graduation impacts individuals and society as a whole, both economically and socially.

At Southeast Missouri State University, the retention rate for full-time undergraduate bachelor degree-seeking first-year students from the fall of 2004 to the fall of 2005 was 70% (Institutional Research, 2005a). Based upon the monetary projections presented by Levitz et al. (1999), the 30% of first-year students who were not retained by

the institution will constitute a huge economic impact on the University budget over the next few years.

Each year since 1983, ACT has compiled first-to-second year retention rates from the ACT Institutional Data Questionnaire, a survey of information gathered from two-year and four-year postsecondary institutions. Ninety-four four-year public institutions with traditional admission selectivity, defined as the majority of admitted students being from the top 50% of their high school class, responded to the 2005 survey. The mean first-to-second year retention rate for these schools was 70.8% (ACT, 2005). As indicated by Southeast Missouri State University President, Dr. Kenneth Dobbins, in his 2005 State of the University message, our institution “is a solid performer as compared to similar institutions – but we *could* and we *should* be better” (p. 7). As part of his message, the President charged the University community, in collaboration with the institution’s Strategic Enrollment Management Task Force, to develop a comprehensive student retention plan as a way to focus on retention and student success as primary institutional goals. This evaluative study will contribute, in part, to the development of that comprehensive student retention plan, specifically for one academic unit within the institution – the School of Polytechnic Studies. This chapter will outline the conceptual underpinnings of the study, will identify the problem statement and the purpose, including the research questions, and will end with definitions of key terms, limitations, and assumptions.

Conceptual Underpinnings for the Study

Persistence, retention and withdrawal are complex and multifaceted issues that have been studied empirically for more than 70 years (Braxton, Hirschy, & McClendon,

2004). As noted by several authors, the complexity of the human condition makes it difficult to prove one psychological or sociological theory over another in determining student persistence (McClanahan, 2004; Pascarella, 1982; Swail, Redd, & Perna, 2003). As a result, it may prove more fruitful to utilize an integration of information from a variety of well-recognized theories as a lens through which to view student departure.

Several concepts emerged consistently during a review of retention theory literature. These included the longitudinal nature of the dropout process, the influence of background characteristics on student persistence and departure, the importance of academic and social integration, and the significance of student involvement with peers and with faculty.

Several authors described the dropout process, specifically the decision making process regarding dropping out, as longitudinal (Pascarella, 1980; Spady, 1970; Tinto, 1975). The longitudinal process of dropping out begins well before college attendance commences. In fact, numerous authors described the importance of background or pre-college characteristics in influencing student persistence and withdrawal decisions (Bean, 1982; Pascarella; Spady; Tinto). Background characteristics include items such as family background, personality, beliefs, past behaviors, past academic performance, academic potential, skills and abilities, individual attributes, and socioeconomic status (Bean; Bean & Eaton, 2000; Spady; Tinto). These background characteristics affect the way students interact with the college environment and lead to educational and attitudinal outcomes, which in turn lead to decisions to persist or drop out of college (Bean). According to Bean and Eaton, student characteristics at entry are affected by institutional filters, both internal and external, that are bureaucratic, academic and social.

The importance of academic and social integration served as the basis for several retention models, including those of Bean, Pascarella, Spady and Tinto (Bean, 1982; Swail et al., 2003). Academic and social interactions affect students' commitments to the institution and to the aspiration of graduation (Berger & Lyon, 2005; Braxton et al., 2004; McClanahan, 2004; Swail et al., 2003). Bean and Eaton (2000) indicated that "academic and social integration may be construed as attitudinal outcomes of adaptive (coping) behaviors toward the institutional environment" (p. 51). As summarized by Tinto (1975), "given individual characteristics, prior experiences, and commitments . . . it is the individual's integration into the academic and social systems of the college that most directly relates to his continuance in that college" (p. 96).

When students are integrated into both the academic and social environments of the institution, they exhibit "person-environment fit" (Pascarella, Terenzini, & Wolfe, 1986, p. 156). "Other things being equal, the higher the students' level of social and academic integration the more likely the student is to persist at the institution" (Pascarella & Terenzini, 1979, p. 214).

In describing academic factors affecting retention, several authors described academic integration as both structural (meeting the standards of the college) and normative (identifying with the beliefs, values and norms of the academic system) (Berger & Lyon, 2005; Braxton et al., 2004; McClanahan, 2004; Swail et al., 2003). When explaining academic integration, Spady (1970) illustrated academic system rewards as both extrinsic (grades) and intrinsic (intellectual development).

According to Bean (1985), "social life has large significant effects on institutional fit" for undergraduate students of all levels (p. 60). Social integration occurs at the level

of the institution and also within subcultures; it involves how well a student fits in with the norms, values, beliefs and attitudes of the social communities (Berger & Lyon, 2005; Braxton et al., 2004; McClanahan, 2004; Swail et al., 2003). The social system includes the concept of normative congruence, which is defined as “having attitudes, interests, and personality dispositions that are basically compatible with the attitudes and influences of the environment” (Spady, 1970, p. 77). Also included in the social system is friendship support, which involves the establishment of close relationships with others in the system.

Students experience social integration when they become involved with others on campus, both students and faculty. Astin indicated that student involvement with the academic experience, in terms of both physical and psychological energy, is key to retention (Astin, 1985; Berger & Lyon, 2005; McClanahan, 2004). He further noted that student involvement has both quantitative (the amount of time that is devoted) and qualitative (the effectiveness of the time investment) attributes and is measured along a continuum.

According to Astin (1993), the student’s peer group is the most powerful source of influence on growth and development during the undergraduate years. A peer group is defined as a collection of individuals, with some element of comparable or equal status, “with whom the individual *identifies* and *affiliates* and from whom the individual seeks *acceptance or approval*” (p. 400). In fact, Astin indicated that “students’ values, beliefs, and aspirations tend to change in the direction of the dominant values, beliefs, and aspirations of the peer group” (p. 398). As indicated by Bean (1985), “peer support is an important element in the retention of students” (p. 60).

Pascarella (1980) indicated that informal student contact with faculty plays a significant role in students' institutional persistence. According to Pascarella, "significant positive associations exist between extent and quality of student-faculty informal contact and students' educational aspirations, their attitudes toward college, their academic achievement, intellectual and personal development, and their institutional persistence" (p. 545). Additional findings by Pascarella and Terenzini (1979) supported the link between informal contact with faculty, social and academic integration, and student persistence.

As mentioned previously, persistence, retention and withdrawal are complex and multifaceted issues. As summarized by Tinto (2005):

We still have much to do to develop a more powerful theory of institutional leaving that captures the full range of behaviors that are lumped under the umbrella term of "student leaving." This does not mean that our existing theories are seriously flawed. Quite the contrary, we have more than ample evidence to support the broad outlines of existing theories of student institutional departure. (p. 319)

These key findings from retention theories, along with other findings, will be utilized to study and address the problem of student persistence in one academic unit.

Statement of the Problem

In the fall of 2005 in his State of the University message, Dr. Kenneth Dobbins, President of Southeast Missouri State University, launched an initiative to improve student success at the University, with overall goals of increasing freshman-to-sophomore student retention and overall graduation rates. He reiterated the importance of this initiative in his "Dear Colleague" letter to all faculty and staff at the beginning of the spring 2006 semester. "We believe a 5% increase in the freshman-to-sophomore return rate could be attainable, and such an increase would not only be great for the students

involved, but would also have a significant impact on the University budget” (personal communication, January 17, 2006). After numerous campus-wide discussions and much deliberation resulting in over 400 comments and suggestions for improving retention, a much shorter list of action items was developed. One of the action items charged the Deans and the Provost with exploring college and departmental level initiatives for improving retention.

Southeast Missouri State University is a moderately-selective public four-year institution, with one main campus and four regional campuses spread throughout its service region. Moderately-selective institutions are those institutions in the state that admit first-time, full-time degree-seeking students and transfer students with 23 credit hours or fewer who have “attained a combined percentile score (from adding their high school percentile rank and the percentile rank attained on the ACT or SAT) that is greater than or equal to 100 points” (Missouri Department of Higher Education, n.d., Moderately Selective section). Students with scores of 21 or better on the ACT or equivalent SAT scores are admitted automatically to moderately selective state institutions. No more than 10% of students in the first-year class can be considered exceptions, meaning they have 99 points or less.

The institution offers undergraduate programs from five colleges (the College of Business, the College of Liberal Arts, the College of Education, the College of Health and Human Services, and the College of Science and Mathematics) plus two schools (the School of University Studies and the School of Polytechnic Studies) (Institutional Research, 2005b).

The academic unit that is the specific focus of this study, the School of Polytechnic Studies, is one of the newest academic units at the institution. It was formed in 1999 in recognition of the need for an academic unit to focus specifically on meeting the technical and management needs of industry and agriculture in the region. The unit includes the Department of Agriculture and the Department of Industrial and Engineering Technology. The Department of Agriculture offers an Agribusiness major, along with Pre-Veterinary Medicine and Pre-Vocational Agriculture Education programs. The Department of Industrial and Engineering Technology offers Computer Technology, Industrial Education, Industrial Technology and Engineering Technology majors, along with a Pre-Architecture program and several certificate programs (Institutional Research, 2005b; Southeast Missouri State University, 2005).

Since the conception of the School of Polytechnic Studies, the number of majors within the School has steadily increased. According to figures from fall fourth-week census data as shown on the University's Institutional Research website, the school grew from 497 majors in the fall of 1999 to 609 majors in the fall of 2005. These figures include only those students with a Polytechnic Studies major indicated as their first major.

In early 2006, the University Deans were presented with college and departmental retention data from the Strategic Enrollment Management Task Force. The data showed that the School of Polytechnic Studies had the lowest first-to-second year retention rate of all of the schools and colleges at the institution from the fall of 2003 to the fall of 2004; the first-to-second year retention rate for this time period showed that 62.9% of the first-year students in the academic unit were in attendance at the institution during the second

fall. The percentages of the rest of the academic units ranged from a low of 64.5% to a high of 82.3%. With the growth in majors over the last several years, the faculty and staff were surprised to be identified as the academic unit with the lowest freshman-to-sophomore retention rate. The Dean urged the development of a plan, including activities already in place and newly designed activities, to improve the School's retention.

Purpose of the Study

The impetus for this study, a Utilization-Focused Evaluation of retention, was the request by the Dean of the School of Polytechnic Studies for the development of a plan to increase retention. As indicated by Patton (1997), the first step in Utilization-Focused Evaluation is the determination of primary intended users of the evaluative information. The primary intended users of information gathered from this study were the dean, the chairpersons of each department within the unit, the faculty of each department, and the academic advising staff.

Patton (1997) suggested that an evaluation task force can be organized to make major decisions about the focus, methods and purpose of the evaluation. A retention committee within the School of Polytechnic Studies, which includes advising staff and a faculty member from each department, was formed in the spring of 2006. Meaningful evaluative questions plus methods, measurement and design suggestions were gathered from the larger group of primary intended users. The researcher focused the remainder of stakeholder contact during the evaluation with the retention committee.

The purpose of this evaluative study was to provide data and input toward the development of a plan to improve the retention rate within the School of Polytechnic Studies. Little can be found in the retention literature about what specific academic units

can do to improve persistence of students. This is likely because most recommendations are more global in nature, encouraging a united front across the institution. However, for overall institutional improvement in persistence rates to occur, this researcher and the primary stakeholders of this evaluation believe that individual units must assess themselves in terms of strengths and weaknesses related to retention factors. Expectantly, this will lead to actions within the unit that will contribute to unit-level and institution-wide gains in retention.

Research Questions

According to Fraenkel and Wallen (2003), good research questions are feasible (able to be investigated with available resources) and significant (will contribute to our knowledge). A key task in evaluation is clearly linking the information needs of the stakeholders to the questions that are asked and the kinds of data that are collected to answer those questions (Preskill & Torres, 1999). In order to develop feasible and significant questions to address the needs of the stakeholders, the primary intended users of the evaluative information were consulted. These consultations led to the development of the following research questions:

1. How satisfied are current students (those who are persisting within the academic unit) specifically with factors related to retention?
2. How satisfied are graduates of the academic unit, specifically with factors related to retention?
3. What reasons do students who majored in the academic unit give for institutional withdrawal?

4. Do differences between regularly-collected student records data exist between those students who were retained versus those who exhibited institutional withdrawal during or following fall 2005 or spring 2006?
5. For students who exhibited institutional withdrawal during or following fall 2005 or spring 2006, what was their student classification at the time of withdrawal?
6. For students who exhibited institutional withdrawal during or following fall 2005 or spring 2006, do certain courses appear more frequently than others in the last semester of attendance?

Limitations and Assumptions

The results of this study are applicable only to the academic unit being evaluated, and they should not be widely generalized. The results of Utilization-Focused Evaluations are intended for use by the primary intended users or stakeholders of the program under evaluation (Patton, 1997). Patton (1990), however, argued that findings can be extrapolated. He defined extrapolation as “modest speculations on the likely applicability of findings to other situations under similar, but not identical, conditions” (p. 489). Additionally, the evaluative research design may provide a format that can be replicated in other academic units.

Another limitation of this study involves the personal association of the researcher with the academic unit that is the subject of the evaluation. When the proposal for this evaluation was being developed, the researcher was a member of the advising staff within the academic unit and also a member of the unit’s retention committee, making the researcher a primary intended user of the evaluative information, which could lead to researcher bias. Patton (1997) discussed the role of internal evaluators. He indicated that

internal evaluators are often expected to do evaluations, but not to facilitate an evaluation involving others. He also mentioned that internal evaluators are more likely to be manipulated by administrators to justify decisions or pressured to present positive findings for public relations purposes.

The evaluator addressed some of these limitations by fully explaining Utilization-Focused Evaluation to each primary intended user prior to discussions about questions and methods. Additionally, to lessen the effects of personal bias, the other primary intended users and focus group participants were consulted to make sure that the essence of what they wanted to know or what they had said was preserved. Ultimately, the researcher wants the same thing as the other primary intended users do – improved persistence and retention rates.

Another limitation of the study relates to the loss of subjects. Loss of subjects can result from students leaving the institution and can also occur when students are absent during data collection. As Fraenkel and Wallen (2003) pointed out, “Loss of subjects . . . not only limits generalizability but also can introduce bias – *if* those subjects who are lost would have responded differently from those from whom data were obtained” (p. 179). A correlated limitation relates to contacts made with former students. Study results which discuss former students’ reasons for leaving were influenced by those former students with whom the researcher was able to make contact.

The data collected for this research study constitutes a “snapshot” of data over a relatively short period of time for the academic unit. There is a potential that data from a different timeframe and from a different group of students would produce dissimilar results. Additionally, this relatively short period of time was not devoid of initiatives

aimed at improving retention within the academic unit. The process of implementing ideas aimed at improving persistence is on-going. This makes it difficult to discern if specific initiatives are working or not.

In answering many of the research questions, the researcher relied on data that was regularly collected as part of the institutional student data base. During 2006, a conversion from an institutionally-developed student records system to a purchased student records system occurred. The researcher assumed that the data utilized from the system was stable, meaning that it transferred correctly from the older student records system to the newer one.

Definition of Key Terms

Retention is a complex and multifaceted issue, beginning with how retention and associated concepts are defined. The next chapter will address the complexities of retention-related definitions found in a review of retention literature. Specifically for this study, the following definitions were employed.

Retention. In its most basic use, the term retention means “keeping students in college” (Education Commission of the States, 2004, ¶ 1). Although some definitions add the stipulation of keeping students through to graduation (Berger & Lyon, 2005) and others define retention as students attaining their own goals (Seidman, 2005), use of the term retention in this study refers to students who are institutionally retained, meaning they remain enrolled at the same institution (Hagedorn, 2005).

Persistence. According to Berger and Lyon (2005), persistence refers to “the desire and action of a student to stay within the system of higher education from the beginning year through degree completion” (p. 7). Mortenson (2005) differentiated

between institutional persistence and summary persistence. Institutional persistence refers to students who do persist at the same institution through to graduation. Summary persistence includes “student ‘swirling’ – enrollment in more than one institution between matriculation and graduation” (p. 36). This study included students within one academic unit who were in the process of institutionally persisting via continued enrollment and also those who institutionally persisted to graduation.

Institutional withdrawal. Withdrawal is used to refer to “the departure of a student from a college or university campus” (Berger & Lyon, 2005, p. 7). Withdrawal can be categorized as either voluntary or involuntary, and either institutional or system. Voluntary withdrawal is based upon a student decision; involuntary withdrawal, also called dismissal, is based upon an institutional decision to not allow a student to reenroll. Institutional departure is based upon a student leaving a particular institution, and system departure is based upon a student leaving higher education completely (Bean, 1985; Berger & Lyon; Tinto, 1982). In this study, the term institutional withdrawal includes those students who both voluntarily and involuntarily withdrew from the institution.

Student classification. Classification of students as freshmen, sophomores, juniors and seniors is based upon the number of earned semester hours, including those earned from developmental courses. Students with fewer than 30 hours are freshmen. The remaining classifications include sophomores (30 – 59 hours), juniors (60 – 89 hours), and seniors (90 hours and above) (Southeast Missouri State University, 2005).

Regularly-collected student records data. In order to address potential differences between those students who were retained and those who exhibited institutional withdrawal, regularly-collected student records data were reviewed. Data are collected

from students throughout their academic careers, beginning with the timeframe during which they are recruited by the Office of Admissions. Additional information is collected by Student Financial Services, the Office of the Registrar, the Office of the Dean of Students, and the Office of Institutional Research, among others. Most of these regularly-collected student records data are available through an institutional student database.

Regularly-collected student records data include background information such as high school of graduation; high school grade point averages; ACT composite and ACT sub-category scores; gender; ethnic origin; age; marital status; city, county and state of permanent residence; parental level(s) of education; and initial math and English placement levels. Other information pertaining to academic and non-academic factors includes: major; year of matriculation; credits accumulated and class standing; courses taken, college semester and cumulative grade point averages, honors eligibility, academic standing, college resident status (residence hall or commuter), athlete status, disciplinary codes and action, and types of financial aid received.

Factors related to retention. Based upon a review of literature, there is a wide range of factors that have been shown to be related to retention, and this study will look at retention within one academic unit through the lens of these factors.

Several authors noted the importance of background or pre-college characteristics in influencing student persistence and withdrawal decisions (Bean, 1982; Pascarella, 1980; Spady, 1970; Tinto, 1975). Background characteristics include items such as family background, academic potential, ability and socioeconomic status (Bean; Spady, McClanahan, 2004).

Once a student is attending an institution of higher education, other factors become important, specifically those influencing the academic and social integration of students into the college environment. Additionally, external factors such as finances, family obligations, parental support and external peer groups, also influence persistence and retention decisions (Cabrera, Castaneda, Nora, & Hengstler, 1992; Swail et al., 2003). Student involvement, both with faculty and with peers, has also been shown to be an important factor in student persistence and retention (Astin, 1985; Habley & McClanahan, 2004; Upcraft & Gardner, 1989).

Lotkowski, Robbins and Noeth (2004) conducted a comprehensive review of research on retention to determine which factors were the greatest indicators of college retention and performance; they categorized factors under the umbrella categories of academic and non-academic. They also recognized one other factor that they did not categorize as academic or non-academic – socioeconomic status.

Academic factors include both background variables and variables that come into play once college attendance commences. Background academic variables include ACT score and high school grade point average, plus preparation for college level work, high school rank, school quality, and course selection. Other academic factors, such as college grade point average, academic integration, study skills, and motivation, appear after students begin college.

Non-academic factors include items such as academic goals, achievement motivation, academic self-confidence, academic-related skills, contextual influences, general self-concept, educational aspirations and goals, institutional commitment, social

support and social involvement. Other non-academic factors include organizational culture and climate, student finances and financial aid, and student employment.

Summary

Retention of college students is an important issue, as it impacts individuals and society as a whole. Southeast Missouri State University is striving to increase its retention and graduation rates. As part of this initiative, a Utilization-Focused Evaluation of the retention in the School of Polytechnic Studies – the academic unit with the lowest retention rate from the fall of 2003 to the fall of 2004 - was undertaken. The purpose of this evaluative study was to provide data and input toward the development of a plan to improve retention within the academic unit. Expectantly, this will lead to actions within the unit that will contribute to unit-level and institution-wide gains in retention.

Chapter two presents a review of the retention-related literature. Chapter three will discuss the methodology the researcher used to undertake this improvement-oriented Utilization-Focused Evaluation. Chapter four will analyze the data from the study, while chapter five will outline the findings and recommendations. Appendices, which include a satisfaction survey, recruitment letters, informed consent documents, and protocol and questions for discussions with focus groups and students who left the institution, are also included.

CHAPTER 2

REVIEW OF RELATED LITERATURE

Introduction

In the fall of 2005 in his State of the University message, Dr. Kenneth Dobbins, President of Southeast Missouri State University, launched an initiative to improve student success at the institution, with overall goals of increasing freshman-to-sophomore student retention and overall graduation rates. After numerous campus-wide discussions and much deliberation resulting in over 400 comments and suggestions for improving retention, a much shorter list of action items was developed. One of the action items charged the Deans and the Provost with exploring college and departmental level initiatives for improving retention.

In early 2006, the University Deans were presented with college and departmental retention data from the Strategic Enrollment Management Task Force. The data showed that the School of Polytechnic Studies had the lowest first-to-second year retention rate of all of the schools and colleges at the institution from the fall of 2003 to the fall of 2004; the first-to-second year retention rate for this time period showed that 62.9% of the first-year students in the academic unit were in attendance at the institution during the second fall. The percentages of the rest of the academic units ranged from a low of 64.5% to a high of 82.3%. With the growth in majors over the last several years in the academic unit, the faculty and staff were surprised to be identified as the unit with the lowest freshman-to-sophomore retention rate. The Dean urged the development of a plan, including

activities already in place and newly designed activities, to improve the School's retention.

The impetus for this study, a Utilization-Focused Evaluation of retention, was the request by the Dean of the School of Polytechnic Studies for the development of a plan to increase retention. The purpose of this evaluative study was to provide data and input toward the development of a plan to improve the retention rate within the academic unit.

Little can be found in the retention literature about what specific academic units can do to improve persistence of students. This is likely because most recommendations are more global in nature, encouraging a united front across the institution. However, for overall institutional improvement in persistence rates to occur, this researcher and the primary stakeholders of this evaluation believe that individual units must assess themselves in terms of strengths and weaknesses related to retention factors. Expectantly, this will lead to actions within the unit that will contribute to unit-level and institution-wide gains in retention.

This chapter will discuss key topics discovered through a review of retention-related literature. It begins with a dialogue about retention-related definitions. It then covers the benefits of retaining college students - for individuals, for society, and for institutions. Retention and graduation figures will be discussed, before the discourse turns to retention theories and models. After general information from the retention theories is covered, both academic and non-academic factors that affect retention will be addressed. The chapter ends with a section of recommendations for practice, organized under the headings of organizational and programmatic suggestions.

Retention-Related Definitions

Retention is a complex and multifaceted issue, beginning with how retention and associated concepts are defined. In a broad sense, completion refers to the timely progress that students make toward completing postsecondary degrees and certificates. “Embedded in this topic are issues of retention (keeping students in college), persistence (moving them through the system in a timely fashion) and graduation (the awarding of a degree or certificate once all requirements are completed” (Education Commission of the States, 2004, ¶ 1). Related issues are those of student departure and withdrawal.

Retention

The term retention is used differently by different people. According to Berger and Lyon (2005), “retention is the ability of a particular college or university to successfully graduate the students that initially enroll at that institution” (p. 3). Others, as shown in the section above, define retention as “keeping students in college” (Education Commission of the States, 2004, ¶ 1) without adding the stipulation of keeping them through to graduation. Hagedorn (2005) differentiated between institutional retention and system retention, where institutional retention is the proportion of students who remain enrolled at the same institution. System retention counts those students who leave one institution to attend another. According to Seidman (2005), “retention is defined as student attainment of academic and/or personal goal(s)” (p. 296). Freshman retention, an often-cited figure, refers to the percentage of first-time, full-time students who return to the same institution for a second term or a second year of study (Levitz et al., 1999; Nettles, Wagener, Millett, & Killenbeck, 1999). A concept related to freshman retention is progression, which was defined by Habley and McClanahan (2004) as “the percentage

of first-time, full-time students who are retained for a second year *and* have achieved academic standing as second year (sophomore) students” (p. 24). A contrasting concept to retention is mortality, which refers to the “failure of students to remain in college until graduation” (Berger & Lyon, p. 7).

Retention is an institutional performance indicator and is often used to gauge institutional success in terms of student satisfaction. Student persistence, on the other hand, is an individual performance indicator or decision (Levitz et al., 1999; Mortenson, 2005). “In other words, institutions retain and students persist” (Hagedorn, 2005, p. 92).

Persistence

As noted by Berger and Lyon (2005), persistence and retention began to emerge as distinct concepts in the 1990s, as scholars and practitioners realized that many students attend more than one postsecondary institution to complete their degrees. As such, persistence refers to “the desire and action of a student to stay within the system of higher education from the beginning year through degree completion” (Berger & Lyon, p. 7). Mortenson (2005) discussed two ways to measure persistence: institutional persistence and summary persistence. Institutional persistence refers to students who do persist at the same institution through to graduation. Summary persistence includes “student ‘swirling’ – enrollment in more than one institution between matriculation and graduation” (p. 36). The institution from which a student graduates will count the student as a persister, whereas his or her previous institutions of attendance will likely count the student as a nonpersister or dropout (Hagedorn, 2005). A concept that contrasts with persistence, especially institutional persistence, is that of attrition, which is defined as “students who fail to reenroll at an institution in consecutive semesters” (Berger & Lyon, p. 7).

Dropout and Withdrawal

Discussion regarding the terms dropout and withdrawal is a bit more complex. From the simplest standpoint of an institution, all students who withdraw may be considered dropouts (Tinto, 1982). As indicated by Astin (1975) though, the term dropout can be a temporary classification. “No categorization will be wholly satisfactory until all students either obtain their degrees or die without receiving them; any former student can, in theory, go back to college at any time to complete the degree” (p. 6). In addition to the potential temporariness of the categorization of a student as a dropout, many sub-categories fall under the term, which further complicate its perception and use.

Dropout, according to Berger and Lyon (2005) “refers to a student whose initial educational goal was to complete at least a bachelor’s degree but who did not complete it” (p. 7). Tinto (1982) describes dropping out from a student point of view as failing to complete a course of action or attain a goal that was the reason for first entering a particular institution of higher education. It is important to note that not all dropouts are considered failures. Some students have no intention of completing a degree with an institution; instead, they have shorter-term training goals that may be met by attending for a period of time less than that required to graduate (Tinto). Some students may stopout, as opposed to dropout. Stopout “refers to a student who temporarily withdraws from an institution or system” (Berger & Lyon, p. 7).

Withdrawal is used to refer to “the departure of a student from a college or university campus” (Berger & Lyon, 2005, p. 7). Withdrawal can be categorized as either voluntary or involuntary, and either institutional or system. Voluntary withdrawal is based upon a student decision; involuntary withdrawal, also called dismissal, is based

upon an institutional decision to not allow a student to reenroll. These involuntary withdrawals are usually based upon student violations of academic and/or social standards. Institutional departure is based upon a student leaving a particular institution, and system departure is based upon a student leaving higher education completely (Bean, 1985; Berger & Lyon; Tinto, 1982). With so many idiosyncrasies, it can be difficult for institutions to categorize students who withdraw from their institutions. Understanding the differences is important for institutions and policy makers, as they work to develop policies and procedures to retain as many students as possible (Tinto, 1975; 1982).

Regardless of how retention and persistence are defined, they are critical aspects of college completion. College completion has huge social and economic impacts, on both individuals and the public.

Private and Public Benefits of a College Education

A college education is one of the surest ways to increase social and economic levels, both of individuals and society as a whole. “Although gaps will always exist in who goes to college and who ultimately succeeds, it still holds true that education has the greatest potential to benefit all” (Swail et al., 2003, p. 5). Time and again, studies have shown that going to college has a proven national impact, from higher salaries to better health to increased volunteerism to a reduced dependence on welfare and other social programs. In fact, data shows that for most states, “some college is good, and more college is even better” (Institute for Higher Education Policy, 2005, p. 4).

According to the Institute for Higher Education Policy (1998), the benefits of a college education can be grouped into four categories: public social benefits, private social benefits, public economic benefits, and private economic benefits. The categories,

although separate, are not mutually exclusive. “Any single benefit, public or private, could also lead to further public or private benefits--the cascade of benefits that results from education” (p. 13). These four categories will be used to organize this section.

Social Benefits

A college education is beneficial both to individuals and to society as a whole. The categories of private and public social benefits will be used to differentiate discussion on the social benefits of a college education.

Private social benefits. Private social benefits are “benefits that accrue to individuals or groups that are not directly related to economic, fiscal, or labor market effects” (Institute for Higher Education Policy, 1998, p. 19). Examples of these benefits include improved health and life expectancy, improved quality of life for children, a more fulfilling work environment, better consumer decision making, increased personal status, and more hobbies and leisure activities. The aforementioned examples are considered long-term in nature. Conversely, some private social benefits are short-term in nature, such as enjoyment of the learning experience, involvement in extracurricular activities, and participation in social and cultural events (Institute for Higher Education Policy; Swail et al., 2003).

As an example, one quantifiable indicator of a private social benefit of increased education is personal health. In the United States, 82 percent of those with a high school diploma reported being in “excellent, very good, or good” health, compared with 93 percent of those with a bachelor’s degree (U.S. Census Bureau, Current Population Survey [CPS], March 2004 Supplement, as cited in Institute for Higher Education Policy, 2005). This personal health benefit is not exclusively social in nature; its effects extend to

the economic spectrum also, as healthier citizens have reduced insurance expenses, which benefit them and other consumers too.

Public social benefits. Public social benefits are defined as “benefits that accrue to groups of people, or to society broadly, that are not directly related to economic, fiscal, or labor market effects” (Institute for Higher Education Policy, 1998, p. 17). Examples of these benefits include reduced crime rates, reduced dependency on public welfare, increased charitable giving and volunteerism, increased involvement in civic and democratic activities, social cohesion and appreciation of diversity, and improved ability to adapt to and use technology (Education Commission of the States, 2004; Institute for Higher Education Policy; Swail et al., 2003). One of the most important benefits of higher education to society is intergenerational – the increased educational attainment of children (Bowen, 1997).

A quantifiable example of a public social benefit is the political participation of college graduates versus non-college graduates. According to the U.S. Census Bureau, Current Population Survey (CPS), March 2004 Supplement (as cited in Institute for Higher Education Policy, 2005), fifty-six percent of U.S. citizens who were age 25 and older and had a high school diploma responded that they had voted in the 2000 presidential election, compared to 76 percent of bachelor’s degree recipients.

Economic Benefits

A college education also provides a host of economic benefits, both for individuals and for society. The discussion that follows will be classified under the categories of private and public economic benefits of a college education.

Private economic benefits. “Benefits that have economic, fiscal, or labor market effects on the individuals who have attended postsecondary education” characterize private economic benefits, which is the most commonly discussed category of higher education benefits (Institute for Higher Education Policy, 1998, p. 14). Examples of private economic benefits include higher salaries and benefits, higher rates and greater consistency of employment, elevated savings levels, improved working conditions, and increased personal and professional mobility (Institute for Higher Education Policy; Swail et al., 2003).

In the span of a lifetime, the earnings variation between differing levels of education is tremendous. In fact, “individuals with a bachelor’s degree earn, on average, twice that of high school graduates” (Swail et al., 2003, p. v). In early 2004, the national average total personal income of workers 25 and older with earned bachelor’s degrees was \$48,417, nearly \$23,000 higher than for those with a high school diploma (U.S. Census Bureau, Current Population Survey [CPS], March 2004 Supplement, as cited in Institute for Higher Education Policy, 2005).

The private economic benefits of higher education are even more striking for African Americans. In 1999, approximately 34 percent of African Americans age 25 or older without a high school diploma were living below the poverty level. In contrast, only three percent of African Americans age 25 or older with earned bachelor’s degrees were living below the poverty level (Swail et al., 2003).

Public economic benefits. Public economic benefits have “broad economic, fiscal, or labor market effects. In general, these benefits result in the overall improvement of the national economy, or major segments of the economy, as a result of citizens’

participation in higher education” (Institute for Higher Education Policy, 1998, p. 13). The success of our developed nation and its economy has been tied to a large college-educated workforce (Braxton et al., 2004). Examples of public economic benefits include increased tax revenues, greater productivity, increased consumption, increased workforce flexibility and technical skills, and decreased poverty rates and reliance on government financial support (Education Commission of the States, 2004; Institute for Higher Education Policy; Swail et al., 2003). A telling illustration of the economic power of higher education is reflected in the fact that in 2003, in 28 states in the nation, no one with a bachelor’s degree reported receiving public assistance (U.S. Census Bureau, Current Population Survey [CPS], March 2004 Supplement, as cited in Institute for Higher Education Policy, 2005).

All of the benefits mentioned previously, public and private, economic and social, are in full force when students actually graduate from institutions of higher education. Not only does attaining this level of education benefit individuals and society, but the higher education institutions themselves also benefit when students remain with them through to degree completion.

Institutional Benefits

Student persistence and retention are critical issues facing institutions of higher education, both in terms of financial success and accountability (Braxton et al., 2004). When persistence and retention rates are good, institutions benefit financially. Positive rates also affect how institutions of higher education are viewed through the eyes of the public and policymakers.

Financial Success

“The retention of college students at the freshman and sophomore levels has been a top priority in higher education since the 1980s when fiscal concerns shifted administrative philosophies from survival-of-the-fittest competitiveness toward the desire for student continuance” (Molina & Abelman, 2000, p. 5). Administrators recognize that retaining enrolled students is more efficient and less expensive than recruiting new ones (Berger & Lyon, 2005; Schuh, 2005; Terenzini, 1982). Research by Levitz et al. (1999) indicated that a four-year institution will, on average, gain between \$15,000 and \$25,000 in gross revenue over four to five years by reducing the number of freshmen dropouts by a single student. Even a small increase in an institution’s retention rate can have a quantifiable impact on institutional finances (Yockey & George, 1998). According to Tinto (1990), the financial gains of raising an institutional retention rate between 10 and 20 percent can be substantial, and in fact, can “spell the difference between survival and closure” (p. 43).

Maintaining student enrollment at all levels, first-year to senior-year, is directly related to institutional budgets, particularly as the funding for higher education has diminished in recent years and as institutions are becoming more dependent upon the revenue generated from tuition and fees (Braxton et al., 2004; Swail et al., 2004; Schuh, 2005). “The departure of individuals can cause serious financial strains upon the host institution by undermining its continuing source of revenue” (Tinto, 1982, p. 8). Management of student enrollment is even more critical for private institutions, including Historically Black Colleges and Universities, which depend on tuition as their primary revenue source (Nettles et al., 1999; Tinto). Rates of student departure not only

negatively affect the stability of institutional enrollments and budgets, they also affect the public perception of the quality of colleges and universities (Braxton et al., 2004).

Accountability

Astin, Korn, and Green noted that retention has served as a “barometer of institutional effectiveness” (as cited in Strumpf & Hunt, 1993, p.8) for the public and for policymakers. For example, the well-recognized *U.S. News & World Report* uses institutional graduation rates as one of its indicators to select “America’s Best Colleges.” “Regardless of an institution’s mission and selectivity, schools with low retention and graduation rates carry a burden that has a direct impact on the college’s ability to recruit and retain future students” (Swail et al., 2003, p. 8).

Policymakers at the state and national levels are also concerned about retention levels and graduation rates. Both state and national entities make sizable investments in postsecondary education and are therefore concerned with the payoff of their investments and the investments of their constituents – namely, graduates who will help America face the challenges of a dynamic and ever-expanding workplace (Institute for Higher Education Policy, 1998; 2005; Lotkowski et al., 2004). In fact, some “policymakers are setting benchmarks for retention, asking campuses to become responsible for decreasing attrition and promoting student success” (Braxton et al., 2004, p. xi). Some states even tie resource allocations to retention indicators (Berger & Lyon, 2005).

Retention and Graduation Figures

Retention is seen as an institutional performance indicator and is one of the primary ways in which institutional success is measured (Levitz et al., 1999). According to Mortenson (2005), there are retention rate measurement problems that must be

considered, including accounting for student transfers between institutions, student progression at different rates, student stopouts, and institutional selectivity. “Measuring college student retention is complicated, confusing, and context dependent. Higher education researchers will likely never reach consensus on the ‘correct’ or ‘best’ way to measure this very important outcome” (Hagedorn, 2005, p. 89).

In order to address some of the measurement problems, the United States government established a federal definition of graduation rate as part of the Student Right-to-Know and Campus Security Act that was signed in November of 1990. Graduation rate is defined as “the percentage of full-time, first-time, degree seeking enrolled students who graduate after 150 percent of the normal time for completion” (Hagedorn, 2005, p. 94). For four-year institutions, the 150 percent measurement equates to six years.

Each year since 1983, ACT has compiled first-to-second year retention rates from the ACT Institutional Data Questionnaire, a survey of information gathered from two-year and four-year postsecondary institutions. Ninety-four four-year public institutions with traditional admission selectivity, defined as the majority of admitted students being from the top 50% of their high school class, responded to the 2005 survey. The mean first-to-second year retention rate for these schools was 70.8% (ACT, 2005). This national database offers annual benchmarks against which institutions can measure their own retention and graduation rates with similar institutions (Levitz et al., 1999). As will be further discussed later, first-to-second year retention rates are often noted, as this is the timeframe when most student attrition occurs.

“For the past 100 years, the institutional graduation rate has stubbornly held at the 50 percent mark: half of all students entering higher education fail to realize their dreams and aspirations based on earning a certificate or degree” making it what Swail et al. (2003) call a “persistent problem in higher education” (p. 1). Although getting students into college is important, helping them complete a degree in no more than five or six years is just as crucial to the economic and social health of the nation (Education Commission of the States, 2004).

Even though high school graduation rates have improved considerably, there is still much improvement to be made in college retention rates. Low retention rates squander human potential and resources and ultimately jeopardize our nation’s economic future, including the economic future of our postsecondary institutions (Lotkowski, et al. 2004). Although college entry is a big accomplishment for some, persisting to graduation is what really matters. “Unfulfilled academic goals often result in unfulfilled career realities: lower pay, less security, fewer opportunities, and dreams deferred – if not abandoned” (Swail et al., 2003, p. 1).

As Braxton et al. (2004) indicated, “Student departure is connected to the development of human potential” (p. xi). Those students who leave institutions of higher education without graduating may lead vastly different lives from those they would have led had they persisted to degree completion. “As higher education becomes increasingly important for success in a society that has become knowledge- and technology-oriented, retention and persistence are more important than ever” (Berger & Lyon, 2005, p. 26).

Special Populations

Several types of students have received considerable attention in the retention literature, namely first-year students and minority students.

First-year students. Numerous authors have indicated the importance of focusing on first-year students, as most students who drop out of postsecondary education do so during or immediately following their first year of college (Blose, 1999; Education Commission of the States, 2004; Strumpf & Hunt, 1993; Tinto, 1987; Yockey & George, 1998). In fact, between one-half to three-quarters of students who leave institutions do so during or immediately following the first year (McClanahan, 2004; Strumpf & Hunt; Tinto, 1987). “Dropout is not only more frequent in the first year of college, but also more likely to be voluntary” (Tinto, 1982, p. 8). Freshman retention, the percentage of first-time, full-time students who return after their freshmen year, is an often-cited figure (Nettles et al., 1999). This measurement of persistence is important because it can identify student vulnerability at the beginning of college and also because it encourages institutions to act quickly with interventions (Mortenson, 2005).

Institutional factors that influence attrition begin affecting student behavior when student attendance at the institution commences (Blose, 1999). For this reason, numerous authors suggest an emphasis on special programming for first-year students to help get them started on the right foot (Fidler, 1991; Levitz et al., 1999; Upcraft & Gardner, 1989). Although there is no set formula for successful freshman intervention programs (Yockey & George, 1998), Levitz et al. suggest that interventions focus on five areas: personal, social, academic, life issues and institutional issues. According to Upcraft and Gardner, a common definition of freshman success includes the following goals:

developing academic and intellectual competence, establishing and maintaining interpersonal relationships, developing an identity, deciding on a career and life-style, maintaining personal health and wellness, and developing an integrated philosophy of life.

First-year student involvement is enhanced by interaction between students and others in the academic community; first-year students are more likely to succeed when they find others who care about them, especially faculty. The freshman seminar is a proven way of enhancing freshman success (Upcraft & Gardner, 1989).

Academic performance during the first year is also important (American Association of State Colleges and Universities, 2005). Hyers and Joslin (1998) found that first-year seminar grades can be useful predictors of achievement and persistence into the second and even subsequent years. They suggested that midterm grades in the seminar course could serve as an early-warning system and prompt referral to appropriate counseling or other support services.

In the coming years, there is expected to be a decline in the overall rate of population growth in the United States. Not only will the rate of growth decline, but there will be changes in the source of the growth. As a result, students on university campuses will become increasingly diverse in terms of race, culture, ethnicity, age and gender, so colleges and universities must be willing to make major changes in their approaches, if they are to best serve these students (Murdock & Hoque, 1999; Upcraft & Gardner, 1989).

Minority students. Minority students have also received special attention in the retention literature. Included under the minority student categorization are African

American, Hispanic and Native American students. “The supply of and types of student served by colleges and universities in our country have changed over time, moving from a small, selective, generally homogenous group of privileged individuals to a diverse spectrum of individuals numbering in the millions” (Berger & Lyon, 2005, p. 2). This diversification of the student population has forced institutions to review their retention practices in light of the changing demographics.

Enrollment levels in postsecondary institutions for minority students have increased and are similar to those of white and Asian students; however, persistence and graduation rates differ significantly (Braxton et al., 2004; Lotkowski et al., 2004; Swail et al., 2003). “Persistence and completion rates for blacks and Hispanics are considerably lower than their white or Asian-American counterparts – 18% and 8%, respectively, compared to 32% and 55%” (Education Commission of the States, 2004, ¶ 6).

The continued racial and ethnic group differences in bachelor’s degree completion have at least three types of implications: (1) differences in economic and noneconomic benefits for different racial and ethnic groups; (2) less than optimal economic and noneconomic benefits to society; and (3) reduced racial and ethnic group access to advanced degrees and careers. (Swail et al., 2003, p. 26-27)

Degree attainment discrepancies will become even more important as the demographics of our country continue to change. Based on 2001 figures from the U.S. Census Bureau (as cited in Lotkowski et al., 2004), Hispanics are now the largest and fastest-growing minority population and make up 13% of the total United States population. African Americans also represent 13% of the population. Projections indicate that within the next three decades, Hispanics and African Americans will constitute over one-third of the United States population. “Given that the United States will become

significantly ‘less white’ over the course of the next fifty years, issues of color cannot be ignored” (Swail et al., 2003, p. 2).

These population changes mean that more and more students from minority backgrounds will be entering higher education settings. Projections illustrate that the number of Latino high school graduates will increase 67 percent within the next decade, and the number of African American high school graduates will increase 17 percent (Swail et al., 2003). This growth is composed primarily of those students who will encounter the most hurdles between high school graduation and college graduation (American Association of State Colleges and Universities, 2005).

In light of these changing demographics, higher education institutions will need to revisit and revise their retention strategies with a focus on maintaining increasing numbers of all students, while specifically focusing on first-year and minority students. Institutional leaders can begin this process by reviewing retention theories, academic and non-academic factors that affect retention, and organizational and programmatic recommendations from the literature. The remainder of this chapter will address each of these categories.

Retention Theories and Models

The issue of student departure has been studied empirically for more than 70 years (Braxton et al., 2004). There are numerous theories and models that have been developed related to student persistence, departure and retention. Spady (1970) categorized student departure research up through the 1960s into six types of studies: census, autopsy, case, prediction, philosophical and theoretical, and descriptive. He further noted that analytical-explanatory theories, which focused on “isolating underlying

explanatory mechanisms,” were lacking (p. 65). Researchers have conducted studies of retention using economic, organizational, psychological, and sociological theoretical perspectives (Braxton & Hirschy, 2005). The remainder of this section will review the strategies and models that were consistently discussed in a review of the literature.

Spady

Spady (1970) was the first to propose a widely recognized model for college student departure. He synthesized existing empirical work into a cohesive conceptual framework - a sociological model that drew upon information from a suicide theory developed by Durkheim in the 1950s (Berger & Lyon, 2005; McClanahan, 2004). Spady’s model specified that decisions about dropping out were based on a longitudinal process, which encompassed both background characteristics (family background, academic potential, ability and socioeconomic status) and college-specific characteristics such as grade performance, intellectual development, normative congruence and friendship support. These factors contributed directly to social integration (Bean, 1982; McClanahan). According to Spady (1970):

The dropout process is best explained by an interdisciplinary approach involving an interaction between the individual student and his particular college environment in which his attributes (i.e., dispositions, interests, attitudes, and skills) are exposed to influences, expectations, and demands from a variety of sources (including courses, faculty members, administrators, and peers). (p. 77)

The resulting interaction provides the student with the chance to integrate into the academic and social systems of the college, thus increasing the likelihood of persistence. The academic system includes both extrinsic (grades) and intrinsic (intellectual development) rewards. The social system includes the concept of normative congruence, which is defined as “having attitudes, interests, and personality dispositions that are

basically compatible with the attitudes and influences of the environment” (Spady, 1970, p. 77). Also included in the social system is friendship support, which involves the establishment of close relationships with others in the system.

A later work by Spady (1971), a longitudinal study of first-year students at the University of Chicago, analyzed the relationships discussed in his 1970 model. The analysis indicated that shorter term dropout decisions were significantly influenced by extrinsic performance criteria, especially among men. “Over a four year period, formal academic performance is clearly the dominant factor in accounting for attrition among both sexes” (p.38).

Spady’s model served as a precursor to Vincent Tinto’s first work. Both works focused on academic and social interactions and were based upon the suicide model developed by Durkheim (Bean, 1982; Berger & Lyon, 2005; Swail et al., 2003).

Tinto

Vincent Tinto is one of, if not, the most often cited retention theorists (Berger & Lyon, 2005; Swail et al., 2003). His theories and their revisions spanned several decades.

Tinto’s first model described the progression of dropping out of college as a longitudinal process involving interactions between the individual and the academic and social systems of the campus environment. Additionally, the model accounted for student’s background characteristics and prior experiences such as family background, individual attributes, and pre-college academic performance (Bean, 1982; Tinto, 1975). The model also included initial commitments to the institution and to the goal of graduation. The person’s experiences within the academic and social systems of the institution further influenced goals and commitments that led to persisting or dropping

out. Pascarella et al. (1986) described the “model’s conceptual core” as “person-environment fit” (p. 156).

Tinto’s model explained the effect of complex formal and informal interactions within the academic and social systems of the campus environment on student persistence, from both psychological and organizational perspectives. Academic integration is both structural (meeting the standards of the college) and normative (identifying with the beliefs, values and norms of the academic system). Social integration occurs at the level of the institution and also within subcultures; it involves how well a student fits in with the norms, values, beliefs and attitudes of the social communities. These academic and social interactions affect a student’s commitments to the institution and to the aspiration of graduation (Berger & Lyon, 2005; Braxton et al., 2004; McClanahan, 2004; Swail et al., 2003). As summarized by Tinto (1975), “given individual characteristics, prior experiences, and commitments . . . it is the individual’s integration into the academic and social systems of the college that most directly relates to his continuance in that college” (p. 96).

According to Cabrera et al. (1992), Tinto’s early model failed to address “the role of external factors in shaping perception, commitments and preferences” (p.144). These external academic and social systems included items such as finances, family obligations, parental support, and external peer groups. These factors warrant consideration as institutions develop interventions to address student persistence (Cabrera et al., Swail et al., 2003).

In the late 1980s, Tinto offered a model that complemented his and Spady’s earlier works by adding a time dimension (1988). He described the transition to full

membership in a college society as being marked by distinct stages through which students pass. The concept was based upon the field of social anthropology and Van Gennep's rites of passage in tribal societies. The stages through which students pass during their college careers are classified as "separation, transition, and incorporation" (p. 440). Each progressive stage involves different types of interactions between the student and others.

The first stage, separation, is marked by a parting from past habits and associations. As Tinto (1988) explained, students staying in college "depends on their becoming leavers from their former communities" (p. 443). The second stage, transition, involves students beginning to interact with the members of the college community - the group to which they are seeking membership. They begin to comprehend the knowledge and skills needed to fulfill their new roles as college students. The final stage, incorporation, is marked by students becoming full members of the college community. Although students may interact with the members of their former communities (family and high school friends), they now do so as members of a new community. Each of the stages involves academic and social interactions, and passing through them can be stressful for students. For those who find it difficult, departure is a possibility. As explained by Rootman (1972) in his study of military cadets, "One rational way to alleviate or 'cope' with the strain [of not fitting in] is to eliminate the stressful situation that caused it. This can be accomplished most effectively by withdrawing voluntarily" (p. 267).

In a later work, Tinto acknowledged the role that other factors, such as financial resources and external commitments, can play in student adjustment to college and

departure decisions. He also noted that different groups of students, such as at-risk, honors, adult, and transfer, can benefit from group-specific retention programs and policies that address their differing needs (Braxton et al., 2004; McClanahan, 2004; St. John, Cabrera, Nora, & Asker, 2000).

Although Tinto's 1975 model has remained the "dominant sociological theory of how students navigate through our postsecondary system" (Swail et al., 2003, p. 1), it has been attacked by some. Some have suggested that Tinto's models are severely limited when applied to minority students. Additionally, other authors complain that his models do not account for differences in residential and commuter institutions (Braxton et al., 2004). Braxton et al. discussed the testing of Tinto's model where they determined only modest empirical support for the role played by academic integration in residential universities. Their data suggested that social integration, not academic integration, is critical to explaining and understanding student departure (Berger & Lyon, 2005, p. 24).

Whereas some authors have found shortcomings in Tinto's models, others have used aspects of his academic and social integration theory as the impetus for models of retention (Swail et al., 2003). Bean and Eaton (2000), for example, using Tinto's model as a basis, integrated psychological theory into their retention model. As they indicated, "some of the most important links in sociological retention models can be explained through psychological theories" (p. 50).

Bean and Others

John Bean is a retention theorist whose initial work was adapted from a model of organizational turnover. He argued the importance of precollege characteristics and student/institution fit. Over the years, he collaborated with several others in developing

models to address nontraditional students and psychological factors affecting student departure decisions.

Bean. In 1980, Bean proposed a psychological model of student departure, which was adapted from an organizational turnover model. The model factored in student background characteristics, attitudes, and intentions to explain interactions with the college environment. Both objective and subjective variables influenced the level of satisfaction (McClanahan, 2004; Swail et al., 2003).

Later, Bean (1985) unveiled a revised model that proposed that students' peers are more significant in terms of socialization than is informal contacts with faculty, that students may play a more active part in their own socialization, and that college grades seem more the result of selection than socialization (McClanahan, 2004). According to Bean, the most important finding from the study was that "social life has large significant effects on institutional fit" for undergraduate students of all levels (p. 60). Institutional fit is comparable to the variable of "person-role fit" that Rootman (1972) described in his study of voluntary withdrawal of military cadets. Furthermore, students seemed to have a much greater impact on other students' attitudes than faculty members. "Thus, peer support is an important element in the retention of students" (Bean, p. 60).

Comparing Bean and Tinto. "Both Bean and Tinto note the level of academic and social integration into the campus structure as indicators of an individual's adaptation to college life" (Swail et al., 2003, p. 48). Cabrera et al. (1992) found that a combination of Tinto's student integration model and Bean's model of student departure provided a more thorough comprehension of persistence than either model as a stand-alone. Both models agree that persistence is a result of a complex set of interactions over time, and they

embrace the importance of precollege characteristics and student/institution fit. As a further extension of Tinto's and Bean's theories, Cabrera et al. addressed the role of finances in terms of students' academic integration, socialization, and determination to persist (Swail et al., 2003).

Bean and Metzner. In 1985, Bean and Metzner presented a conceptual model of attrition, which specifically focused on nontraditional students. A nontraditional student was defined as one who is

older than 24, or does not live in a campus residence (e.g., is a commuter), or is a part-time student, or some combination of these three factors; is not greatly influenced by the social environment of the institution; and is chiefly concerned with the institution's academic offerings (especially courses, certification and degrees). (p. 489)

Their model's structure was similar to models proposed earlier by Spady, Tinto, Pascarella, and Bean. However, Bean and Metzner's 1985 model for nontraditional students was markedly different in terms of the impact of student socialization. Their model included four different variables that influenced student dropout decisions: academic variables and performance, background and defining variables, environmental variables, and intent to leave. They indicated that "the chief difference between the attrition process of traditional and nontraditional students is that nontraditional students are more affected by the external environment than by the social integration variables affecting traditional student attrition" (p. 485). They indicated that although enrollments of nontraditional students were increasing, the likelihood of students characterized as nontraditional finishing a degree program was much less than for traditional students.

Bean and Eaton. Bean and Eaton (2000) summarized four psychological theories as an explanation for the "psychologically motivated" behavior of student departure

(p.49). These included attitude-behavior theory, coping behavioral theory, self-efficacy theory, and attribution theory. They then synthesized these four theories into their own model.

Attitude-behavior theory, which served as the basis of the overall structure of Bean and Eaton's synthesized model, indicates that "behavior is the result of the intention to perform the behavior," which is preceded by "an attitude toward the behavior" based upon "beliefs about the consequences of the behavior" (Bean & Eaton, 2000, p. 50). In other words, beliefs lead to attitudes, attitudes lead to intentions, and intentions lead to behavior.

Coping behavioral theory involves the ability to evaluate and adjust to the stresses of a new environment (Bean & Eaton, 2000; McClanahan, 2004). As indicated by Bean and Eaton, "academic and social integration may be construed as attitudinal outcomes of adaptive (coping) behaviors toward the institutional environment" (p. 51).

Two motivational theories complete the basis upon which Bean and Eaton's theory was built. Self-efficacy theory involves a student's perception, based upon past experiences and observation, of his or her capability of dealing with a particular task or situation. A strong perception of self-efficacy allows a student to achieve confidence in his or her capacity for survival and adaptation (Bean & Eaton, 2000). Locus of control is a key component of attribution theory that Bean and Eaton employed to explain "some of the process dynamics of how a student becomes integrated in the academic environment and, by analogy, the social environment of the institution" (p. 55).

The synthesized model of Bean and Eaton (2000) takes initial characteristics of students, such as past behaviors, personality, beliefs, skills and abilities, into

consideration. These characteristics of students at entry are then affected by institutional filters, both internal and external, that are bureaucratic, academic and social. “As they interact within the institutional environment, several psychological processes take place that, for the successful student, results in positive self-efficacy, reduced stress, increased efficacy, and internal locus of control” (p. 58). These processes are continually adjusted, and for successful students, lead to “academic and social integration, institutional fit and loyalty, intent to persist, and to . . . persistence itself” (p. 58).

Astin

Astin is another widely-cited retention theorist. The foundation of his student involvement theory is simple: “*Students learn by becoming involved*” (Astin, 1985, p. 133). Astin indicated that student involvement with the academic experience, in terms of both physical and psychological energy, is key to retention (Astin, 1985; Berger & Lyon, 2005; McClanahan, 2004). He further noted that student involvement has both quantitative (the amount of time that is devoted) and qualitative (the effectiveness of the time investment) attributes. Involvement is measured along a continuum. Students with the lowest involvement would tend to be those who reside off campus, who come to school only to go to class, who devote minimum effort to their scholarly activities, and whose lives are mainly concerned with events and people removed from the institution. On the other hand, students with the highest involvement are students who spend most of their time on campus, are committed to their studies, are active in student organizations, and frequently interact with faculty and other students (Astin, 1977). According to Astin (1985), his theory’s most important point for educators is “the effectiveness of any

educational policy or practice is directly related to its capacity for increasing student involvement” (p. 156-157).

In a later study of his own model, Astin indicated that the three most important forms of student involvement were academic involvement, involvement with faculty, and involvement with student peer groups (McClanahan, 2004). According to Astin (1993), the student’s peer group is the most powerful source of influence on growth and development during the undergraduate years. A peer group is defined as a collection of individuals, with some element of comparable or equal status, “with whom the individual *identifies* and *affiliates* and from whom the individual seeks *acceptance* or *approval*” (p. 400). In fact, Astin indicated that “students’ values, beliefs, and aspirations tend to change in the direction of the dominant values, beliefs, and aspirations of the peer group” (p. 398).

Pascarella and Others

Pascarella, like Spady and Tinto, described attrition as a longitudinal process that is influenced by background characteristics of students. These background characteristics affect the way the students interact with the college environment and lead to educational and attitudinal outcomes, which in turn lead to decisions to persist or drop out of college. The Pascarella, Spady and Tinto models have social and academic integration of students as their theoretical bases (Bean, 1982). In contrast with Bean who indicated that socialization with peers is more significant than socialization with faculty, Pascarella (1980) indicated that informal student contact with faculty does play a significant role in students’ institutional persistence.

Pascarella. According to Pascarella (1980), “significant positive associations exist between extent and quality of student-faculty informal contact and students’ educational aspirations, their attitudes toward college, their academic achievement, intellectual and personal development, and their institutional persistence” (p. 545). Student-faculty informal contacts that focus on “intellectual/literary or artistic interests, value issues, or future career concerns have the greatest impact” (Pascarella, p. 565). Additionally, the satisfaction gained from initial informal contacts with faculty may determine to what extent a student seeks additional informal contacts with faculty.

Pascarella and Terenzini. Pascarella and Terenzini (1979) examined the models of Spady and Tinto, specifically in regard to the positive influence of informal contact with faculty outside of the classroom on the academic and social integration of students. Their findings supported the link between informal contact with faculty, social and academic integration, and student persistence. Their study, however, did identify gender differences in the patterns of influence of informal contacts with faculty. “For men, frequency of informal contacts with faculty to discuss their future careers and to obtain information about courses and academic programs was positively related to freshman year persistence” (Pascarella & Terenzini, p. 217). Women, on the other hand, tended to seek “more intrinsic than instrumental outcomes” from informal contacts with faculty (p. 217).

Pascarella, Terenzini and Wolfe. Pascarella, Terenzini, and Wolfe (1986) used Tinto’s model as a basis to test the influence of a two-day intensive precollege orientation program on persistence and voluntary withdrawal behaviors. In their study, “the major positive influence of exposure to orientation on freshman persistence was transmitted

through its influence on freshman year social integration and, to a somewhat lesser extent, through its influence on subsequent commitment to the institution” (p. 169-170). Additionally, they found that students who participated in orientation activities had significantly higher levels of extracurricular involvement and informal contact with faculty than those who did not attend orientation.

Persistence, retention and withdrawal are complex and multifaceted issues. As noted by several authors, the complexity of the human state makes it difficult to prove one psychological or sociological theory in determining student persistence over another (McClanahan, 2004; Pascarella, 1982; Swail et al., 2003). As a result, it may prove more fruitful to utilize an integration of information from a variety of well-recognized theories as a lens through which to view student departure.

Factors Affecting Retention

As mentioned in the previous section, both academic and social factors play key roles in student persistence. Lotkowski et al. (2004) conducted a comprehensive review of research on retention to determine which factors were the greatest indicators of college retention and performance; they categorized factors under the umbrella categories of academic and non-academic. As they indicated, “retention is dynamic and involves a complex interplay between academic and non-academic factors” (p. 3). Lotkowski et al. also added one additional factor that they did not categorize as academic or non-academic – socioeconomic status. Astin (1993) agreed that socioeconomic status influences a student’s chance of completing a bachelor’s degree.

The categorization of factors under the umbrella categories of academic and non-academic will be used as the organizational framework for the following section. Some

factors are not mutually exclusive to only one umbrella category. Additionally, it should be noted that the factors that lead to student dropout in the beginning stages of an academic career can be different from those that influence later departure decisions (Swail et al., 2003).

Academic Factors

Lotkowski et al. (2004) categorized the following factors that impact college retention and performance as academic: ACT score and high school grade point average. In addition to these background variables, other factors have been mentioned in the literature as academic factors that impact college performance and retention. Some of these factors, such as preparation for college level work, high school rank, school quality, and course selection, are established at the high school level. Others, such as college grade point average, academic integration, study skills, and motivation, appear after students begin college. The following section will address academic factors in two sub-categories: high school and college.

High school academic factors. High school factors are classified as background variables that were mentioned in many of the theories and models of retention. These background or prematriculation variables precede a student's interaction with the institution and represent facts about students who have not yet entered college (Bean, 1982). High school factors include performance, in terms of grades and grade point average, in addition to scores on standardized entrance exams. Inadequate preparation, high school class rank, high school college preparatory courses, advanced placement courses, and the quality of the secondary school, including its curriculum, can also be categorized as high school academic factors.

Several authors noted that high school grade average is the strongest pre-college predictor of a variety of measures of college student success (Astin, 1977; Astin & Oseguera, 2005; Bean, 1982; 1985; Bean & Metzner, 1985; Lenning, 1982; Lotkowski, et al., 2004; Mortenson, 2005). Astin and Oseguera noted that high school grade averages predict students' chances of completing a bachelor's degree within four to six years of commencing college study. Bean and Metzner recognized that high school academic performance was among the strongest pre-enrollment predictors of persistence, both in residential and commuter institutions. Astin found that high school grades are "by far the best predictor of college grades," (p. 102), and student's grade average in high school serves as the "most potent predictor" of college dropout (p. 108). Bean (1982) found that high school performance, in terms of high school grades and ACT scores, predicted "from about 25 to 50 percent of the variance in college grades" (p. 26). According to Mortenson, students with the most successful academic records in high school are likely to also have the most successful academic records in university settings. Furthermore, colleges that enroll these academically successful high school students will likely have higher persistence rates than those that who utilize less academically selective admission criteria.

Another performance indicator mentioned by numerous authors was college-admissions test scores (Bean, 1982; Lenning, 1982; Lotkowski et al., 2004). Lotkowski et al. found that ACT assessment, in addition to high school grade point average, had a stronger relationship to college grade point average than did a student's socioeconomic status. According to Lenning, "Lower college-admissions test scores . . . are related to

higher attrition and imply that students have to work much harder to succeed in college” (p. 37).

In a survey of over 200 four-year public colleges, Habley and McClanahan (2004) found that inadequate preparation for college level work was among the top-cited student characteristics making the greatest contribution to student attrition. A measure of academic preparedness is often based on several of the following factors: high school grade point average, high school class rank, college entrance test scores (specifically math sub-scores), high school college preparatory courses, advanced placement courses, and the quality of the secondary school, including its curriculum. Between 30 and 40 percent of all entering first-year students enter the college setting unprepared for college-level reading and writing; as a consequence, roughly 44 percent of all college students who complete two- or four-year degrees registered in at least one remedial writing, reading or math class. The figures are even more alarming for minority students. Inadequate academic preparation is one of the primary reasons that many students leave college during or immediately following their first year (Swail et al., 2003).

Bean (1982) and Lotkowski et al. (2004) suggested that student background variables such as standardized test scores and high school grade point average can be useful to admissions and other university personnel. These background characteristics can serve as indicators of potential academic problem areas that the institution can proactively address.

College academic factors. The importance of grade point average in college is similar to that of grade point average in high school; both are strongly associated with college student success and persistence. Student’s undergraduate grade point average is

the single variable that is most strongly related to persistence and graduation (American Association of State Colleges and Universities, 2005; Astin, 1975; 1977). According to Pascarella and Terenzini (1991), “A student’s grades are probably the most revealing indicator of his or her successful adjustment to the intellectual demands of a particular college’s course of study” (p. 388). College grades may affect persistence and withdrawal decisions for numerous reasons: students with low grades are forced to withdraw involuntarily, grades serve as an extrinsic reward for students, and grades may equate to compensation in work settings (Bean, 1985).

Academic performance in the way of college grades can be influenced by numerous factors, including academic ability, intelligence, academic integration, study skills and motivation. As indicated by Pascarella and Terenzini (1991), grades are a reflection of academic ability and intellectual skills plus other personal traits such as motivation, perseverance, study skills, work habits, and the like. Habley and McClanahan (2004) found that poor academic integration and poor study skills were several student characteristics that made the greatest contributions to attrition in four-year public colleges. “One major clue to the importance of academic factors that lead to dropping out is contained in the reason students give most frequently for leaving college: boredom with courses” (Astin, 1975, p. 148).

Since between one-half to three-quarters of students who leave institutions do so during or immediately following the first year, and often voluntarily (McClanahan, 2004; Strumpf & Hunt, 1993; Tinto, 1982; 1987), monitoring academic performance during the first year is very important (American Association of State Colleges and Universities, 2005). According to Lenning (1982), most students who leave college have satisfactory

grades, although they do tend to be slightly lower than the grades of persisters; “therefore, those who exhibit any sign of academic difficulty (for example, low grades, self-report of study problems) during the first term probably deserve special observation and attention” (p. 37). Lotkowski et al. (2004) suggested that institutions can monitor student performance (in the way of exams, presentations, and class participation) and attendance patterns to identify those who may not be performing at acceptable levels. Those students can then be targeted for institutional interventions.

Many postsecondary institutions offer a first-year seminar course, which has been proven useful as a tool for monitoring student performance. Hyers and Joslin (1998) concluded that success in a first-year seminar course correlated positively with retention, and the first-year seminar “professors can identify, through course grades, students who are at risk by the middle of the first semester, before other indicators [of departure risk] are available” (p. 26). These professors can then intervene on their own or by referring students to counseling, health services, or other appropriate student support services.

Another program offered by many institutions is Supplemental Instruction (SI). SI is an academically focused form of assistance for students enrolled in courses, specifically first- and second-year courses, which are traditionally difficult. The program works to help students master course subject matter while at the same time developing useful course specific study strategies and learning skills. The SI leader serves as a model for program participants, in terms of how successful students think about and manage course content. “SI participants consistently outperform their peers who attempt the same courses on their own” (Lotkowski et al., 2004, p. 12).

In the college setting, frequency of contact with faculty role models and social interaction with others who have strong academic orientations have both been hypothesized to positively affect grades (Bean, 1985; Lotkowski et al., 2004). Although academic factors are important in both residential and commuter institutions, they have been shown to play a more significant role in the departure process of commuter institutions. The social dimension, classified as a non-academic factor affecting retention which will be discussed in the next section, holds a more prominent role in the departure process in residential colleges and universities (Braxton et al., 2004).

Non-Academic Factors

Lotkowski et al. (2004) categorized the following factors that impact college retention and performance as non-academic: academic goals, achievement motivation, academic self-confidence, academic-related skills, contextual influences, general self-concept, institutional commitment, social support and social involvement. The findings of Habley and McClanahan (2004) showed lack of motivation to succeed and lack of educational aspirations and goals as two student characteristics making the greatest contributions to student attrition in four-year public colleges. Other authors have discussed the importance of the social environment, especially involving relationships with peers and faculty outside the classroom; extracurricular involvement and activities; organizational culture and climate; finances and financial aid; and student employment. In discussing the importance of institutional recognition of non-academic factors in addition to traditional academic factors, Lotkowski et al. stated, “students who master course content but fail to develop adequate academic self-confidence, academic goals,

institutional commitment, and social support and involvement may still be at risk of dropping out” (p. vii).

Relationships. Habley and McClanahan (2004) identified the social environment of four-year public colleges as one of the institutional factors making the greatest contribution to attrition. As part of the social environment, students establish relationships with both peers and faculty. These relationships are a critical aspect of student integration and subsequent persistence. Through relationships, students discover and embrace the norms of the social and intellectual, or academic, communities of college. Students who fail to establish these relationships and become integrated may feel isolated and choose to depart (Swail et al., 2003; Tinto, 1988). Astin and Oseguera (2005) indicated that students with the best chances of persisting to graduation are those, who among other things, “show a propensity to become highly involved or engaged in the social and academic life of the institution” (p. 262). As indicated by Swail et al., the means of becoming socially integrated into the establishment of the university has been found to be “both a cumulative and compounding process, and the level of social integration within a given year of study is part of a cumulative experience that continues to build throughout one’s college experience” (p. viii-ix). Astin (1993) found that the student’s peer group and faculty both notably affect growth and development in college, with the student’s peer group acting as the most powerful source of influence.

According to Astin (1993), “The single most important environmental influence on student development is the peer group” (p. xiv). In fact, he discovered that student values, beliefs, and aspirations tend to change in the direction of the prevailing values, beliefs, and aspirations of the peer group. In order to establish membership in a peer

group, students have to first meet new people and then make friends, which can cause social uncertainty for some. “Students who use proactive rather than reactive social adjustment strategies and students who invest considerable psychological energy into social interactions with their peers grow in their level of social confidence and certainty” and will likely become more socially integrated (Braxton et al., 2004, p. 31).

The importance of peer groups can be even more critical for minority students. “In general, persistence is enhanced if the student attends an institution in which the social backgrounds of other students resemble his or her own social background” (Astin, 1975, p. 144). Attending an institution with similar peers increases the chance for “communal potential,” which Braxton et al. (2004) defined as “the extent to which a student believes that a subgroup of students exists within the college community with which that student shares similar values, beliefs, and goals” (p. 23). For example, historically black colleges and universities have been found to provide more support for African American students than predominantly white institutions (Swail et al., 2003).

Tinto (1990) found that the quality of faculty teaching and the nature and extent of faculty contact, both inside and outside the classroom, were predictors of student persistence and student learning gains. According to Lotkowski et al. (2004), “frequency and perceived worth of interaction with faculty, especially outside the classroom is the single strongest predictor of student voluntary departure” (p. 36). These interactions with faculty, who often serve as role models, tend to increase students’ social integration and institutional commitment, in addition to increasing their academic integration. “With regard to underrepresented minorities in universities, contact with positive role models is even more significant than it is for majority students” (Swail et al., 2003, p. 65).

One form of interaction between faculty and students is academic advising. Studies of retention have found that effective advising is positively correlated to students' satisfaction with college, and to their persistence and graduation (Priest & McPhee, 2000). Academic advising can serve as a way for colleges to formally encourage and implement interactions between students and concerned adults, both faculty and staff, to improve retention (Lotkowski et al, 2004). Habley and McClanahan (2004) cited academic advising as one of the institutional factors making the greatest contribution to attrition at four-year public colleges. According to Tinto (2005), advising is especially important for the success of students who begin college undecided about a major or those who change their majors. "The inability to obtain needed advice during the first year or at the point of changing majors can undermine motivation, increase the likelihood of departure, and for those who continue, result in increased time to degree completion" (p. 322).

Extracurricular involvement and activities. Related to the concept of peer interaction is extracurricular involvement or activities. Habley and McClanahan (2004) found that student involvement in campus life was one of the institutional factors making the greatest contribution to attrition at four-year public colleges. Astin (1975; 1977; 1985) discovered that extracurricular activities of almost any type, but especially membership in social fraternities or sororities, were related to persistence. Other extracurricular activities influencing persistence were participation in sports, enrollment in an honors program, involvement in ROTC, and participation in professor's undergraduate research projects. "For many undergraduates, extracurricular activities provide some of the most significant consequences of college attendance. In certain

respects, these activities offer an opportunity to develop skills that are more relevant to later life than the knowledge and cognitive skills acquired in the classroom” (Astin, 1977, p. 115).

Organizational characteristics. Organizational characteristics and institutional reactions also play roles in student persistence decisions. According to Swail et al. (2003), institutional reactions are crucial to student retention, persistence and completion. The decisions and actions of administrators, faculty and staff help shape students’ perceptions of the institution’s commitment and integrity. Braxton et al. (2004) described institutional integrity as the degree to which a college or university is faithful to its espoused mission and goals. “Institutional commitment is more than just words, more than just mission statements issued in elaborate brochures; it is the willingness to invest the resources and provide the incentives and rewards needed to enhance student success” (Tinto, 2005, p. 321). Baird (2000) suggested that institutions should carefully assess and change campus climates as needed to impact students’ departure decisions. As summarized by Vincent Tinto:

To sum up, students are more likely to succeed when they find themselves in settings that are committed to their success, hold high expectations for their success, provide needed academic, social and financial support, provide frequent feedback, and actively involve them, especially with other students and faculty in learning. The key concept is that of educational community and the capacity of institutions to establish educational communities that involve all students as equal members. (p. 324)

Finances and Financial aid. Another non-academic factor that plays a role in student persistence decisions is finances. Habley and McClanahan (2004) found that inadequacy of financial resources was one of the student characteristics making the greatest contribution to student attrition at four-year public colleges. Closely related was

their finding that the amount of financial aid available to students was one of the institutional factors making the greatest contribution to attrition at four-year public institutions.

Departure can result if a student perceives that the costs of attending a particular institution outweigh the benefits of attendance (Braxton & Hirschy, 2005; St. John et al., 2000; Swail et al., 2003; Tinto, 1975). A related concept is that “the greater the level of a student’s satisfaction with the costs of attending her or his chosen college or university, the greater the student’s degree of social integration” (Braxton et al., 2004, p. 28).

Financial needs may serve as psychological stressors, which cause some students to reallocate attention from academic activities to monetary worries (St. John et al.). As Schuh (2005) indicated, price of attendance affects students from various income groups in different ways. Low-income and lower-middle-income students tend to respond more to prices than do those with higher incomes. Additionally, as price increases, students rely more on loans as part of their financial aid packages.

The sources and amounts of financial aid have been shown to be important factors in a student’s ability to complete college, especially for low-income and minority students. Students receiving scholarships or grants over loans have shown increased persistence rates (Astin, 1975; Swail et al., 2003). With rising college costs, more low-income students will have to borrow money to enroll in college and persist through to degree completion; however, low-income students are less willing to borrow to attend college than whites or students from higher-income families (Swail et al.). According to Astin, retention is increased for students who receive financial support for college

expenses from spouses, if they are married, and from parents. Conversely, reliance on savings or other assets appear to decrease a student's chances of finishing college.

Employment. A non-academic factor related to finances and financial aid is employment, with key variables being how many hours and where a student works. Although having a job generally increases a student's chances of persistence, the number of hours a student works has been shown to be important (Astin, 1975). Students who work full-time at off-campus jobs tend to be retained in fewer numbers, likely because they have to spend a lot of time and energy on their non-academic activities (Astin, 1975; 1985; Astin & Oseguera, 2005; Schuh, 2005). This coincides with the finding by Habley and McClanahan (2004) that too many job demands were cited as one of the top student characteristics affecting student attrition at four-year public colleges. An interesting finding by Astin (1975) is that students with off-campus jobs are more likely to drop out the more their work is correlated to career goals. Part-time on-campus work, especially in a federal work-study program, has been shown to increase a student's chances of finishing college. These types of positions encourage students to spend more time on campus, which provides them with more occasion and opportunity to make contacts with other students, faculty and staff (Astin, 1975; 1985).

Combining Academic and Non-Academic Factors

Habley and McClanahan (2004) found that student-institution fit was one of the institutional factors making the greatest contribution to attrition at four-year public colleges. As noted by Pascarella and Terenzini (1991), most definitions of fit exhibit characteristics of student's interactions with both the academic and social, or non-academic, systems of the college. They further noted that these academic and social

interactions affect both student persistence and educational attainment. Several authors indicated that the roots of student attrition lay both with students and with the institution; in other words, the success of an institution and its students are inseparable (Levitz et al., 1999; Tinto, 1999).

According to Lotkowski et al. (2004), retention involves a multifaceted interaction between academic and non-academic factors. To address retention efforts, they suggested that institutions “take an integrated approach . . . that incorporates both academic and non-academic factors into the design and development of programs to create a socially inclusive and supportive academic environment that addresses the social, emotional, and academic needs of students” (p. viii). McClanahan (2004) suggested implementing a web of interlocking initiatives, as opposed to individual programs or policies, to promote student success.

Recommendations for Practice

College student departure has been described as an “ill-structured problem” – a problem that defies a single solution and instead requires a number of possible solutions that may not improve the condition (Braxton et al., 2004, p. 2). As many authors suggested, there is no single retention template for colleges and universities to follow; instead, each institution must develop a coordinated strategy of policies and interventions to meet its particular needs (Berger & Lyon, 2005; Braxton et al., Swail et al., 2003; Tinto, 1990). Furthermore, institutions must implement multiple strategies to address their needs. Successful strategies are more likely to be incremental in nature, as opposed to large scale sweeping transformations. By coordinating a variety of initiatives and strategies across campus, individual students can be positioned for success (McClanahan,

2004; Tinto). As summed up by Pascarella and Terenzini (1991), “rather than seeking single large levers to pull in order to promote change on a large scale, it may well be more effective to pull more small levers more often” (p. 655).

Although there is no one size fits all approach, successful retention programs are similar in a number of significant ways. Several authors suggested using Vincent Tinto’s principles of effective retention programs when assessing potential program and policy initiatives (Braxton et al., 2004; Swail et al., 2003). According to Tinto (1990), there are three principles that form the foundation upon which effective retention programs are built: the principle of community, the principle of commitment, and the principle of effective education. The first principle, community, stresses the importance of integrating students into the communities, both intellectual and social, of the institution. The principle of commitment means that all members of an institution, faculty and staff alike, care about all students and continually evaluate their actions in light of the effect on the welfare of students. “The ability of institutions to retain students lies less in the formal programs they devise than in the underlying orientation toward students which direct their activities” (Tinto, p. 38). The final principle, effective education, reminds us that our goal should not be just to retain students, but to help them grow intellectually and socially.

A review of retention-related literature reveals two general types of recommendations for practice – organizational and programmatic. The remainder of this section will be organized using these two categories.

Organizational

Numerous recommendations are found that relate to the general practices of organizations in relation to retention programming. These organizational practices, which are more global in nature, include coordinating efforts, making retention everyone's responsibility, orchestrating change, and setting realistic goals.

Coordinating efforts. Habley and McClanahan (2004) suggested that four-year public institutions designate an individual to coordinate a campus-wide retention planning team. "The position level and title of the individual responsible for coordinating campus retention practices send a message to the entire campus community about how high a priority campus leaders place on retention issues" (p. 21). In addition to designating a person to lead and coordinate activities, they also suggest implementing a broad-based campus-wide retention planning team.

Making retention everyone's responsibility. Although a campus-wide planning team with a leader is recommended, the entire campus community should have a stake in the success of institutional policies and practices that are designed and implemented to reduce student departure (Braxton et al., 2004). Not only is support from the president, chief academic officer and chief student affairs officer critical, but buy-in and support from all educators on campus, faculty and staff alike, are also vital. This widespread involvement helps to institutionalize retention practices so that they become a regular part of campus service (Berger & Lyon, 2005; Braxton et al.; Lotkowski et al., 2004; Swail et al., 2003). A more holistic approach to retention practices has evolved through the years, whereby academic affairs personnel, student affairs personnel and administrators are all involved (McClanahan, 2004).

Orchestrating change. As Habley and McClanahan (2004) pointed out, “Accomplishing change on a college campus is not easy. It involves changing attitudes and opinions of multiple constituencies because it is unlikely that all constituencies will immediately and uncritically embrace the recommendations of the planning team” (p. 25). They suggested including individuals from all hierarchy levels on the campus-wide planning team, in addition to providing frequent reports to and opportunities for input from the entire campus. As indicated by Tinto (1999), universities who take retention seriously should work to change the overall character of their institutions by building educational settings that promote the retention of all students as opposed to utilizing add-ons to address specific problems. Ultimately, all changes that are recommended must align with the institution’s mission, goals, and resources (Braxton et al., 2004). Additionally, training and retraining of staff will need to be implemented as needed (Swail et al., 2003).

One constituent group that definitely needs to be involved is students. They should be provided with information, before and after matriculation, about campus goals, values, policies and procedures. Additionally, their opinions should be sought and they should have the opportunity to participate in campus decision making. These actions provide opportunities for students to take responsibility for their own success (Braxton et al., 2004; McClanahan, 2004).

Setting realistic goals. In order to promote continued improvement in retention, progression and degree completion, Habley and McClanahan (2004) suggested that institutions set realistic short-term and long-term goals. Short-term goals should focus on incremental and significant improvements and not be set too high or too low. The authors

cautioned against setting long-term goals based upon national averages and comparisons with other institutions, as these goals would not take into consideration student and institutional characteristics. Where possible, they suggested that institutional goals should include targeted objectives for selected programs and student groups.

In addition to setting realistic goals, institutions should allow ample time for the impact of interventions to come to fruition. “Goals for first-to-second year retention and progression are not likely to be achieved for at least two years or, in some cases, longer. The impact on degree completion may not be fully realized for five to seven years” (Habley & McClanahan, 2004, p.25).

Programmatic

In addition to the overall recommendations addressing organizational aspects found in the literature, many specific programmatic recommendations regarding retention plans were found. These recommendations included analyzing and focusing upon student characteristics and needs, considering strategies used by other institutions, and implementing, measuring and improving programs. Each of these recommendations will be addressed in the following section, with a focus on a variety of programmatic strategies that have proven effective in increasing retention.

Analyzing student characteristics and needs. Analyzing student characteristics and needs is a critical component in the development and implementation of a retention program (Habley & McClanahan; 2004; Lotkowski, et al., 2004). Habley and McClanahan suggested assessing two fundamental areas: the characteristics of students, and what differentiates students who stay from those who leave. In terms of assessing the characteristics of students, it was suggested that institutions review information regarding

demographics, high school and college academic performance, standardized test scores, academic plans, non-academic variables, self-reported academic and non-academic needs, and student opinions and attitudes (Habley & McClanahan; Lotkowski et al.). Although some of this information should be readily available through regular campus reporting mechanisms, other aspects will require additional data collection methods. To assess the second area, differentiating characteristics between those students who stay and those who leave, they suggested making comparisons of the same types of data after the beginning of the fall term between those who stayed and those who left. As suggested by Seidman (2005), "Using past student data, a profile of prior unsuccessful students can be developed" (p. 298). This can lead to the next step, which is focusing on the characteristics and needs of those students.

Focusing on student characteristics and needs. According to ACT survey results published in 2004, four-year public institutions responded that the following student characteristics contributed most to student attrition: inadequate financial resources, lack of motivation to succeed, inadequate preparation for college level work, poor study skills, and too many job demands (Habley & McClanahan). Retention programming must take these types of student characteristics into consideration, and furthermore, must consider each student individually. As explained by Tinto (1990):

Institutional commitment to students requires, among other things, that the institution concern itself with the welfare of each and every student in ways which go beyond the formal boundaries of the institution to the broader question of what actions are in the best interests of each student. (p. 41)

Institutions must realize that some student departure may be in the best interest of both the students and the institution. Interventions should focus on students whose goals

are compatible with the institution and who leave voluntarily. In order to be effective, interventions must consider the individual needs of these students. For example, some students may need assistance meeting academic demands or becoming integrated into the intellectual and social communities of the institution (Braxton et al., 2004; Tinto, 1982). Other students may need assistance in dealing with the financial aspects of paying for college.

Considering strategies used by other institutions. Although it was previously mentioned that a one size fits all approach should not be taken with retention programming, institutions can begin their retention efforts by searching for ideas that have proven effective at other institutions. According to an ACT survey of public four-year institutions conducted by Habley and McClanahan (2004), retention practices making the greatest contributions fell into three main categories: academic advising, first-year programs, and learning support. These categories, in addition to a host of other recommendations cited by additional studies, will be addressed in this section.

“Different forms of institutional actions for student retention must be carefully timed to meet the changing situations and needs of students as they attempt to progress along the path to college completion” (Tinto, 1988, p. 451). Many of the recommendations cited in the retention literature focused on first-year students, as such a large percentage of those who voluntarily leave postsecondary institutions do so during or following their first year of study. Numerous authors referred to the focus on retention efforts for first-year students as front-loading (Astin, 1985; Habley & McClanahan, 2004; Swail et al., 2003; Tinto, 1988; 1990). According to Vincent Tinto (1990):

The practical route to successful retention lies in those programs that ensure, from the very outset of student contact with the institution, that

entering students are integrated into the social and academic communities of the college and acquire the skills and knowledge needed to become successful learners in those communities. (p. 44)

Upcraft and Gardner (1989) agreed that institutions are obligated to support and enhance the first year, both because retention can be increased and because “it is our moral and educational obligation to create a collegiate environment that provides the maximum opportunity for student success” (p. 363).

As indicated by Tierney (2000), of practical concern is both maintaining a constant flow of students into colleges and universities and stemming the premature tide of students out of them. For incoming students, the initial contact with an institution is often in the form of recruitment materials and visits from admissions representatives; efforts geared toward retention actually begin with this initial contact. In recognizing the concept of student-institution fit, effective admissions programs must help students make knowledgeable decisions about college attendance and major selection (Swail et al., 2003; Tinto, 1990). As Seidman (2005) indicated, “If a student’s background, both academic and social, and a college’s characteristics, academic and social, are similar, then there is a likelihood of student success” (p.296). Additionally, through admissions information and publications, institutions should help students develop realistic and accurate expectations of the academic and social aspects of the institution (Braxton et al., 2004; Tinto, 1982).

Numerous authors discussed the importance of offering orientation programs which address both academic and non-academic factors for first-year students (Astin, 1985; Braxton et al., 2004; Braxton & Lee, 2005; Lotkowski et al., 2004; Pascarella & Terenzini, 1986; Pascarella et al., 1986; Tinto, 1990). Orientation programs should occur

both before attendance at the institution actually commences and throughout the course of the first academic year, and “should center . . . attention on helping individuals make the often difficult transition to college and establish competent membership in the social and intellectual communities of college” (Tinto, p. 46). Orientation programs provide “anticipatory socialization,” which Pascarella and Terenzini defined as “a process or set of experiences through which individuals come to anticipate correctly the values, norms, and behaviors they will encounter in a new social setting” (p. 156). A key component, especially for orientation programs that extend throughout the first year, is the provision of opportunities for student social interaction so that friendships may form (Braxton et al.; Braxton & Lee). Astin stressed the importance of encouraging students to become involved in campus activities. Opportunities to interact with faculty in non-classroom settings, both before attendance at the institution begins and throughout the first year, are also important (Lotkowski et al.; Pascarella et al.).

One way to continue orientation activities throughout part of the first year is through the provision of a first-year seminar course, which has been proven to increase the potential for first-year student success (Lotkowski et al., 2004; Upcraft & Gardner, 1989). According to a 2003 survey conducted by the National Resource Center for the First-Year Experience and Students in Transition, over 80 percent of the 771 respondents offered first-year seminars at their institutions. The institutions that responded offered the first-year seminar in a wide variety of formats with the top three course objectives identified as developing academic skills, providing an orientation to campus resources and services, and self-exploration and personal development. Nearly 90 percent of the survey respondents indicated that their first-year seminars were offered for some form of

academic credit, ranging from one to more than five semester or quarter hours.

Additionally, nearly 80 percent of respondents indicated that students earned letter grades for their seminar efforts. Almost 50 percent of institutions responding indicated that their seminars were required for all first-year students. According to an ACT survey of four-year public colleges by Habley and McClanahan (2004), a first-year seminar course for credit was cited by over 20 percent of respondents as one of the three campus practices that had the greatest impact on retention.

Research findings suggest that the academic performance of students in the first-year seminar class “may be predictive of their academic success, in general, during their first year of college” (Cuseo, 2003, p. 9). First-year course performance, especially mid-term grades, can be used as an effective early-warning signal for those students who could be considered at-risk for leaving the institution (Cuseo; Hyers & Joslin, 1998). These early indicators can be used by faculty and staff to prompt referrals to needed services.

Nearly 25 percent of institutions responding to the 2003 survey conducted by the National Resource Center for First-Year Experience and Students in Transition indicated that their first-year seminar courses were linked with one or more other courses. These linkages create learning communities, which were cited numerous times in the literature as recommendations for increasing retention of first-year students. Habley and McClanahan (2004) found learning communities as one of the top three retention practices cited as having the greatest impact on student retention when they surveyed four-year public institutions. As defined by Tinto (2005), learning communities “require students to enroll in courses together and share the experience of learning a common

coherent curriculum” (p. 328). According to Tinto (1999), learning communities have three objectives: shared knowledge, shared learning, and shared responsibility. Students in learning communities tend to form their own self-supporting groups that extend beyond the classroom. Learning communities can take a variety of forms that are organized around a common sense of purpose. They can be organized along curricular lines, common career interests, avocational interests, among others (Astin, 1985). Some institutions take learning communities a step further by creating living-learning communities, where students who are enrolled in linked courses also live together in residence halls to create a further sense of community (Astin; Braxton et al., 2004; Tinto, 2005).

Although not important only for first-year students, several authors also mentioned the value of developing early warning and monitoring systems of student performance. As Tinto (1990) indicated, “Institutions must invest in forms of intrusive monitoring of academic progress that enable them to intervene early, rather than late, in the student career” (p. 46). Lotkowski et al. (2004) and Swail et al. (2003) recommended implementing early alert, assessment and monitoring systems based upon a variety of academic and non-academic factors, including high school grade point average, ACT scores, course placement results, first semester college grade point average, socioeconomic information, attendance records, and data obtained from college surveys and student inventories, including information regarding students’ affective and social talents or challenges. These academic and non-academic factors can be used to build student profiles which can be monitored to identify those considered at risk of withdrawing; identified students can be referred to programs designed to meet their

specific needs. Cumulative profile information can also assist institutions in identifying needs that can be addressed through the development of new initiatives. Swail et al. suggested that the process of building such profiles must be recursive, which “refers to the continuing process of data collection to develop university-wide trends among the student body” (p. 112). Understanding these trends in students’ needs will help institutions design and implement programs and services to meet those needs.

Encouraging extracurricular contact is another recommendation that was cited by several authors as an important component of retention programming for first-year students (Lotkowski et al., 2004; Tinto, 1982; 2005). As Tinto (2005) indicated, the more students are involved, both academically and socially, the more likely they are to persist and to graduate. “This is especially true during the first year of university study when student membership is so tenuous yet so critical to subsequent learning and persistence. Involvement during the first year serves as the foundation upon which subsequent affiliations and engagements are built” (p. 323).

Many of the programmatic recommendations cited thus far have focused on first-year students. Although a focus on retention of first-year students is critical, due to the large percentage of departures occurring during or immediately following the first year, front-loading of retention efforts should not be the sole focus. Retaining students at other levels is also important. As Habley and McClanahan (2004) indicated, “Certainly students must survive to the second year to complete a degree, but first to second year survival is simply the first benchmark in a continuous process that leads to degree completion” (p. 24). As a result of the intense focus by researchers and practitioners on first-year retention efforts, Nora, Barlow and Crisp (2005) indicated that “problems with

student attrition have shifted from the first year to subsequent years even when students successfully engage their initial college experience” (p. 130). The remainder of this section will address programmatic recommendations appropriate for all levels of undergraduate students.

A key element of any college experience is, of course, the in-class experiences through which students interact with faculty. Swail et al. (2003) cited curriculum and instruction as “perhaps the most important fundamental needs that colleges must address in terms of student retention” (p. 103-104). They addressed four recommendations for addressing curriculum and instruction, with a specific focus on retention: using a variety of delivery methods that focus on comprehension rather than memorization, reviewing curricula regularly to assure congruence with society’s needs, encouraging faculty professional development, and implementing new assessment techniques. Braxton et al. (2004) recommended that faculty members be encouraged to improve on their existing teaching methods and to acquire new ones that encourage student persistence. It was also recommended that faculty earn credit toward the promotion and tenure reward system for using methods that facilitate student retention (Braxton et al., Swail et al.).

A concept closely related to curriculum and instruction in the classroom is student contact with faculty outside of the traditional classroom. According to Astin (1985), frequent interactions with faculty members is more strongly correlated to college satisfaction than any other type of involvement; consequently, “institutional planners and administrators would do well to ask how much contact their students currently have with professors and whether there are means available to increase this contact” (p. 163).

Informal contact between faculty members and students should be encouraged as it builds trust, support, self-worth, and motivation (Swail et al., 2003).

Another concept that is related to curriculum and instruction is learning support. The umbrella classification of learning support was one of the main categories of practices responsible for the greatest contribution to retention in four-year public institutions, according to a fairly recent ACT survey (Habley & McClanahan, 2004). Learning support includes items such as developmental education courses, supplemental instruction, study groups, comprehensive learning centers, summer bridge programs between the senior year in high school and the first year in college, and tutoring programs (Habley & McClanahan; Swail et al., 2003; Tinto, 2005). “Unfortunately, more than a few students enter the university insufficiently prepared for the rigors of university study. For them, as well as for others, the availability of academic support . . . is an important condition for their continuation with the university” (Tinto, p. 322). Astin (1985) further acknowledged that under prepared students have special problems with involvement. In combining recommendations from Astin and Tinto, academic support should be “connected to, not isolated from, the learning environment in which students are asked to learn” (Tinto, p. 323) and should involve student peers as tutors.

The concept of encouraging contact with peers is important both in academic and non-academic settings. As Lotkowski et al. (2004) indicated, “Despite poor academic performance, many students persist because of their successful social integration and feelings of fit with their institution” (p. 15). Swail et al. (2003) indicated that interacting with peers and developing new friendships are the most customary methods of social integration. Bean (1985), recognizing the importance of students influencing the attitudes

of other students, suggested that programs and rituals in which older students assist new students in fitting in with a group should help in reducing attrition. Astin (1993) agreed with the importance of peer groups and suggested that institutions use such groups to their advantage: “By judicious and imaginative use of peer groups, any college or university can substantially strengthen its impact on student learning and personal development” (p. xiv).

Another area which was the topic of several recommendations within the retention literature was academic advising. In fact, it was one of the three main categories of retention practices cited as making the greatest contribution to retention in public four-year institutions, according to a survey conducted by ACT (Habley & McClanahan, 2004). Astin (1985) suggested that all members of the academic community, including faculty and administrators, participate in academic advising as a way to familiarize themselves with the curriculum, and more importantly, as a way to maintain personal contact with undergraduate students. Advising is one of the arenas through which a student has a chance to have quality interaction with a concerned person on campus, a primary factor affecting college retention (Lotkowski et al., 2004). Swail et al. (2003) made several recommendations regarding academic advising. First, they indicated the importance of laying out an appropriate road map for students. Second, they stressed the importance of students receiving guidance that reflects their needs. Finally, they encouraged a regular and standard practice of face-to-face advising, including a “proactive . . . system of checks and balances [that] would require scheduled meetings to catch problems before they occur” (p. 103).

Financial aid is another important aspect of a students' college experience that impacts persistence. Several recommendations related to financial aid were found in the review of retention literature. Swail et al. (2003) recommended that financial aid information should be disseminated widely, so that prospective and current students can make informed decisions regarding aid. They also recommended increasing the availability of needs-based aid. As financial aid relates to the satisfaction with the cost of attending an institution, Braxton et al. (2004) recommended that "financial aid should be awarded to students demonstrating financial need" (p. 70). For those students who do need to borrow money, Swail et al. recommended that these students be educated on strategies for borrowing wisely, meaning borrowing only the amount actually needed to persist in college. Astin (1985) and Astin and Oseguera (2005) encouraged institutions to create more opportunities for on campus part-time employment for no more than 20 hours per week. Not only does this recommendation assist students financially, but it also provides opportunities for enhanced student involvement.

Several authors noted the importance of developing retention programming to reduce minority student attrition. Braxton et al. (2004) and Kuh and Love (2000) recommended that institutions should enroll and retain a critical mass of racial and ethnic minorities and should embrace a diverse student body by cultivating "communities of difference," by "embracing the multiple cultures that already exist and encouraging the development of others" (Kuh & Love, p 209). Lotkowski et al. (2004) offered several other recommendations including pairing first-year students with a big brother or big sister, in the form of an upper-class student or a faculty member who can provide support, tutoring, and study skills assistance. They also suggested that multicultural

centers can provide a place for minority students to congregate and share common interests while they receive academic and social support.

Many of the programs and recommendations listed in the above section exist in some form or another at countless institutions. These institutions can build upon and modify the strategies they already utilize by “assessing the degree to which these interventions address identified student needs” (Habley & McClanahan, 2004, p. 24). This assessment may lead to minor changes in these interventions, or it may lead to more significant revisions in programming.

Implementing, measuring, and improving. Regardless of the strategies that are chosen, the design and implementation of these strategies is not a process with a clear beginning and an obvious end. It is a complicated and continuous process that involves analysis, implementation and evaluation – all focused on improvement. Evaluation then leads to new strategies, implementation and further assessment (Braxton et al., 2004; Habley & McClanahan, 2004; Lotkowski et al., 2004; Swail et al., 2003). Lotkowski et al. recommended that evaluation results, including economic impact calculations, be widely disseminated to the campus community. This continuous quality improvement cycle is what sets institutions that focus on improving student persistence apart from those who do not.

Summary

College student departure has been described as an “ill-structured problem” – a problem that defies a single solution and instead requires a number of possible solutions that may not improve the condition (Braxton et al., 2004, p. 2). As many authors suggested, there is no single retention template for colleges and universities to follow;

instead, each institution must develop a coordinated strategy of policies and interventions to meet its particular needs (Berger & Lyon, 2005; Braxton et al., Swail et al., 2003; Tinto, 1990).

In order for institutions to develop coordinated retention strategies, it would serve them well to grasp the complexity of the topic. This begins with understanding the wide-range of retention-related terms – from retention to persistence to dropout and withdrawal. It also involves understanding how retention and graduation figures are calculated. Regardless of how the terms are defined or rates calculated, retaining college students benefits students, society as a whole, and higher education institutions.

Persistence, retention and withdrawal are complex and multifaceted issues. As noted by several authors, the complexity of the human condition makes it difficult to prove one psychological or sociological theory over another in determining student persistence (McClanahan, 2004; Pascarella, 1982; Swail et al., 2003). As a result, it may prove more fruitful to utilize an integration of information from a variety of well-recognized theories as a lens through which to view student departure.

Several concepts emerged consistently during a review of retention theory literature. These included the longitudinal nature of the dropout process, the influence of background characteristics on student persistence and departure, the importance of academic and social integration, and the significance of student involvement with peers and with faculty.

Numerous authors referred to the sheer complexity of factors affecting student persistence, withdrawal and retention, making these factors and their resulting behaviors difficult to assess and understand (Berger & Lyon, 2005; Lenning, 1982; Pascarella,

1982; Swail et al., 2003). Lotkowski et al. (2004) categorized factors that affect retention under the umbrella categories of academic and non-academic. Academic factors from both high school and college affect college retention and graduation rates. The non-academic factors affecting student retention include relationships with other students and faculty, extracurricular involvement and activities, organizational characteristics, finances and financial aid, and student employment.

Although there is no one size fits all approach, successful retention programs are similar in a number of significant ways. A review of retention-related literature revealed two general types of recommendations for practice – organizational and programmatic. Organizational recommendations focused on coordinating campus-wide efforts to orchestrate change by setting realistic goals and making retention everyone's responsibility. To develop effective retention programming, institutions must address the characteristics and needs of their own students. After assessing their own students' needs and characteristics, they should consider strategies used by other institutions as a starting point. After programming is implemented, institutions should evaluate and revise as necessary for continuous improvement.

Two quotes offer an excellent summary of the literature on retention and efforts to improve retention. In discussing the complexity of the topic, Berger and Lyon (2005) indicated that "the more we study and learn about retention, the more we will recognize the complexities involved in helping the diverse array of students succeed in our equally diverse system of higher education" (p. 27). In addressing efforts to improve retention, Pascarella and Terenzini (1991) suggested a multi-action integrated approach: "rather

than seeking single large levers to pull in order to promote change on a large scale, it may well be more effective to pull more small levers more often” (p. 655).

The next chapter will discuss the research design and methodology the researcher employed in conducting this Utilization-Focused Evaluation of institutional persistence and withdrawal in the School of Polytechnic Studies at Southeast Missouri State University. Topics covered in the next chapter will include research questions, evaluative framework, the study’s population and sample, plus methods for data collection, instrumentation and analysis. Chapter four will analyze the data from the study, while chapter five will outline the findings and recommendations. Appendices, which include a satisfaction survey, recruitment letters, informed consent documents, and protocol and questions for discussions with focus groups and students who left the institution, are also included.

CHAPTER 3

RESEARCH DESIGN AND METHODOLOGY

Introduction

“The retention of college students at the freshman and sophomore levels has been a top priority in higher education since the 1980s when fiscal concerns shifted administrative philosophies from survival-of-the-fittest competitiveness toward the desire for student continuance” (Molina & Abelman, 2000, p. 5). Administrators recognize that retaining enrolled students is more efficient and less expensive than expending resources to recruit new ones (Berger & Lyon, 2005; Schuh, 2005; Terenzini, 1982). Research by Levitz et al. (1999) indicated that a four-year institution will, on average, gain between \$15,000 and \$25,000 in gross revenue over four to five years by reducing the number of freshmen dropouts by a single student. Even a small increase in an institution’s retention rate can have a quantifiable impact on institutional finances (Yockey & George, 1998).

Monetary impact alone is an important reason for retaining students, especially first-year students, although there are additional noble and notable reasons. Retention of college students through to graduation impacts individuals and society as a whole, both economically and socially.

At Southeast Missouri State University, the retention rate for full-time undergraduate bachelor degree-seeking first-year students from the fall of 2004 to the fall of 2005 was 70% (Institutional Research, 2005a). Based upon the monetary projections presented by Levitz et al. (1999), the 30% of first-year students who were not retained by the institution will constitute a huge economic impact on the University budget over the

next several years. As indicated by Dr. Kenneth Dobbins, President of the institution, in his 2005 State of the University message, our institution “is a solid performer as compared to similar institutions – but we *could* and we *should* be better” (p. 7). As part of his message, the President charged the University community, in collaboration with the institution’s Strategic Enrollment Management Task Force, to develop a comprehensive student retention plan as a way to focus on retention and student success as primary institutional goals. This evaluative study contributed, in part, to the development of that comprehensive student retention plan, specifically for one academic unit within the institution.

Problem and Purposes Overview

In the fall of 2005 in his State of the University message, the President of Southeast Missouri State University launched an initiative to improve student success, with overall goals of increasing freshman-to-sophomore student retention and overall graduation rates. After numerous campus-wide discussions and much deliberation resulting in over 400 comments and suggestions for improving retention, a much shorter list of action items was developed. One of the action items charged the Deans and the Provost with exploring college and departmental level initiatives for improving retention.

In early 2006, the University Deans were presented with college and departmental retention data from the Strategic Enrollment Management Task Force. The data showed that the School of Polytechnic Studies had the lowest first-to-second year retention rate of all of the schools and colleges at the institution from the fall of 2003 to the fall of 2004; the first-to-second year retention rate for this time period showed that 62.9% of the first-year students in the academic unit were in attendance at the institution during the second

fall. The percentages of the rest of the academic units ranged from a low of 64.5% to a high of 82.3%. With the growth in majors over the last several years, the faculty and staff were surprised to be identified as the academic unit with the lowest freshman-to-sophomore retention rate. The Dean urged the development of a plan, including activities already in place and newly designed activities, to improve the School's retention.

The impetus for this study, a Utilization-Focused Evaluation of retention, was the request by the Dean of the academic unit for the development of a plan to increase retention. The purpose of this evaluative study was to provide data and input toward the development of a plan to improve the retention rate within the academic unit.

Little can be found in the retention literature about what specific academic units can do to improve persistence of students. This is likely because most recommendations are more global in nature, encouraging a united front across the institution. However, for overall institutional improvement in persistence rates to occur, this researcher and the primary stakeholders of this evaluation believe that individual units must assess themselves in terms of strengths and weaknesses related to retention factors. Expectantly, this will lead to actions within the unit that will contribute to unit-level and institution-wide gains in retention.

Research Questions

The research questions for this Utilization-Focused Evaluation were developed in consultation with the stakeholders who were the primary intended users of the evaluative information. The following research questions served as a guide:

1. How satisfied are current students (those who are persisting within the academic unit) specifically with factors related to retention?

2. How satisfied are graduates of the academic unit, specifically with factors related to retention?
3. What reasons do students who majored in the academic unit give for institutional withdrawal?
4. Do differences between regularly-collected student records data exist between those students who were retained versus those who exhibited institutional withdrawal during or following fall 2005 or spring 2006?
5. For students who exhibited institutional withdrawal during or following fall 2005 or spring 2006, what was their student classification at the time of withdrawal?
6. For students who exhibited institutional withdrawal during or following fall 2005 or spring 2006, do certain courses appear more frequently than others in the last semester of attendance?

Evaluative Framework

This study, an improvement-oriented evaluation, was guided by the use of Michael Patton's Utilization-Focused Evaluation (1997). Utilization-Focused Evaluation is based on the "premise that evaluations should be judged by their utility and actual use; therefore, evaluators should facilitate the evaluation process and design any evaluation with careful consideration of how everything that is done, from beginning to end, will affect use" (p. 20). Torres, Preskill and Piontek (1997) concur: "No aspect of evaluation is more fundamental than its use" (p. 105).

Numerous authors discussed the fact that use is facilitated by involving stakeholders. Patton (1997) and Weiss agreed that "collaboration between evaluators and program staff all through the evaluation process tends to increase the local use of

evaluation findings” (1998, p. 23). In terms of stakeholders, Patton focused attention on primary intended users of information, as opposed to all stakeholders. Multiple authors encouraged the involvement of users throughout the evaluation process, including defining and designing the study, collecting data, analyzing data, and assisting in the interpretation of results (Patton; Torres et al., 1997; Weiss). A key task in evaluation is clearly linking the information needs of the stakeholders to the questions that are asked and the kinds of data that are collected to answer those questions (Preskill & Torres, 1999). If users feel ownership and understand the evaluation, they are more likely to actually use the information that is revealed (Patton). As Weiss indicated, “this kind of ‘sustained interactivity’ transforms one-way reporting into mutual learning” (p. 30).

The first step in Utilization-Focused Evaluation is determining the primary intended users of the evaluative information. Next, the evaluator and the primary intended users commit to the intended uses of the evaluation and determine its focus. An improvement-oriented evaluation focuses on gathering data about strengths and weaknesses to inform improvement. Next, method, measurement and design decisions are made. Finally, intended users are involved in interpreting findings, making judgments based upon the data, and generating recommendations (Patton, 1997).

The primary intended users of information gathered for this study were the dean, the chairpersons of each department within the unit, the faculty of each department, and the academic advising staff. Patton (1997) suggested that an evaluation task force can be organized to make major decisions about the focus, methods and purpose of the evaluation. A retention committee within the School of Polytechnic Studies, which includes advising staff and a faculty member from each department, was formed in the

spring of 2006. Meaningful evaluative questions plus methods, measurement and design suggestions were gathered from the larger group of primary intended users. The researcher focused the remainder of stakeholder contact during the evaluation with the retention committee.

Population and Sample

The population, or the larger group to which the results of this evaluative study were generalized (Fraenkel & Wallen, 2003), was students who had majors declared within the School of Polytechnic Studies. The actual sample, or subjects of the study (Fraenkel & Wallen), consisted of three groups of students. To establish the sample of students who took a survey to evaluate elements of current student satisfaction, faculty in each department within the academic unit were consulted to derive a list of courses that provided a representative sample of all departmental majors and grade levels. This made the resulting survey sample a purposeful convenience sample (Merriam, 1998).

The sample of students for most of the remaining research questions was derived from all students who were declared as majors within the School of Polytechnic Studies during the fall 2005 and spring 2006 semesters. Sub-samples included those who persisted throughout or graduated during this time period and those who withdrew from the institution during this time period or did not return in the fall 2006 semester. The sample of students used to measure graduate satisfaction included students who took the graduate exit surveys the last times these were administered by each department.

Data Collection, Instrumentation, and Analysis

According to Locke, “the adequacy of a research method depends on the purpose of the research and the questions being asked” (as cited in Seidman, 1998, p. 5).

Evaluators should draw from a large repertoire of research techniques, to match the techniques with the questions being asked (Patton, 1997). According to the Stanford Evaluation Consortium, “merit lies not in form of inquiry but in relevance of information” (as cited in Patton, p. 250).

In terms of methodology, multiple authors encouraged the use of both quantitative and qualitative methods (Bullock & Ory, 2000; Fraenkel & Wallen, 2003; Preskill & Torres, 1999). This study was a mixed method design, gathering and analyzing both quantitative and qualitative data. Fraenkel and Wallen plus Bullock and Ory suggested that educational researchers should use a hybrid approach, a mixture of quantitative and qualitative measures when conducting research. According to Patton (1997), “There is no one best way to conduct an evaluation . . . the design of a particular evaluation depends on the people involved and their situation” (p. 126).

Since the framework guiding this study was Patton’s Utilization-Focused Evaluation, the research questions, and the means for data collection, instrumentation and analysis were developed in consultation with the primary intended users and the retention committee. The remainder of this section will discuss the methods and instruments that were utilized for collecting data, including a satisfaction survey, focus groups, graduate exit surveys, student records data, and contact with students who withdrew from the institution. The analysis of data from each of these instruments and methods will also be discussed.

Survey Instrument and Administration

According to Astin (1985)

Students' satisfaction with the institution's program is one of the most important indicators of an institution's effectiveness. Students should be asked not only about their overall satisfaction but also about their satisfaction with more specific matters: the quality of teaching, advising, curriculum, facilities, extracurricular activities, and various student services. (p. 170)

In order to assess the items mentioned by Astin and a variety of other factors affecting retention discussed in the review of literature, the primary intended users and the retention committee were consulted to develop an initial version of a survey instrument to be given to the purposefully selected convenience sample chosen in consultation with the faculty in each department. According to Fink (2006), a survey exhibiting content validity is one that covers all relevant topics; primary stakeholder involvement in the development of the survey contributed to content validity. Nora, Barlow, and Crisp (2005) suggested that "institutions need to develop their own instruments to fully capture the unique interactions between students and institutions, from student interactions with other students and faculty, to student finances, to student engagement with campus support systems" (p. 150). The sample of students for the survey administration included those enrolled in a selected list of departmental courses that was intended to provide a representative sample of first-year students, sophomores, juniors and seniors in all departmental majors.

According to Tuckman (1994), a pilot test for a survey or questionnaire assists the researcher in determining whether questionnaire items possess the desired qualities of measurement and discriminability. Peterson (2000) indicated that a common way to pre-test a survey is to give it to a convenience sample, ranging in size from a handful to 60

people. “A convenience sample that is likely to be representative of study participants in the research project probably provides the most consistently useful insights” (p. 116).

Faculty from both Agriculture and Industrial and Engineering Technology were consulted to determine the pilot test convenience sample, which consisted of forty-one students in two classes, one from each department.

As indicated by Fink (2006), administering a pilot test under circumstances similar to what will actually be utilized contributes to the development of a reliable survey. The researcher talked to the students who took the pilot test about the clarity and format of the survey. Additionally, as suggested by Fink, completed pilot surveys were reviewed for unanswered questions, multiple answers to the same questions, and comments in the margins, as these are indicators that the questions or the format may be unclear. The retention committee was then consulted to determine changes needed to the survey before the actual administration.

The revised survey (see Appendix A) was administered by the researcher in 18 departmental classes, six from the Department of Agriculture and 12 from the Department of Industrial and Engineering Technology. The courses in which the survey was administered were selected in consultation with the faculty from each department.

According to Peterson (2000), a survey in the form of a booklet looks more professional, especially if it is longer than four pages. A survey booklet, which included a cover page and the survey, was provided for each student present in the selected courses on the days of the survey administration.

Peterson (2000) and Tuckman (1994) suggested that the following types of information should be included within an introductory section or cover letter of the

survey: purpose of the study, importance of participant responses, adequate information about the study so that potential participants can make informed decisions as to their involvement, an assurance of confidentiality or anonymity, legitimacy of the researcher and the research project, a request for cooperation and encouragement of involvement, a request for complete and candid answers, and a suggestion that the research task is relatively easy and not overly time consuming. These suggestions were utilized in the development of the recruitment letter for the survey (see Appendix B), which was distributed to students in the selected classes the week before spring break. The actual survey administration took place the week after spring break.

Peterson indicated that personalization of the cover or recruitment letter is important. Although he suggested that individualizing the letters is preferred, he did say that a personal signature will suffice. In order to adhere to this suggestion, the researcher personally signed each recruitment letter using blue ink.

In addition to the written instructions provided in the survey document and the recruitment letter, the researcher reiterated important points verbally in each class in which the survey was administered. For example, students who participated in pilot testing were asked to refrain from taking the survey during the actual administration. Additionally, students were asked to take the survey only one time. Students were each asked to complete an informed consent document (see Appendix C), which reiterated the purposes and minimal risks associated with survey participation. Each student was then provided with a copy of his or her signed informed consent document.

The survey document asked for a variety of information from students. The first question asked students if they had declared a major within the academic unit that was

the subject of the study. Survey results of students with a response of “no” to this question were not included in data calculations, as they were not part of the sample population. Ten questions requesting responses in a modified Likert scale format followed. Each of these ten questions asked the student to indicate his or her level of satisfaction, ranging from a 5, which equated to 100 percent satisfaction, to a 0, which was zero percent satisfaction. Students were also given the option of choosing “N/O,” which indicated no opinion. The questions addressed satisfaction with items including faculty and staff in the student’s department, academic experiences in the student’s department, satisfaction with classes outside the academic unit, academic advising experiences, social interaction with other students in the academic unit, social interactions with faculty in the academic unit, facilities where departmental classes are held, campus resources and available support, overall experience with the academic unit, and overall experience at the institution.

After each item that requested a satisfaction percentage answer, a follow-up question asked for students to provide a specific reason for the percentage selection. Peterson (2000) indicated that these types of open-ended elaboration questions, although having a higher refusal rate, are used to get study participants to expand on a previous answer. Those students who chose to answer the follow-up questions provided qualitative data in support of their quantitative number selections.

The next section of the survey included a table which listed student service resources. Those completing the survey were asked to indicate if they knew about each resource, if they utilized it, and if an instructor from the academic unit recommended the resource.

Another section with several questions requesting quantitative and qualitative data followed. The first two questions were qualitative and asked that students identify the five things they liked best about the academic unit and the five areas in which they would like to see improvement. Students were also asked to determine if the education they were obtaining was worth the money they were spending, why they chose a major in the academic unit, if they would recommend a major in the academic unit to a friend, if they were intending to return the next semester (if they were not graduating or transferring to complete a pre-professional program elsewhere), and if the academic unit met their expectations.

The final section of the survey document requested demographic information from the students. According to Peterson (2000), unless demographic questions are used as a screening device, they are usually placed at the end of a survey document, as they are easier to answer and less likely to be skipped due to participant fatigue. Student answers on the demographic section allowed the researcher to disaggregate data in a variety of subcategories to look for patterns and emergent themes. As Hoover (1991) indicated, “collecting demographic variables . . . will strengthen many research designs. Demographic variables allow the investigator to examine different patterns among subgroups and perform stratified analysis of data” (p. 77).

All data, both quantitative and qualitative, from the satisfaction survey were entered into a database. Descriptive statistics, performed by SPSS 15.0 for Windows, were utilized to summarize quantitative responses. In terms of analyzing qualitative responses, the format of the satisfaction survey lent itself to “cross-case analysis,” described by Patton as “grouping together answers from different people to common

questions or analyzing different perspectives on central issues” (1990, p. 376).

Qualitative responses from students were typed verbatim into the database and were organized by question. To analyze the student responses to each question and to look for themes, the researcher initially divided responses according to department and then further categorized them as positive, negative or middle-of-the-road. Patton described how observations can be “pulled together to illuminate key issues” (p. 377). This approach was used as the researcher then reviewed the responses within each sub-category to determine emergent themes. This method is closely related to the processes of “open coding” and “categorizing” described by Strauss and Corbin (1990). “Open coding” is breaking down the data into discrete parts and closely examining it for similarities and differences (p. 62). “Categorizing” is the “process of grouping concepts that seem to pertain to the same phenomena” (p. 65).

Focus Groups

The researcher conducted focus groups with current students to further illuminate findings and themes that emerged from the satisfaction survey. The original plan was that the researcher and members of the retention committee would conduct the focus groups. Due to advisor and faculty scheduling conflicts plus a desire for consistency, the researcher conducted both focus groups on her own.

When the survey was initially given, students were asked if they would be interested in participating in a follow-up focus group to discuss and clarify findings that emerged. The researcher passed around a sign-up sheet which asked for contact information, in the form of best phones and best emails, from students who were willing to participate in follow-up focus groups.

Questions and protocol that were used with the focus groups were developed after the survey results were compiled, as this allowed the retention committee to focus on themes that emerged and on those areas that needed further explanation (see Appendix D). A total of eight students participated in two focus groups – one for Agriculture majors and one for Industrial and Engineering Technology majors. Focus group participants were asked to complete an informed consent document almost identical to the one they completed when they took the satisfaction survey. This revised informed consent document indicated that the focus groups would be audio taped (see Appendix E).

The audio tapes were used by the researcher to produce verbatim transcripts of the focus group comments. These comments were reviewed for remarks that would further illuminate themes initially identified in the satisfaction survey. The comments were also reviewed for the development of additional themes not identified in the current student satisfaction survey.

Graduate Exit Surveys

Each department within the academic unit conducts follow-up surveys with graduates; the departments conduct their surveys on different time schedules. The Department of Agriculture conducts the survey each semester, and begins data collection a week or two before final exams. Those students who do not complete the graduate survey before the semester ends are mailed the survey, and the department follows up on a regular basis when surveys are not returned.

Topics of the questions on the Department of Agriculture survey included items such as: adequacy of the number of courses in specific topics; evaluation of new program ideas, experiential learning, and relationships with faculty; quality of departmental and

campus-wide courses; and quality of advising. Graduates were asked to reveal their job titles, companies of employment, and salary ranges. The last several questions asked students to provide reasons for choosing the institution and asked if students would recommend the department to a friend. The final question requested additional comments. Results from surveys conducted during the 2005-2006 academic year from this department were analyzed.

The Department of Industrial and Engineering Technology normally conducts graduate follow-up surveys every three years. The last survey sent to all department graduates was in the fall semester of 2003. The department recently underwent an accreditation visit for one of its majors. Because of this, the regular rotation for survey administration was altered. The graduates of the program being reviewed for accreditation were surveyed in the fall of 2005 and the spring of 2006 so the department would have documentation needed for the accreditation self-study. The next time that all department graduates will be surveyed simultaneously will be in the fall of 2009. Data from the fall 2003, fall 2005 and spring 2006 survey administrations from the Department of Industrial and Engineering Technology were utilized for this study. Actual survey results were available for review for the fall 2005 and spring 2006 survey administrations. Selected fall 2003 survey results were available in a secondary data source, a 2004 departmental accreditation self-study.

The most recent survey of all Industrial and Engineering Technology graduates was conducted in the fall of 2003 and collected data from those who graduated between 1993 and 2003. The survey included items that addressed such topics as the quality of the program and instruction; the quality of academic advising; communication between

faculty and students; and accessibility of faculty outside the classroom. Another section of the survey asked graduates to reflect upon the time they were students in the department and assess a variety of program objectives such as the acquisition of knowledge and skills to use modern tools; to identify, analyze and solve problems; to interpret data for process and system improvements; and to develop, design, and implement processes and systems. Graduates were also asked to assess their acquisition of skills such as writing and speaking clearly and effectively; working in groups; using computers; thinking critically, analytically, and logically; solving problems; and developing leadership skills.

The most recent surveys conducted by the Department of Industrial and Engineering Technology in the fall of 2005 and spring of 2006 included mainly topics that were relevant to the upcoming accreditation visit. Graduates were asked to provide their current employment status; job titles, both initial and current; salaries, both initial and current; relationship of jobs to major; employer type, and the length of time it took the graduate to secure the first job. Survey recipients were also asked if they considered themselves underemployed. A significant portion of the survey addressed the objectives of the program that was to be reviewed for accreditation. Graduates were asked if the program assisted them in developing specific competencies such as communication; modern technical proficiency; problem solving; decision making; management and team skills; ethical standards and social responsibility; the use of science, math, and engineering techniques; critical and creative thinking; and conducting experiments and applying results to solve problems. Students were asked to rate the overall effectiveness of the program in preparing them for employment or graduate study, in addition to being

asked to address areas that should receive more emphasis. The final question requested other comments.

Data from both departmental graduate surveys were viewed through the lens of factors affecting retention to look for emerging themes. The researcher specifically looked for items, both quantitative and qualitative, that addressed academic and social integration and interactions. The researcher also searched for items and responses that addressed the quality of instruction and academic advising.

Data Derived from Student Records

Habley and McClanahan (2004) suggested that two basic questions must be addressed for a college to develop effective strategies to improve student persistence: (a) characteristics of students, and (b) what differentiates those who stay from those who leave. In order to determine at least partial answers to these queries, data derived from the institution's student records database were evaluated. To determine a composite representation of the students in the School of Polytechnic Studies who persist, descriptive statistics were used to analyze a variety of data from the student records system for all students who were declared as majors within the academic unit at the beginning of the fall 2005 semester and who persisted to the fall 2006 semester. Student records data were also used to determine a composite representation of students who were declared as majors within the academic unit at the beginning of the fall 2005 semester but who withdrew from the institution at some point during or after the fall 2005 or spring 2006 semester. Differences between these composite representations were noted. According to Seidman (2005), "using past student data, a profile of prior

unsuccessful students can be developed” (p. 298). This profile can then be used as a tool in the early identification of students who may be at risk of institutional withdrawal.

Data requested from the Office of Institutional Research to determine these composite representations included background characteristics plus information on other academic and non-academic factors. Background characteristics included items such as high school of graduation; high school grade point averages; highest ACT composite and highest ACT sub-category scores; gender; ethnic origin; age; marital status; and city, county and state of permanent residence. Information pertaining to other academic and non-academic factors that was requested from the Office of Institutional Research included: major; credits accumulated and class standing; college cumulative grade point average, honors eligibility, academic standing, college resident status (residence hall or commuter), athlete status, and disciplinary standing.

In addition to the above-listed information, last semester course enrollment for those students who exhibited institutional withdrawal was requested from the Office of Institutional Research. This allowed the researcher and the retention committee to determine if certain courses appeared more frequently than others during students’ last semesters of attendance.

Contact with Students who Withdrew from the Institution

According to Mortenson (2005), “collecting data on departures may be more important than . . . collecting data on persisters, particularly if these data are gathered to measure educational performance and success with an eye toward improvements” (p. 33). In addition to assessing data to look for differences in regularly collected student records information between those students who persisted and those who withdrew, the

researcher obtained a list of names and contact information for all students in the School of Polytechnic Studies who were enrolled at the beginning of the fall 2005 semester and withdrew from the institution during or following the fall 2005 or spring 2006 semester. A personalized letter explaining the research project was mailed to each student at the last known address retrieved from the student records system (see Appendix F). The letter indicated to the former students that the researcher would be calling them to ask about their reasons for leaving the institution. Prior to the start of any questioning, students were read an oral consent script (see Appendix G) and asked to affirm their consent to participate in the research project. After consent was granted, students were asked several questions, including their reasons for leaving Southeast Missouri State University, and what they liked about and their suggestions for improving their department and/or the School of Polytechnic Studies. As the researcher concluded the phone calls, the former students were asked if anything could be done to assist in their return to the institution.

Data Analysis and Interpretation with Retention Committee

According to Patton (1997), data analysis and interpretation of results in a Utilization-Focused Evaluation depend on the active participation of primary users. In the end, these users will be the ones who must translate the findings into decisions and resulting actions. Patton suggested including the primary users, which in the case of this study was primarily the retention committee, in the processes of description and analysis, interpretation, judgment, and recommendations. The researcher met with retention committee members on four occasions to review data, and to develop, revise and affirm recommendations. The retention committee members included two faculty, one from each department, and two professional advisors.

Summary

This Utilization-Focused Evaluation provided data and input toward the development of a plan to improve the overall retention rate within the School of Polytechnic Studies at Southeast Missouri State University. The population to which this study was generalized was those students who had majors declared within the academic unit. The actual sample, or subjects of the study (Fraenkel & Wallen, 2003), consisted of three groups of students: (a) students enrolled in a select group of courses, chosen by faculty to provide a representative sample of all departmental majors and grade levels, (b) sub-samples, such as those who persisted or graduated and those who withdrew, from all students who were declared as majors within the School of Polytechnic Studies during the fall 2005 and spring 2006 semesters, and (c) students who took the graduate exit surveys the last times these were administered by each department.

Since the framework guiding this study was Patton's Utilization-Focused Evaluation, the research questions, and the means for data collection, instrumentation and analysis were developed in consultation with the primary intended users and the retention committee. The methods and instruments that were utilized for collecting data included a satisfaction survey, focus groups, graduate exit surveys, student records data, and contact with students who withdrew from the institution. Both quantitative and qualitative data were collected. Descriptive statistics were used to summarize quantitative data, and the qualitative data were analyzed for the emergence of themes. The researcher met with the retention committee, which served as an evaluation task force, to review data, and to develop, revise and affirm recommendations.

Chapter four will analyze the data from the study, while chapter five will outline the findings and recommendations. Appendices, which include a satisfaction survey, recruitment letters, informed consent documents, and protocol and questions for discussions with focus groups and students who left the institution, are also included.

CHAPTER 4

ANALYSIS OF DATA

Introduction

In the fall of 2005 in his State of the University message, the President of Southeast Missouri State University launched an initiative to improve student success, with overall goals of increasing freshman-to-sophomore student retention and overall graduation rates. After numerous campus-wide discussions and much deliberation resulting in over 400 comments and suggestions for improving retention, a much shorter list of action items was developed. One of the action items charged the Deans and the Provost with exploring college and departmental level initiatives for improving retention.

In early 2006, the University Deans were presented with college and departmental retention data from the Strategic Enrollment Management Task Force. The data showed that the School of Polytechnic Studies had the lowest first-to-second year retention rate of all of the schools and colleges at the institution from the fall of 2003 to the fall of 2004; the first-to-second year retention rate for this time period showed that 62.9% of the first-year students in the academic unit were in attendance at the institution during the second fall. The percentages of the rest of the academic units ranged from a low of 64.5% to a high of 82.3%. With the growth in majors over the last several years, the faculty and staff were surprised to be identified as the academic unit with the lowest freshman-to-sophomore retention rate. The Dean urged the development of a plan, including activities already in place and newly designed activities, to improve the School's retention.

The impetus for this study, a Utilization-Focused Evaluation of retention, was the request by the Dean of the academic unit for the development of a plan to increase

retention. The purpose of this evaluative study was to provide data and input toward the development of a plan to improve the retention rate within the academic unit.

This chapter presents an analysis of data, including demographics, a review of the research questions, and data analysis organized by research question. It concludes with a summary of the results of the study.

Organization of Data Analysis

Since the framework guiding this study was Patton's Utilization-Focused Evaluation, the research questions, and the means for data collection, instrumentation and analysis were developed in consultation with the primary intended users and the retention committee. The mechanisms for evaluation included a satisfaction survey, focus groups, graduate exit surveys, student records data, and contact with students who withdrew from the institution.

As this evaluative study was a mixed method design, both quantitative and qualitative data were gathered. Descriptive statistics, performed by SPSS 15.0 for Windows, were utilized to summarize quantitative responses. Qualitative comments were analyzed for themes. For ease in comprehension, data analysis is organized and discussed by research question. An overview of demographics will be provided next, with details discussed in relation to each research question.

Demographics

The actual sample, or subjects of this evaluative study (Fraenkel & Wallen, 2003), consisted of three groups of students. To establish the sample of students who took the current student satisfaction survey, faculty in each department within the academic unit were consulted to derive a list of courses to provide a representative sample of all

departmental majors and grade levels. The sample of students for most of the remaining research questions was derived from all students who were declared as majors within the School of Polytechnic Studies during the fall 2005 and spring 2006 semesters. Sub-samples included those who persisted through or graduated during this time period and those who withdrew from the institution during this time period or did not return in the fall 2006 semester. The sample of students used to measure graduate satisfaction included students who took the graduate exit surveys the last time these were administered by each department. For clarity, demographic information is addressed within the data analysis for each research question.

Research Questions

The research questions for this Utilization-Focused Evaluation were developed in consultation with the stakeholders who were the primary intended users of the evaluative information. The following research questions served as a guide:

1. How satisfied are current students (those who are persisting within the academic unit) specifically with factors related to retention?
2. How satisfied are graduates of the academic unit, specifically with factors related to retention?
3. What reasons do students who majored in the academic unit give for institutional withdrawal?
4. Do differences between regularly-collected student records data exist between those students who were retained versus those who exhibited institutional withdrawal during or following fall 2005 or spring 2006?

5. For students who exhibited institutional withdrawal during or following fall 2005 or spring 2006, what was their student classification at the time of withdrawal?
6. For students who exhibited institutional withdrawal during or following fall 2005 or spring 2006, do certain courses appear more frequently than others in the last semester of attendance?

Analysis of Data

The analysis of data is organized by research question to aid in comprehension. Data analysis for the first research question involved the review of both quantitative and qualitative information. Since the methods for answering the first question included a current student satisfaction survey and focus groups, analysis for this question consumes the majority of this chapter. Data analysis for the second research question required review of departmental graduate surveys through the lens of factors affecting retention. Analysis for the third research question involved analyzing themes from discussions with students who left the institution. Data analysis for the remaining three questions involved calculation and review of descriptive statistics.

Research Question One

Research Question One asked: How satisfied are current students (those who are persisting within the academic unit) specifically with factors related to retention? To answer this question, a current student satisfaction survey and several focus groups were conducted. The current student satisfaction survey produced both quantitative and qualitative results, and all data were entered into a database. Descriptive statistics, performed by SPSS 15.0 for Windows, were utilized to summarize quantitative responses. Qualitative responses were analyzed for themes. The products of the focus

groups – verbatim transcripts – were reviewed for remarks to further illuminate themes identified in the satisfaction survey. Focus group comments were also reviewed with an eye toward additional themes not identified in the current student satisfaction survey.

Survey demographics. Ultimately, 217 useable current student satisfaction surveys were collected, 66 from Agriculture and 148 from Industrial and Engineering Technology, plus two undecided students in Polytechnic Studies and one student who was a major in both departments. Based upon spring 2007 fourth week census data obtained from the Office of Institutional Research website, these numbers signified that over one-third of the students in each department took the survey (Institutional Research, 2007).

The students completing the satisfaction survey identified themselves according to the following student classification categories: freshman (11%), sophomore (18%), junior (29%), senior (39%), and other (3%). The overall gender split was 79% male and 21% female. When gender was viewed departmentally, 67% of the Agriculture respondents were male, while 33% were female. The respondents from Industrial and Engineering Technology were 85% male and 15% female. Both students who were undecided in Polytechnic Studies were male. The majority of students taking the survey (86%) indicated they were never married, while 11% indicated they were now married, and 2% indicated they were divorced. Eighty-eight percent (88%) of respondents indicated that they had no children, while 6% indicated that they did have a child or children. The ages of students taking the survey ranged from a minimum of 18 to a maximum of 52. The overall mean age was 22.22 with a standard deviation of 3.805 ($N = 215$).

The majority of students completing the survey indicated they were White, Non-Hispanic (90%). The remainder of respondents selected the following race or ethnic origin categories: Black, Non-Hispanic (3%), Foreign Citizen (2%), American Indian or Alaskan Native (1%), Asian or Pacific Islander (1%), and Hispanic (1%). Four-percent (4%) of survey respondents marked Foreign Citizen or had an international city listed as their hometown.

Survey respondents were asked to identify their hometowns. The Southeast Missouri State University Office of Residence Life defines a reasonable commuting distance as 50 miles or less (Residence Life, 2003). When the hometowns of survey respondents who answered this question were viewed in terms of distance from the main campus, 40% were found to be within 50 miles, while the remaining 60% were outside of the 50-mile distance. Hometowns mentioned five or more times within a 50-mile radius included Cape Girardeau, Jackson, Scott City, Sikeston and Perryville. Hometowns mentioned five or more times outside a 50-mile radius included Dexter, St. Louis, Florissant, plus international hometowns.

Students were asked to identify their high schools of graduation. High schools mentioned more than once included Advance, Bayless, Bishop DuBourg, Bloomfield, Cape Central, CBC (Christian Brothers College High School), Delta, Dexter, Farmington, Fort Zumwalt North and South, Francis Howell, Hillsboro, Jackson, Thomas W. Kelly, Lafayette, Leopold, Lindbergh, Marquette, New Madrid County, Notre Dame, Oakville, Oran, Perryville, Red Bud, Scott City, Seckman, and Sikeston.

The survey asked students to provide their ACT composite scores. One hundred sixty-six ($N = 166$) respondents did so. The minimum ACT score was 16, while the

maximum was 32. The overall mean ACT composite score was 22.2048, with a standard deviation of 3.3117. When the ACT composite scores were compared departmentally, the Department of Agriculture mean, with 56 students ($n = 56$) reporting, was 22.4464 with a standard deviation of 3.52095, while the Department of Industrial and Engineering Technology mean, with 109 students ($n = 109$) reporting, was 22.1009 with a standard deviation of 3.21727.

Survey respondents were also asked to report their current grade point average. With 204 responding ($N = 204$), the mean GPA was 3.2028 ($SD = .42145$). When viewed along departmental lines, agriculture majors reported a mean GPA of 3.1803 ($n = 64$; $SD = .45350$), while industrial and engineering technology majors reported a mean GPA of 3.2075 ($n = 138$; $SD = .40587$).

One-third (33%) of the survey completers signified that they had transferred from another college or university, including 20 agriculture majors (30% of those completing the survey), 51 industrial and engineering technology majors (34% of those completing the survey), plus the 2 people who were undecided in Polytechnic Studies (100% of those completing the survey). Institutions listed by more than one student included Three Rivers Community College, Jefferson College, Mineral Area College, Shawnee Community College, St. Charles Community College, St. Louis Community College – Florissant Valley, St. Louis Community College – Meramec, Southwestern Illinois College, Linn State Technical College, Rend Lake College, Mississippi State, Missouri State University, University of Missouri – Rolla, and University of Missouri – Columbia. Of the students who indicated that they had transferred to Southeast from another

institution, 34 students, or 47% of those who indicated other institution attendance, also showed that they had a degree of some sort from another institution.

When asked about living arrangements, 24% of survey completers showed that they lived on campus, while 71% of the respondents identified themselves as commuters. In a comparison of part-time (1 to 11 credit hours) versus full-time (12 and more credit hours) attendance, 94% of survey completers attended full-time, while only 6% attended part-time.

Eighty-two percent (82%) of survey completers indicated that they worked. Of these, 11% worked 0 to 10 hours per week, 22% worked 11 to 20 hours per week, 24% worked 21 to 30 hours per week, 14% worked 31 to 40 hours per week, and 12% indicated working more than 40 hours per week. Regarding location of employment, 80% of those who worked did so at an off-campus location. Fourteen percent (14%) worked on-campus, and five percent (5%) indicated both on- and off-campus employment.

When asked how they were paying for school, many students listed multiple funding sources. In order from the highest to the lowest percentages, the forms of payment included: parents/grandparents (48%), self (39%), loan (35%), scholarship (27%), grant (19%), state or federal agency (5%), other (4%), military (2%) and spouse (1%).

Students were asked to identify their majors. Table 1 denotes the numbers of departmental majors who completed the current student satisfaction survey. In addition to the departmental majors listed in Table 1, two students who identified themselves as undecided in the School of Polytechnic Studies took the survey.

Table 1

Numbers of Departmental Majors Completing Current Student Satisfaction Survey

<u>Agriculture</u>		<u>Industrial and Engineering Technology</u>	
<u>Major</u>	<u>Number</u>	<u>Major</u>	<u>Number</u>
Agribusiness/Agriculture		Engineering Technology	
Agribusiness (older option)	13	Electrical and Control	14
Agriculture Industry	15	Manufacturing	17
Animal Science	20	Industrial Technology	
Horticulture	14	Construction Management	51
Plant and Soil Science	10	Electronics/Comp Tech	2
Pre-Veterinary Medicine	4	Industrial Management	13
		Technical Graphics	31
		Technology	8
		Telecomm/Networking	9
		Industrial Education	9
		Computer Technology (AAS)	
		Automated Manufacturing	6
		Microcomputer Systems	1
		Tech Computer Graphics	4
		Certificate Programs	
		Design Drafting	1
		Electronics	1

Focus group demographics. A total of eight students participated in two focus groups – one for agriculture majors and one for industrial and engineering technology majors. Several focus group participants communicated appreciation for the opportunity to express their views. In the section that follows regarding student satisfaction survey quantitative and qualitative results, focus group comments are included where they provide enrichment to the data.

The student satisfaction survey began by asking respondents to indicate their level of satisfaction on ten items. The responses collected were in a modified Likert scale, ranked according to the following satisfaction levels: 5 (100%), 4 (80%), 3 (60%), 2 (40%), 1 (20%), and 0 (0%). Survey completers were also given the option of selecting N/O if they did not have an opinion on the specific item. The responses of those with N/O were not used to calculate the averages mentioned in the following sections. For each of the ten survey items, the researcher calculated means for all students and then disaggregated the data to calculate means for agriculture majors, industrial and engineering technology majors, first-year students, sophomores, juniors, seniors, those who identified their student classification as other, international students, minority students, males and females. For each of the satisfaction items, the results for all students plus those for each department will be reported. Noteworthy differences among other categories will also be discussed.

After each item that requested a satisfaction percentage answer, a follow-up question asked students to provide a specific reason for their percentage selection. A section discussing the themes which emerged from the qualitative responses of students follows the quantitative discussion of each satisfaction item. Comments from focus

groups are also included in these sections, where appropriate, as they add to the richness of the data.

Information on two additional survey questions is integrated into this section. The first one asked students to identify if their assigned advisors were faculty members or in the advising center; the survey responses to this question follow the results of the student satisfaction question related to advising. The other survey question asked students to identify their knowledge and use of nine campus resources. The results of student responses to this question follow the results of the student satisfaction survey question related to campus resources and support.

Satisfaction with faculty and staff in my department. The first satisfaction item asked respondents to rate their satisfaction with faculty and staff in their department (Agriculture or Industrial and Engineering Technology). The overall mean for this item was 4.0421 with a standard deviation of .70084. This mean was based upon answers from 214 respondents, with a minimum answer of 2 and a maximum answer of 5. The 66 Agriculture majors who responded had a mean departmental faculty and staff satisfaction score of 4.0758 with a standard deviation of .66357, while the 147 Industrial and Engineering Technology majors had a mean satisfaction score of 4.0272 with a standard deviation of .72097.

When the mean satisfaction levels were reviewed for a variety of respondent sub-categories, first-year student ratings ($n = 24$) rose to the top with a mean departmental faculty and staff satisfaction level of 4.1250 ($SD = .61237$). Those students who classified themselves as other ($n = 6$) had the lowest mean departmental faculty and staff

satisfaction score. The mean for this group was 3.6667, with a standard deviation of 1.03280.

As the survey comments about student satisfaction with faculty and staff were reviewed, several themes emerged. Numerous students commented that faculty and staff were caring, helpful and friendly. An agriculture major stated that faculty and staff “seem to care about students (learn names, show concern about personal lives, etc.).” Another agriculture major commented: “I recently switched from a major where most of my teachers didn't know our names. Since I switched, all of my teachers have been so friendly and helpful.” One of the industrial and engineering technology majors observed: “Most faculty in the Polytech honestly care that you leave with a great education.”

Students also made numerous comments about faculty knowledge and teaching approaches. While many students agreed that faculty were very knowledgeable, some indicated a desire for knowledge beyond textbooks and for improved or revised teaching methods. One industrial and engineering technology major commented, “Faculty and staff are very knowledgeable within their disciplines. The instructors have a genuine desire to teach and it shows in the approach they take.” Several survey respondents mentioned perceived limitations, such as “there are some [faculty] that need a more better understanding of what the students want and need out of the courses,” and “there are some instructors who are well knowledgeable in the area, however, they are not as good at explaining/teaching.” One student observed: “some faculty could know more about the subject they are teaching besides what comes out of a book.”

Agriculture majors in the focus group discussed the desire for teachers to incorporate more hands-on applications of the material they learn. As one student

mentioned, “You’ve got to learn by doing it . . . I’m not learning anything watching it, you know.” Another agriculture focus group attendee expressed appreciation for the variety of methods and activities presented by one of his instructors: “We’re learning new stuff constantly . . . we’ll be in the greenhouse every Friday, planting your own plants, running your own tests that we want to run . . . it should be pretty interesting.” The student also mentioned: “Notes all day, every day. He has really good notes you can follow; diagrams are roughly drawn, but . . . it’s really . . . quite nice.” Alternatively, agriculture focus group attendees registered complaints about teachers who “B.S.” with students “through half the class.” As commented by one, “And, I don’t know if it’s because there’s nothing prepared . . . or if the teacher’s just as bored with it as we are. But, that’s what happens. I feel like I waste a good half of class listening to them talk about something I don’t really care about.” Focus group attendees also noted that student presentations in classes should be used appropriately, not in place of faculty presentations. According to one student, “One class I took, the entire semester was student presentations, and I thought it was absolutely ridiculous that I was paying the amount of money I was paying to be taught by my peers, which nothing against them . . . you know . . . but that’s not the point of the class.”

A few suggestions regarding teaching approaches were supplied by students in the industrial and engineering technology focus group. One was the use of more visual aids, including video clips, to show students real-world applications of what they are learning. Additionally, students suggested that instructors exhibit patience and break down concepts into details to aid comprehension. As one student commented [about a helpful professor]: “I think if we had more instructors like that – that just went into more detail

and made sure that you understand it as much as they did, that a lot of people would be more satisfied.”

More than a few industrial and engineering technology majors commented in the survey on faculty who spoke English as a second language. One stated, “I have trouble understanding why I am focusing on understanding what the professor says rather than what he is teaching. As in the English language.” Several students observed that faculty were good instructors, but that language barriers made understanding difficult at times. One student remarked, “good, educated individuals, but hard to understand sometimes.” Another one commented, “It is hard to learn sometimes through the accents but they are good teachers.” One focus group member commented: “If you don’t understand someone and you try to understand them . . . you don’t mean to be rude by steady asking them the same thing, but you just want to understand what they are talking about.” Another focus group member, who also happened to be an international student, compared three of his instructors who spoke English as a second language. He described two as “really amazing in what they were doing.” He noted difficulties in taking an online class with an instructor who spoke English as a second language: “Because . . . like sometimes . . . they didn’t make sense on what they are typing, and when they are face-to-face, it’s better, because they can explain it with . . . I don’t know . . . hand motions.” He suggested that online instructors should be more detailed in email communications.

Satisfaction with academic experiences in my departmental classes. The second satisfaction item asked respondents to rate their satisfaction with academic experiences in departmental (Agriculture or Industrial and Engineering Technology) classes. The overall mean for this item, with 214 responding, was 3.986 with a standard deviation of .88667.

The minimum response was 2, while the maximum response was 5. The agriculture students rated their departmental classes with a mean of 3.9621 ($n = 66$; $SD = .72489$), while the industrial and engineering technology students rated their departmental classes with a mean of 3.9966 ($n = 147$, $SD = .95533$).

When means for satisfaction with departmental classes were reviewed across all categories, the first-year students produced the highest mean satisfaction level of 4.2500 ($n = 24$; $SD = .60792$). The students who classified themselves as other generated the lowest mean satisfaction level, 3.6667 ($n = 6$; $SD = .51640$). The difference between the means of these two groups equated to a difference in satisfaction percentages of over 10%.

Many students in both departments commented positively regarding their overall departmental academic experiences. One agriculture major noted, “The classes are very informative and always enjoyable,” while an industrial and engineering technology major observed that he or she “felt I learned almost every area important to my major.” While some students commented positively, other comments on the survey and in the focus groups indicated that students undoubtedly wanted more out of their departmental academic experiences.

When it came to experiential learning, students commented both positively and negatively. On the one hand, students were appreciative of the hands-on and real-world experiences they gained. According to one student: “I have learned a lot not just by studying but by hands on experience too.” On the other hand, students clearly desired more of these applications and experiences. As noted by one student, “some classes focus too much on book knowledge and not enough on real world applications.”

One of the industrial and engineering technology majors in the focus group mentioned how guest speakers could help students see the real-world application of what they are learning. “I remember, uh, in the spring came one guy from manufacturing, and he was giving a speech on how he was dealing with everything . . . and, I think that is really inspiring.”

Hands-on and lab experiences were discussed by students in both focus groups. An industrial and engineering technology focus group attendee recounted experiences in labs where several students were working in groups. Because of the lab set-up, not all group members got equivalent experiences; some were performing actions while others watched. “I think we can get more experience and learning when we actually are performing something than when we are just watching something.” He suggested organizing the lab experiences so that “each student can have . . . opportunity to deal with the devices.”

Hands-on and lab experiences were also heavily discussed in the Department of Agriculture focus group. On the one hand, students indicated they desired more hands-on activities related to their course work. As one student commented, “I think more hands on . . . I think we should have more hands-on things. I know we have, like labs, but in a lot of our labs, we’re not doing actual hands-on.” On the other hand, students do not want to feel as if they are providing free labor for the University. Focus group attendees were quite vocal about two different instances where they felt they were providing free labor, and not reaping educational benefits. One student commented, “I’ll jump on the bandwagon of [students] building the fence [at the University farm] . . . like in one our classes . . . our lab is to build fence. We’re paying the University to build their fence for

them; it's what we're doing in lab." Several students did mention that designing the corral was a good educational experience, but that they should have learned more theory behind the particulars of potential designs. Other students commented that in several horticulture classes, they pulled weeds on campus during labs. One noted, "I mean, I think it's important for maybe one lab, but the entire semester? That's just showing a lack of . . . I don't know, planning on the professor's part."

Linked to the topic of experiential learning, agriculture focus group attendees also related their displeasure about the focus on making a profit at the farm and greenhouse. One student commented about the farm, "I think that's kind of silly, how, you know, they're more worried about making money off of it than actually really doing research and the labs." Another student commented that the greenhouse had made a profit the year before, so the budget was cut, deeming it a "lose/lose situation."

Ag focus group attendees described in positive terms some of their field trip type experiences. One student described a field trip to the local district fair coordinated by one of the horticulture instructors. "She took them [the horticulture class] out there, and they went and looked at the different vegetables and . . . so that I think a lot of that falls on the specific teacher, whether they're going to take the time to make the phone call to set up the field trip, or if they're just going to sit in class and lecture for an hour." As another student commented, "Bottom line – I think we need to get out and see things. There's more than just the SEMO farm. There's more than just my farm or your farm or whoseever farm."

Also mentioned in the survey and discussed in the Department of Agriculture focus group was a feeling of redundancy in some classes. The classes that were

specifically mentioned several times included agriculture business classes (marketing, finance, economics) and some of the animal-based classes (beef production, animal breeding, animal science). As summarized by one student's survey comment: "I feel that we are taking the same class over and over and it seems that it's more of a review at times." An agriculture focus group member noted, "A lot of our general classes are the same thing being taught over and over again, and we're spending three times the money that we're getting out of one class. Whereas, we could instead, be taking more specific classes for our emphasis . . . getting more prepared for grad school or for a job."

While agriculture majors commented on the redundancy of some classes, they also noted numerous topics that they would like to see covered or covered in much more detail. Topics mentioned on the survey and in the focus group included more well-rounded animal classes, instead of focusing primarily on cows; dairy; poultry; pork; dogs; cats; donkeys; sheep; a variety of horses; disease class; judging class; meats class; anatomy and physiology of animals; artificial insemination certification class; organics; hydroponics, more ID classes for plants; a floral design class; a better landscape design class; weed science; entomology; chemical management; pesticides; agriculture systems management; pest management; a better agronomy class; plant propagation; viticulture; aquaculture; agriculture law; and agriculture accounting.

Student comments from both departments also emerged about a feeling that some classes are not challenging enough. While the industrial and engineering technology comments were made on the survey itself, the issue was raised by the agriculture students during the focus group. According to one industrial and engineering technology major, he or she "did not feel like I learned a significant amount of knowledge despite 2 years of A

and B grades.” An agriculture major commented in the focus group: “In general, the classes, I think . . . the curriculum needs to be a lot tougher. Most of them are . . . a lot of the classes are pretty easy; they’re not challenging at all. I don’t get near enough out of it. It’s not stimulating enough.”

Students in both departments made comments, in response to the survey and in the focus groups, about their fears of being unprepared for the next step after college, whether that step is a career or graduate school. One industrial and engineering technology survey respondent noted, “I feel like I have learned a massive amount of information, but I don’t know that I’m fully prepared for a job in this career.” An agriculture survey taker commented, “Many students including myself feel unprepared for our careers.” Several agriculture focus group members were planning to attend graduate school and mentioned being “very nervous” about what they would be expected to know upon entry into master’s degree programs. One commented, “I feel like I’m not prepared at all.” Another agriculture focus group member noted, “I just feel like my education is not going to help me in my new job at all. I’m going to have to learn . . . everything I wanted to come to college to learn, I didn’t. I’m going to have to do it all on my own.”

Satisfaction with my academic experiences in my classes outside my department.

The third satisfaction item asked respondents to rate their satisfaction with academic experiences outside their department. The mean response for all survey respondents ($N = 205$) was 3.6146 ($SD = .95629$), with the responses ranging from 1 to 5. The mean for agriculture majors, at 3.6462 ($n = 65$, $SD = .95902$), was slightly higher than the mean for industrial and engineering technology majors, at 3.6000 ($n = 140$, $SD = .95812$). When

the satisfaction levels of all of the ranked categories were reviewed, the first-year students rated their satisfaction with academic experiences outside their department the highest at 3.7500 ($n = 24$, $SD = 1.07339$), while international students rated their satisfaction the lowest at 3.5000 ($n = 6$; $SD = .54772$).

When comments from the satisfaction survey were reviewed, some students commented positively on instructors and what they were learning in other departments. Many more students, however, commented that the classes required outside their departments were “pointless,” “unnecessary,” “worthless,” and a “waste of time and money,” even though some mentioned understanding the purpose of taking the courses. Additionally, numerous students compared their departmental and non-departmental experiences. As summarized by an agriculture major: “The classes I have outside this department are very different. I feel very distant from the professor and that they could care less about me.”

Some sentiments from the survey were reiterated in the focus groups. People in both groups mentioned that they understood the point of taking University Studies classes. Focus group members also mentioned the desire for fewer required University Studies classes and/or options that were more closely related to agriculture and industrial and engineering technology. One industrial and engineering technology major commented, “And the different kinds, I would say they are wonderful. I’m just saying it’s just the amount we have to take over the major period. That’s the only thing.” An agriculture focus group attendee noted, “Instead of having us go take a ceramics class, maybe we could have a CAD/drafting class or something along those lines . . . I think they’re a good idea . . . the whole idea is you should be a more well-rounded student, but

I think more of them could be offered through our department.” One related item surfaced in the agriculture focus group. A transfer student commented on a couple of her teachers going “on and on about the points that you learn in your UI100 [First-Year Seminar] class,” but as a transfer student who did not need to take UI100, she was not aware of the University Studies objectives.

Satisfaction with my academic advising experiences. The fourth satisfaction item asked respondents to rate their satisfaction with their academic advising experiences. The mean satisfaction of all of the survey respondents was 4.2500 ($N = 212$, $SD = 1.02977$), with responses ranging from 0 to 5. Agriculture majors rated their level of advising satisfaction at 4.0455 ($n = 66$; $SD = 1.12908$), while the industrial and engineering technology majors rated their experiences at 4.3448 ($n = 145$, $SD = .97453$).

When all ranked categories were examined, the experiences of juniors rose to the top, while the experiences of international students ranked the lowest. The mean satisfaction level for juniors was 4.4500 ($n = 60$; $SD = 1.06445$), and the mean satisfaction level for international students was 3.7500 ($n = 8$; $SD = 1.28174$). When the mean scores were converted to percentage of satisfaction, the difference between the satisfaction of juniors and international students with their advising experiences was nearly 15%.

“Helpful” was a word used over and over on the satisfaction survey by many students to describe their academic advising experiences in Agriculture, Industrial and Engineering Technology, and/or Polytechnic Studies. As summarized by one agriculture major: “My advisor is always willing to help and give great advice.” Additionally, some industrial and engineering technology students commented on the willingness of advisors

to help them accommodate outside responsibilities (work, commute, etc.). One student described his or her advising relationship as “very helpful, concerned about my schedule outside of school, what will benefit me the most. My schedules were looked at carefully so that I wouldn't overwhelm myself and my advisor seemed sincere and focused on my education process.”

The most often expressed criticism by students in regard to academic advising was feeling responsible for making decisions on their own, without guidance from an advisor. As one student commented, “I have to make my own schedule before meeting with my advisor and then have him give the okay. But I'm not entirely sure what I'm supposed to take in order to graduate.” Some students also expressed concerns over not understanding the degree audit report, not knowing which classes are offered during which semesters, and availability of faculty for advising.

Several agriculture focus group attendees advocated having an advisor dedicated to advising all agriculture students “instead of having teachers that advise, because then the teachers are busy with their classes, and they don't really have time to tell you what needs to be done.” Also discussed was the desire to have pertinent advising information (course descriptions, prerequisites, and course rotations) available in a “user-friendly” format. As one focus group member commented: “I mean, here, you have like three different papers telling you when classes are available, what the prereqs are . . . if it could all be set up, like . . . more straight lined.”

Agriculture focus group attendees also expressed a desire for advisor assistance in planning out their programs: “Well, you know, in a lot of departments, they plan out their entire four years their first semester. I mean, I've seen that with a lot of other departments

. . . I've never even heard wind of that . . . you know, there's no scheduled planning ahead; it's all, 'okay, you've got to register next week, what are you going to take?'"

In regard to courses not being offered each semester, one industrial and engineering technology focus group member commented, "You mean, like, there are some courses that are not offered both semesters? Hmm . . . that's interesting because that could be a problem for students who are planning to graduate at a certain time, and they are missing one semester from getting a certain class." An agriculture focus group member noted, "What I don't like, really, is that the classes are so hit-and-miss . . . if you don't catch them one time or if you fail it, you got to wait possibly two years for it to come back around." Several advocated using courses substitutions for students who find themselves in this situation: "You know, maybe there's a business class you could take in substitute of the agbusiness class, since they're only offered every two years, you know . . . if there is no other option."

One industrial and engineering technology focus group member mentioned his desire for advisors to be knowledgeable about resources available for students, if assistance outside the department is needed. "So, I would say at the beginning, when they first meet their students for their advising, they should have maybe . . . I don't know . . . a little page or form or something that says where they should look for [assistance] . . . according to the needs."

A later survey question related to academic advising asked students to identify if their assigned advisor was a faculty member or in the advising center. Eighty-one percent (81%) of respondents indicated that they were assigned to a faculty advisor, while 16% indicated that they were assigned to an advisor in the advising center. A follow-up

question asked those students assigned to a faculty member to indicate if they normally saw that faculty member or went to the advising center. Fifteen students, or nine percent (9%) of those assigned to faculty advisors, indicated that they sought assistance from the advising center. Two of these students were in the Department of Agriculture, while 13 were in the Department of Industrial and Engineering Technology. Several of these students indicated multiple majors. The majors of agriculture students who sought assistance from the advising center were Agriculture Industry (1) and Animal Science (1). The majors of the industrial and engineering technology students who sought assistance from the advising center included Manufacturing (3), Industrial Management (3), Automated Manufacturing (2), Construction Management and Design (2), Industrial Education (2), Technical Graphics (2), Electrical and Control (2), Telecommunications and Computer Networking (1), and Electronics Certificate (1).

Satisfaction with my interactions outside the classroom with other students in Ag, IET and/or Polytech. The fifth satisfaction item asked respondents to rate their satisfaction with interactions outside the classroom with other students in Agriculture, Industrial and Engineering Technology and/or Polytechnic Studies. Overall, students ranked their interactions with other students in their department or Polytechnic Studies at 4.3247 ($N = 194$, $SD = .94002$). The responses ranged from 0 to 5. Agriculture majors rated their experiences slightly higher, at 4.4062 ($n = 64$; $SD = .68357$), than did industrial and engineering technology majors, at 4.2791 ($n = 129$; $SD = 1.04565$).

The students who were most satisfied with their interactions outside the classroom with other students were those who identified themselves as “other” in class standing (when given the choices of freshman, sophomore, junior, senior and other); their mean

satisfaction was 4.6000 ($n = 5$; $SD = .54772$). Those least satisfied with their interactions outside the classroom with other students were international students; their mean satisfaction was 3.4444 ($n = 9$; $SD = 1.13039$). The difference between the mean rankings of these two groups equated to over a 20% difference in level of satisfaction (above 90% for students identified as other, and less than 70% for international students).

The majority of students commented positively on their interactions outside the classroom with other students in Agriculture, Industrial and Engineering Technology and/or Polytechnic Studies. Many students mentioned making new friends. Others noted the availability of others to help when questions arise. As succinctly described by one industrial and engineering technology major: "I've met friends and study partners."

Some of the students who did comment negatively on their interactions outside the classroom offered potential reasons. For example, several indicated not knowing what was going on or not being interested in activities. Others indicated time constraints, such as taking classes only in the evenings, working full-time, and needing too much time outside class to complete assignments.

Satisfaction with my interactions outside the classroom with faculty/staff in Ag, IET, and/or Polytech. The sixth satisfaction item asked respondents to rate their satisfaction with interactions outside the classroom with faculty and staff in Agriculture, Industrial and Engineering Technology and/or Polytechnic Studies. Overall, survey respondents ranked their mean satisfaction as 4.1905 ($N = 189$; $SD = 1.00303$), with answers ranging from 0 to 5. The mean satisfaction level for agriculture majors, 4.2222 ($n = 63$; $SD = .88799$), was slightly higher than the mean satisfaction level for industrial and engineering technology majors, 4.1760 ($n = 125$; $SD = 1.06304$).

Similar to the previous survey question responses, those who were most satisfied with interactions outside the classroom with faculty/staff in Agriculture, Industrial and Engineering Technology and/or Polytechnic Studies were those students whose self-identified class standing was other. Also similar to the response on the last question, those who were least satisfied with these interactions were international students. The mean for those students identified as other was 4.7500 ($n = 4$; $SD = .50000$), while the mean for international students was 3.2857 ($n = 7$; $SD = 1.25357$). The difference in these satisfaction levels equated to nearly 30%, with the students identified as other weighing in at 95% satisfaction, while the international students level of satisfaction was slightly higher than 65%.

Two main positive themes emerged from a review of student comments about their satisfaction with interactions outside the classroom with faculty and staff. One theme, similar to one that emerged in response to the advising question, was that faculty are helpful. One agriculture major commented: “Whenever I have had a question outside of class my instructors have always helped.” Another comment by an industrial and engineering technology major shows the significance of individual faculty interactions with students: “All but one professor has taken time out of their schedule to help me over a course of four years.”

The other theme that emerged was that faculty are friendly. Some students commented about faculty saying “hi” in the hallways. As one agriculture major mentioned: “The staff almost always says ‘hi’ to you if they see you walking and aren't busy. This, to me, allows me to freely talk in class during discussions.” Other students mentioned the importance of faculty recognizing them: “They know who I am,” and

“Faculty recognizes who you are.” One industrial and engineering technology major observed, “A few of my instructors seem happy to see me outside of class, and that improves my impression of them.”

Some students did comment that they had no interaction with faculty outside the classroom. Others indicated trouble making contact with faculty members, due to conflicting office hour schedules or the faculty members being hard to find.

Satisfaction with the facilities where my Ag or IET classes are held. The seventh satisfaction item asked respondents to rate their satisfaction with the facilities where their agriculture or industrial and engineering technology classes are held. Overall, survey respondents ranked their mean level of satisfaction with this item at 4.1620 ($N = 213$; $SD = 1.07647$). Responses ranged from 0 to 5. The Department of Agriculture mean satisfaction level was the lowest overall at 3.7615 ($n = 65$; $SD = 1.16963$), while the Department of Industrial and Engineering Technology mean satisfaction level was the highest overall at 4.3401 ($n = 147$; $SD = .98965$). The differences between these two satisfaction levels was equivalent to over a 10% difference in satisfaction level (slightly over 75% for Agriculture majors compared to over 85% for Industrial and Engineering Technology majors).

The Otto and Della Seabaugh Polytechnic Building, the facility where industrial and engineering technology major courses are taught, was completed in 2001 (Southeast Missouri State University, 2003 – 2007). Upon review of the student comments to the facilities question, many industrial and engineering technology students commented positively about the building. One described the facility as a “good building with lots of technology.” Magill Hall, completed in 1958, houses the majority of the agriculture

major courses (Southeast Missouri State University). Numerous agriculture students commented on the building itself: “The building just needs an update,” and “Classrooms could be updated and building also.”

One theme that emerged from students in both departments was the desire for updated, faster computer equipment. Industrial and engineering technology students made observations such as “The computers and printers are always having problems, therefore slowing down the work completed here,” and “Some of the computers simply aren’t good enough for what is expected!” Numerous agriculture majors echoed that theme, with an additional grievance. One student noted, “Some of our computers are out of date. These computers don’t take flash drives.” Additionally, several agriculture majors indicated frustration over getting what they considered “hand-me downs” and “second hand stuff.” One commented: “Every other building has new computers and we just get the hand-me downs.” These sentiments were echoed in the focus groups.

Students in the agriculture focus group discussed the small computer lab that is adjacent to their departmental classrooms and expressed appreciation for it: “I feel like we should feel lucky because we still have it.” One student explained, “That’s not only like our computer area; but it’s like our social area, where classes go before and after classes, to talk about what we learn and what’s going on and . . . like it’s a very social . . . it’s not a quiet one. It’s very social.” Another student commented in reply, “I do like that about it.” One student noted that if the lab would have wireless technology available, students could use laptops individually and in groups.

Several agriculture students made written reference to the radiation that was found in Magill Hall. According to one, “Ag building is horrible – especially with the

feared radiation.” Although the focus group members did not seem overly concerned about the radiation, they did make mention of the inconveniences and disruption related to the clean-up. When the focus group was asked if they felt like they had received enough information about the radiation, one commented “From the Southeast Missourian [local newspaper], yes . . . but from campus, no.” Another one noted, “I just knew what the professors told me, and that was very, very little, because they probably didn’t know very much, because nobody told them anything . . . I think we have the right to know as much information as possible about it, whether or not we really care about it is a different story, but at least we still deserve the right to know.”

Satisfaction with the campus resources and support available to me. The eighth satisfaction item asked respondents to rate their satisfaction with the campus resources and support available to them. Overall, survey respondents ranked their level of satisfaction at 4.2210 ($N = 181$; $SD = 1.00874$), with scores ranging from 0 to 5. Agriculture majors ranked their satisfaction with a mean of 3.9474 ($n = 57$; $SD = 1.20150$), while industrial and engineering technology majors ranked their satisfaction with a mean of 4.3548 ($n = 124$; $SD = .88523$). The students who were most satisfied with the campus resources and support available to them were international students, who ranked their mean satisfaction as 4.4444 ($n = 9$; $SD = .72648$). The students with the lowest satisfaction with campus resources and support were agriculture majors. The difference between these two groups equated to nearly 10% variation in level of satisfaction.

A good portion of students in both departments responding to the comments request for this item on the satisfaction survey indicated that they had rarely or never

used the campus resources that are available to them. Of those students who commented regarding using the services, many indicated that the resources were helpful. As one student observed, “I have used many of the services and they have been a big help.” In the written comments, the Writing Center was the most-often mentioned resource, followed by the Math Learning Center. One industrial and engineering technology student who mentioned both services commented: “Writing Center brought my grade from a D to an A. Math Center helped me get a B in calculus!”

Those students who commented negatively about the campus resources gravitated toward two main reasons. Some indicated inconvenience in terms of location and hours. Others indicated using the services but not finding them useful.

A related survey item asked students to indicate their knowledge and use of a variety of campus resources. Table 2 which follows shows the percentages of Agriculture and Industrial and Engineering Technology majors indicating their knowledge and use of nine campus resources. In addition, the table indicates the percentages of majors in both departments who signified being referred to each resource by a Polytechnic Studies instructor.

A number of students from both departments indicated not knowing about certain campus resources. Although some resources provide services only for specific populations, others (Career Linkages, Center for Health and Counseling, Learning Enrichment Center, Math Learning Center, and the Writing Center) provide services for all students.

Table 2

*Percentages of Agriculture and Industrial and Engineering Technology Majors
Indicating Knowledge, Use and Referrals to Campus Resources*

Resource	Know about <u>and use</u>		Know about and <u>do not use</u>		Did not know <u>about resource</u>		Polytech instructors <u>recommended</u>	
	Ag	IET	Ag	IET	Ag	IET	Ag	IET
Career Linkages	16	31	60	53	19	11	3	17
Center for Health and	30	31	51	51	18	17	0	1
Learning Enrichment Center	1	15	76	62	21	19	0	6
Math Learning Center	6	27	76	60	16	13	0	9
Minority Student Programs	0	5	58	44	40	50	0	<1
Nontraditional and Commuter Student Services	3	4	48	38	48	57	0	0
Office of International Education and Services	0	5	54	39	43	55	0	<1
Student Support Services	0	9	55	42	42	44	0	2
Writing Center	55	58	42	37	1	3	4	17

A few explanatory notes might be in order regarding several of the campus resources listed in Table 2. For students with catalog years of fall 2005 or after, four career proficiency checks were implemented as graduation requirements. The usage of Career Linkages indicated by students was likely a combination of students satisfying these career proficiency checks and those seeking assistance on their own. Additionally, differences in math requirements in agriculture and industrial and engineering technology programs could have affected the number of students who used and/or were referred by Polytechnic Studies instructors to the Math Learning Center. Students in both departments are required to complete a college algebra course. Industrial technology majors take a minimum of two additional math courses: plane trigonometry and applied calculus. Those students majoring in engineering technology take even more math courses.

As shown in Table 2, a huge majority of agriculture students indicated that Polytechnic Studies instructors had not recommended any of the listed resources. The exceptions were a small number of students who were referred to Career Linkages and the Writing Center. When making a written comment in response to the question about satisfaction with campus resources, one agriculture major observed, "I rarely think to use them, no encouragement to do so. Remember requiring someone to use them won't help either." Industrial and engineering technology majors did indicate a number of referrals by Polytechnic Studies instructors; resources with the most students indicating referrals were the Writing Center, Career Linkages, the Math Learning Center, and the Learning Enrichment Center.

Satisfaction with my overall experience with Ag, IET and/or Polytech. The ninth satisfaction item asked respondents to rate their satisfaction with their overall experience with Agriculture, Industrial and Engineering Technology and/or Polytechnic Studies. The mean satisfaction of all respondents was 4.1542 ($N = 214$; $SD = .69846$), with responses ranging from a minimum of 2 to a maximum of 5. The mean satisfaction level of agriculture majors was 4.0909 ($n = 66$; $SD = .69564$), while the mean for industrial and engineering technology majors was 4.1905 ($n = 147$; $SD = .70549$). The group that indicated the highest level of satisfaction with their overall experience with Agriculture, Industrial and Engineering Technology and/or Polytechnic Studies was first-year students, whose mean satisfaction was 4.3333 ($n = 24$; $SD = .56466$). International students produced the lowest level of satisfaction, with a mean of 3.8889 ($n = 9$; $SD = 1.05409$).

When students responded with comments regarding their satisfaction with their overall experience with Agriculture, Industrial and Engineering Technology and/or Polytechnic Studies, many remarks included positive and negative features. On the affirmative side, many students spoke positively about faculty and about their learning experiences. One agriculture major remarked, "Love the staff and program but it is not without some flaws." This sentiment was echoed by an industrial and engineering technology major who said, "I've had a good learning experience here, but like anything else some things could have been better." In terms of areas needing improvement, comments varied and included items requesting expanded and improved learning experiences, a larger variety of classes from which to choose, more faculty, more challenging courses, and varied teaching strategies.

Satisfaction with my overall experience at Southeast. The tenth satisfaction item asked respondents to rate their satisfaction with their overall Southeast experience. The mean response for all survey respondents was 3.9398 ($N = 216$; $SD = .80034$), with a minimum response of 1 and a maximum response of 5. Agriculture majors ranked their overall experience at Southeast with a mean of 3.8582 ($n = 67$; $SD = .75782$), with industrial and engineering technology majors ranking their experiences slightly higher, with a mean of 3.9764 ($n = 148$; $SD = .82134$).

The group expressing the highest satisfaction was sophomore students, whose mean satisfaction was 4.0921 ($n = 38$; $SD = .69608$). The group indicating the lowest level of satisfaction with their overall experience at Southeast, equating to over 10% less satisfied than the highest group, was minority students. Their mean satisfaction was 3.5000 ($n = 10$; $SD = 1.35401$).

In responding to the request for comments regarding their overall satisfaction with Southeast, many students described their experiences as “good” and “enjoyable.” As one industrial and engineering technology major commented, “Overall it has been a good experience.” Another one observed: “SEMO is a good school, and I’ve had a great time in my years here.”

As in the responses to the previous comments request, many students gave qualifiers within their responses. As one student noted, “A fairly good experience, but nothing is 100% perfect.” Three areas stood out among the grievances that students expressed: parking, University Studies courses and tuition expense. Numerous student comments touched on one or more of these items. One student noted: “I am not happy I have to take art being an Ag major or the other money grabbing classes.” An industrial

and engineering technology major complained, “Some University Studies classes have cost me thousands of dollars and I feel they should be cut OUT!! These classes such as theatre and dance serve no purpose except to create revenue.” Another student insisted, “Stop wasting my money on stupid projects (i.e. brick roads and million dollar fountains).”

When the satisfaction rankings of all students taking the survey were reviewed for the ten items, interactions outside the classroom with other students and advising rose to the top. Both items weighed in with satisfaction rankings that equated to 85% satisfaction or higher. The items that were ranked at the bottom were academic experiences outside the department and the overall Southeast experience. The rankings on these items both equated to satisfaction levels above 70%, with the overall Southeast experience almost reaching 80%.

When the ten satisfaction rankings were compared by disaggregated data, first-year students provided the highest satisfaction ranking in four of ten items. International students gave the lowest ranking in five of ten items. Students who identified themselves as other, in terms of class rank, provided two of the highest and two of the lowest satisfaction rankings. Agriculture majors also provided two of the lowest rankings.

Five things I like the best about Ag, IET, and/or Polytech. Survey respondents were asked to list five things that they liked best about Agriculture, Industrial and Engineering Technology, and/or Polytechnic Studies. Several of the items topping the list showed that current students placed a great deal of importance on relationships with faculty and with other students. Other items mentioned by numerous students included academics, facilities, and the hands-on opportunities in the departments.

Many students from both departments listed “faculty,” “professors,” “instructors,” or “teachers” as one of the five things they liked best. Others were more explanatory in describing relationships with faculty, making comments such as “Faculty, professors and teachers want to get to know you,” “Teachers know me and my learning abilities,” “Teachers become more involved than just giving a lecture,” and “The teachers care about what we do after we graduate.”

Current students from both departments also spoke highly of their interactions with other students. Although many just listed “students” or “class mates,” others described their relationships. Illustrative comments included “Close knit group of students,” “Students band together, very close with everyone,” “Students work well together,” and “Meeting people that will share my field of work.”

Academic related comments also topped the list of items that students in both departments liked best. Many students commented that they liked the “classes,” “majors,” and “programs.” Other students mentioned the knowledge of the faculty: “Teachers are excited/ knowledgeable about the subjects,” “Professors are fairly well rounded,” and “Field experienced teachers.” Small class size was also a feature that agriculture majors cited as a best-liked quality.

Facilities also made the list of items which students liked best, although agriculture and industrial and engineering technology students differed in their responses. Numerous agriculture students mentioned the farms and the greenhouse, while several mentioned the computer lab. Many industrial and engineering technology students cited the building and classrooms in their list of top five items. A good number also mentioned the computer labs. Although a larger percentage of agriculture majors mentioned “hands-

on learning” as one of their top five items, many of the industrial and engineering technology students mentioned the lab facilities and available equipment.

Five areas in which I would like to see improvements in Ag, IET, and/or Polytech.

The next question asked survey respondents to list the five areas in which they would like to see improvements in Agriculture, Industrial and Engineering Technology and/or Polytechnic Studies. Interestingly, several items topping the list of areas for improvement mirrored items identified by students as the things they liked best. Although students expressed appreciation for what they are learning and for their instructors, they undoubtedly wanted more out of their departmental experiences.

Numerous students in both departments mentioned academics and instruction as needing improvement. Industrial and engineering technology students had quite a bit to say about class offerings and availability. Also making the list for both departments were issues dealing with facilities, labs and computers. Additionally, agriculture majors expressed the desire for more hands-on learning; whereas, industrial and engineering technology students wanted more internship and career related assistance.

An overwhelming majority of Department of Agriculture majors mentioned academic related items in their list of areas in which they would like to see improvements. Students’ answers varied widely, but a few items were mentioned by a number of people. Students would like to see “a variety of ag classes” that are more “involved” and “specialized.” Specific requests that were mentioned multiple times included “more interaction with different animals,” including “more small animal classes” and “more than just cows for animal science (horses, hogs, companions).” Also mentioned a few times was a request for a “landscape design software class.” Finally, a

desire for an additional degree to prepare students to teach agriculture was mentioned by several people on the survey and by one person in the agriculture focus group.

Similar to the agriculture majors, industrial and engineering technology majors indicated that they would like to see more from classes in terms of the “number of classes offered” and “material covered.” A few mentioned that class sequencing and prerequisites should be reviewed. Numerous students mentioned that they would like to see more “real world application” and “more practical experiences.” Several also mentioned that additional field trips would be valuable. Three majors rose to the top in terms of numbers of specific major-related comments: Technical Graphics, Construction Management and Design, and electronics-related majors. Some comments about the Technical Graphics program requested more coverage of specific software programs. The comments regarding the Construction Management and Design major focused on adding and removing classes and on the need for more instructors. Several students mentioned that electronics courses should go into more detail, with the Programmable Logic Control (PLC) class being mentioned specifically a few times.

When it came to teachers and teaching styles, students from both departments had many comments to share. In addition to general comments on “faculty” and “teaching skills,” several agriculture majors mentioned specific classroom management suggestions such as “better use of class period” and “organization of professors (personal).” Additionally, a few noted assignment related suggestions such as “I would like more homework because I don’t understand when teachers just lecture or give notes” and “a few more little assignments assigned by the professor.”

A number of students from industrial and engineering technology made general comments about professors and teachers, but many more commented on the knowledge of teachers and their teaching styles. For example, quite a few commented on instructor knowledge: “More knowledgeable instructors, and “more knowledgeable professors in the specific area for the class.” Several comments were made related to the amount of help that students get from instructors, both in and out of class. A few students stated their desires for faculty to teach more to their level: “Teachers can't be simple.” A good number of comments suggested that more faculty members are needed. And finally, the difficulty in understanding teachers who speak English as a second language was mentioned by numerous students.

Many comments from students in industrial and engineering technology focused on course offerings and availability. Numerous students noted that they do not like classes that are not offered each semester: “Don’t offer half the courses once a year.” Other comments covered a wide spectrum of desires for class time scheduling. Some expressed the desire for more day, afternoon, or evening classes/sections. A few commented that they did not like weekend option classes (classes meeting just several times a semester on the weekend). Online classes received both positive (“More web based courses”) and negative (“There are too many online classes”) comments, with a few students noting specific courses that should not be offered in an online format. Evening classes also received both affirmative (“More night classes”) and negative (“Reduce number of night classes”) comments. As summarized by a focus group attendee, “Sometimes students do better by just watching and reading. Some others do better while if they have to perform something with their hands, more mechanical

students, things like that. So, it really depends on what the student is looking for. And, it varies a lot depending on personality and ways of learning.”

Students from the Department of Agriculture made a variety of comments regarding buildings, facilities and labs. In addition to mentioning “facilities” and “buildings,” several specifically mentioned Magill Hall and a few mentioned “classrooms.” Labs were also noted by several students as needing improvement: “Labs – microscopes, etc. available for students, more scientific approaches,” and “More ag resources in ag lab.” Students also mentioned that they would like to see more utilization of the farms and the greenhouse. Focus group attendees declared that they would like to see the department finish projects that it starts, in terms of facilities. One commented, “I think the department should dedicate themselves to finishing projects.” Another one mentioned, “They get it operational, and they stop before it’s actually complete.” Additionally, focus group participants cited that they would like to see the department utilize more established resources in the area, through field trips and possible short-term lab opportunities. Specifically mentioned were excursions to row crop farms, demonstration fields, vineyards and fish ponds.

While a few industrial and engineering technology majors mentioned building issues (the most mentioned item was a request for bigger desks in some classrooms), the majority of comments related to labs and equipment. Some students suggested “more” and “better” equipment, whereas others made suggestions related to supporting materials in the labs: “Get the needed electronic parts,” “tools in labs,” “more resources such as tools, lumber, etc.,” and “material accessibility.” A good number of students discussed

lab availability. Several mentioned the desire for labs to be open longer, including weekend accessibility.

Computing issues were repeatedly mentioned by students in both departments. Agriculture students' main criticism was the "Ag computer lab," with several specifically noting a request for "Better computers in the Ag lab." Industrial and engineering technology majors repeatedly requested "updated" and "better" computers and "working printers in the computer lab." Several students made comments about specific software programs, and others registered complaints about computer lab accessibility.

While majors in both departments mentioned hands-on learning, a larger percentage of agriculture majors noted this as a grievance. Specific requests for increased hands-on activities included "Row crops hands on learning needed" and "More hands on with small animals."

Internships, job fairs and job placement were mentioned in the written comments by students in the Department of Industrial and Engineering Technology as areas in which they would like to see improvement. Pertaining to internships, "help finding internships" was mentioned several times. A few students also noted requests for internship and job placement assistance outside the local area. One agriculture focus group member described his perception of job placement assistance at Southeast as "here's your degree, good luck on your job." An industrial and engineering technology focus group attendee described his experiences as an international student trying to gain work experience related to his desired career, "I cannot find any kind of part-time or any way to improve my skills in a work-area, here on campus, and it's more limited to me,

because I am an international student, and I cannot really work off-campus. So, it's really hard for me to try to improve my skills before I go with a degree out into the world.”

The education I am obtaining at Southeast is worth the money it is costing me.

Students were asked to indicate if the education that they were obtaining at Southeast was worth the money it was costing them. Overall, 51% of survey respondents indicated yes, while 13% indicated no, and 35% were not sure. When viewed departmentally, agriculture students indicated 45% yes, 10% no, and 45% not sure, while industrial and engineering technology students indicated 53% yes, 15% no, and 32% not sure. The two students who were undecided in Polytechnic Studies indicated that the education they were obtaining was worth the money it was costing them. When results were disaggregated by ethnicity, the nine students who marked either foreign citizen or designated an international hometown indicated 22% yes, 44% no, and 33% not sure. The ten students identified as minority students (American Indian or Alaskan Native; Black, Non-Hispanic; or Hispanic) indicated 60% yes and 40% not sure, when asked if the education they were obtaining was worth the money it was costing them.

When asked to provide reasoning to back up their answers to the question regarding whether the education they are obtaining at Southeast is worth the money it is costing them, numerous students from both departments positively mentioned the value of a college education from Southeast. One respondent commented: “The cost is very affordable for the education obtained.” Another one noted: “Southeast is very reasonable in cost and I am getting a good education, so it is worth the money.” Several noted the future financial merit of their degrees: “The money I spend here will help me to make more money when I am finished,” and “People who go to college will make more money

in the long run.” A number of students also made comparisons between Southeast Missouri State University and other schools. One agriculture major mentioned: “I also attended another state university; I feel that although this university costs less, I’ve received a much better education.” As noted by an industrial and engineering technology major, “I feel I am gaining valuable knowledge that will help me in the working world at a cost that is cheaper than some other universities.”

A good number of survey respondents explained that they could not really be sure that the money they were spending was worth it until they graduated and got into the job market. One person explained, “Do not know opportunity cost in getting good paying, meaningful job after graduation.” Another survey respondent noted: “I’m not sure until I graduate and find a full time job. I will then know if my education was worth the money.”

Some students from both departments commented on the expense of Southeast education, in general: “It seems that an education is starting to cost more and more, it’s hardly affordable.” Some students who commented negatively in response to this question had specific observations about majors and programs. More students made comments indicating that they desired more than they were getting, as summarized by one survey respondent: “After completing some courses, I feel as though I haven’t learned all that I could have.”

Why students chose majors in the School of Polytechnic Studies. The next survey question asked students to indicate why they chose a major in the School of Polytechnic Studies. When responding to the question, students from both departments generally gave

similar answers. Four of the types of reasons mentioned most often were general interest, subjects of interest, career preparation, and background.

A good number of students made broad comments regarding their reasons for choosing a major in the School of Polytechnic Studies: “Because it interested me” and “It has interested me for the longest time.” Many more students commented specifically regarding the reasons for their interests and their subject areas of interest. In addition to more general comments such as “I like ag,” Department of Agriculture students commented on working with animals and horticulture. As summarized by one student: “This is what I love doing. I like outdoors and working with plants and animals.” Many industrial and engineering technology majors made general comments about their talents and interests such as “Because it was something I really enjoyed and something I was good at.” Specific subject interests mentioned most often by industrial and engineering technology students included computers; electronics, telecommunications and networking; construction; and computer graphics.

Students from both departments also made general career-related comments in regard to their reasons for choosing a major in the School of Polytechnic Studies: “Because it is what I want to do with my life,” and “It is what I want to do everyday for a job.” Some students made mention of specific vocations.

Another commonality between the students in both departments was the mention of family background and previous experience. Numerous agriculture majors mentioned growing up on a farm. As noted by one student: “Raised on a farm; it’s what I love to do.” And, as one industrial and engineering technology student mentioned, “I have

always wanted to work in this field. I have had some kind of experiences with it working with my father.”

There were a few differences in the answers from the students in the two departments. Some agriculture majors made mention of the fact that they liked being outside: “I like being outdoors,” and “I am interested in outside, productive labor.” Industrial and engineering technology majors commented on the practical and hands-on aspects of the programs: “It looked practical. Both of my engineer parents said it looked much better than engineering at Rolla, where they went,” and “It fits the kind of work I enjoy, technical and hands on.”

Would you recommend a major in the School of Polytechnic Studies to a friend?

Survey respondents were asked if they would recommend a major in the School of Polytechnic Studies to a friend. Overall, 92% of respondents indicated yes, while 7% indicated no. Of the 15 students (7% overall) who indicated no, 3 (20%) were from the Department of Agriculture, and 12 (80%) were from the Department of Industrial and Engineering Technology.

Did you hear about the School of Polytechnic Studies before you started, and if so, were your expectations met? Survey respondents were asked if they heard about the School of Polytechnic Studies before they started attending Southeast. A follow-up question asked those who did hear about the School of Polytechnic Studies before commencing attendance at Southeast to indicate if their expectations were met or not. Fifty-eight percent (58%) of students indicated that they had heard about the School of Polytechnic Studies before they started attending Southeast, while 42% indicated that

they had not heard about Polytechnic Studies. These percentage splits were identical in both departments.

In response to the follow-up question, 80% of respondents indicated that their expectations had been met, while 20% indicated that their expectations had not been met. Of the 20% of respondents (25 students) who indicated that their expectations had not been met, 40% were agriculture majors, 56% were industrial and engineering technology majors, and 4% were undecided in Polytechnic Studies.

The breakdown of majors of students (some respondents listed multiple majors) who indicated that their expectations had not been met included the following majors from the Department of Agriculture: Horticulture (4), Agribusiness – older option (3), Animal Science (2), Agriculture Industry (1), and Plant and Soil Science (1). The breakdown of majors of the students (some respondents listed multiple majors) in the Department of Industrial and Engineering Technology who indicated that their expectations had not been met included the following: Technical Graphics (4), Manufacturing (3), Construction Management and Design (3), Industrial Management (2), Industrial Education (1), Automated Manufacturing (1), Electrical and Control (1), and Design Drafting (1).

Directly after the question that asked students if their expectations were met, students were asked to explain the reasoning for their answers. When commenting in a variety of ways that their expectations were met, numerous students mentioned how they heard about the School of Polytechnic Studies. Comments varied widely and included brochures, friends and relatives, graduates, college fair, high school teachers and advisors, tours, college advisor, and community college instructors. Additionally,

students from both departments commented, in general terms, that their expectations had been met: “I feel satisfied as of the present” and “It was everything I expected.” Several industrial and engineering technology majors also mentioned more specific items that contributed to their expectations being met, including the facility, faculty, classes and available majors.

Those students who indicated that their expectations had not been met offered a range of explanations. Mentioned several times by agriculture majors were faculty, the desire for more hands-on applications, and the desire to learn a wider variety of information. Items which were mentioned several times by industrial and engineering technology majors included a lack of real-world applications, computer and lab issues, and a desire for more detailed offerings in classes.

Do you intend to return to Southeast next semester? Students were asked if they were intending to return to Southeast the next semester. Seventy-seven percent (77%) of respondents indicated that yes, they were intending to return next semester, while 3% indicated no, 18% indicated they were graduating, and 1% indicated they were transferring to complete a pre-professional program. Of the 7 students (3% overall) who indicated that they were not planning to return to Southeast the next semester, one student was an agriculture major, and six were industrial and engineering technology majors. The class-standing breakdown of those not intending to return included two sophomores, two juniors, two seniors, and one person identified as other. No first-year students indicated that they did not plan to return the next semester.

Departmental and campus student organization involvement. The last two questions on the satisfaction survey asked students to indicate departmental and other

campus student organizations with which they were involved. Over half (53%) of respondents indicated no involvement in either departmental or campus student organizations.

When specifically asked about departmental student organizations, 30% of survey completers indicated involvement, with 70% indicating no involvement. When the figures of students not involved were compared with the overall numbers of students completing the survey, 60% of agriculture majors indicated no involvement with departmental student organizations, while 74% of industrial and engineering technology majors and 100% of the undecided majors indicated the same. The Department of Agriculture student organizations and the number of students who indicated involvement were as follows: Delta Tau Alpha (15), Horticulture Club (13), Farm Bureau (6), Agriculture Club (5), Pre-Veterinary Medicine Club (5), and Golf Course Superintendents of America (1). The Department of Industrial and Engineering Technology student organizations with the number indicating involvement included: Club TEC (32), Society of Manufacturing Engineers (10), Gaming Club (0), and Society of Photographic Artists (0).

When specifically asked about other campus student organizations, 25% of survey completers indicated involvement, with 75% indicating no involvement. In comparison with the total number of students completing the survey, 69% of agriculture majors, 77% of industrial and engineering technology majors, and 100% of the undecided majors showed no involvement in other campus student organizations. The campus student organizations with which students listed involvement consisted of social and academic Greek organizations; sports and cheerleading; and a variety of leadership and support

organizations, such as Emerging Leaders, Student Activities Council, Student Support Services, Minority Student Programs, plus residence hall organizations.

Focus group members were asked how students could be encouraged to get involved in departmental extracurricular activities. Respondents in both groups mentioned the importance of letting students know how the club and its activities would be beneficial. As one agriculture major commented, “You see flyers, okay, but I mean . . . what’s that going to do for me? I don’t feel educated in what the clubs have to offer . . . to me, in particular.” This sentiment was echoed by an industrial and engineering technology major, “When they are trying to promote these activities, they should say why they are doing it, more than promoting the activity itself.” He continued, “I see someone making an activity . . . for example this one [the focus group interview], and they don’t really tell me what’s important.” Another focus group member noted the significance of educating first-year students on the value of being involved in organizations: “Being involved in organizations and having a job and all that, is actually beneficial for your resume or if you’re going to grad school . . . especially, you know, to show that you’re a more well-rounded student . . . and not just, okay, I’m going to go take my classes . . . and then go home and study all night.”

Agriculture focus group members also suggested having requirements to maintain membership in departmental organizations. One attendee indicated, “I guess you can’t really make them . . . require them to join a club, but like, once you’re in a club, you ought to make them . . . joining a club comes with requirements. You have to put in so many hours to the club. You have to do something for the club.” Another student commented, “They join the club to put it on their resume . . . or for a free meal at lunch,

but then, there's five or six that really want to get something out of it, and they end up doing a lot of extra work to raise money to go on a trip, and then all 15 of them want to go on the trip, but didn't earn any of the money.”

A suggestion that arose in the agriculture focus group was utilizing departmental clubs and organizations to recruit majors for the department. One student described a similar program at another university. She also mentioned helping with a Show Me Day [an open-house type recruitment event for the entire University] and indicated, “It was so much fun to actually try to talk to kids about it.”

Research Question Two

Research Question Two asked: How satisfied are graduates of the academic unit, specifically with factors related to retention? To answer this question, results compiled by the departments from recent graduate survey administrations were reviewed. For the Department of Agriculture, this included surveys completed during the 2005 – 2006 academic year. For the Department of Industrial and Engineering Technology, this included results from fall 2003 (the last time an extensive evaluation of ten years of graduates was undertaken), fall 2005 and spring 2006.

Data from both departmental graduate surveys was viewed through the lens of factors affecting retention. The researcher specifically looked for items, both quantitative and qualitative, that addressed academic and social integration and interactions. The researcher also searched for items and responses that addressed the quality of instruction and academic advising.

Agriculture graduate surveys. Eight people completed Department of Agriculture graduate surveys during the 2005 – 2006 school year. Four questions in the survey

specifically addressed the items under review: (a) Rank the quality of the courses in the Department of Agriculture from 1 – 5 (1 = low), (b) Rank the quality of other courses you took at Southeast, (c) Do you feel that the faculty in the Department of Agriculture cared about you as a person? and (d) Rank the quality of the advising you received (1 – 5, 1 = low). All ranking choices were from 1 to 5, with 1 being the lowest and 5 being the highest.

In response to the questions regarding the quality of courses in the department and the quality of other courses at Southeast, the means were 3.50 and 3.125, respectively. Graduates did make several comments regarding instructors and departmental courses. One observed, “Instructors are great. The quality that we learn is great, but the information that is needed in the Agriculture job field is not covered. Wasted too much time on things not needed.” Another graduate noted, “Need more classes that focus on pests, diseases, etc. That is one of the most important things in Agriculture and covered the least. One semester of classes with entomology and weed science crammed in doesn’t do it.” No students made specific comments about courses outside the department.

When graduates were asked if they felt that the faculty in the Department of Agriculture cared about them as a person, they responded with a mean score of 4.75 (on a 1 – 5 Likert scale, with 1 being the lowest and 5 being the highest). One student, who rated this question as a 5, wrote “very much” beside the number selection. When asked to rank the quality of the advising they received, survey respondents indicated a mean score of 4.75 (on a 1 – 5 Likert scale, with 1 being the lowest and 5 being the highest). One student wrote a comment beside this question, indicating that his or her advisor “went above and beyond.”

Industrial and Engineering Technology graduate surveys. The Department of Industrial and Engineering Technology provided graduate survey results for review. The fall 2003 survey, the last time an extensive evaluation of ten years of graduates was undertaken, was of departmental graduates from all majors. The fall 2005 and spring 2006 surveys provided results from engineering technology graduates.

Results from the fall 2003 graduate survey administration of all majors were available from a secondary source, the 2004 accreditation self-study report that was prepared for the National Association of Industrial Technology Accreditation Board. Fifty-five graduates responded to the survey. Six items reported in the self-study specifically addressed the items under review by the researcher. The rating scale for graduate responses was 1 to 5, with 5 being very satisfied and 1 being dissatisfied.

Two items related to the quality of instruction: (a) Provided quality instruction, and (b) Faculty used appropriate teaching strategies to help you learn. Graduates rated these items 4.42 and 4.66, respectively. Two items were specifically related to academic advising: (a) Offered quality academic and program advising, and (b) Provided quality career advising and information. Graduates rated these items 4.75 and 4.15, respectively. Finally, several items addressed academic and social integration and interactions. Graduates provided an average ranking of 4.41 to the statement “Honest communication existed between faculty and students regarding student needs and concerns.” In response to the statement, “Faculty, in general, were accessible outside of class,” graduates provided a rating of 4.58. No qualitative comments from the 2003 survey were available for review.

Results from the fall 2005 and spring 2006 graduate surveys of engineering technology majors were provided electronically for review by the researcher. Fourteen graduates took the surveys.

There were no questions that specifically addressed the quality of instruction, nor any that specifically addressed academic and social integration and interactions. One of the students, in his or her additional comments, did note that there were “some excellent professors.” The majority of the questions included in the survey addressed the development of specific skills and the subsequent use of those skills on the job.

Although there was no question on the survey that specifically addressed academic or career advising, several students did make written comments related to finding a job after graduation. One noted, “The program could be strengthened by educating students on job searching. When I graduated I didn’t know how to go about looking for a job – i.e. job types, what I qualified for, etc.” Another graduate observed, “SEMO needs better job placement outside of the Cape/Sikeston area . . . I am very unsatisfied with SEMO in that respect.” This same student did mention two professors specifically, to thank them for their assistance.

Research Question Three

Research Question Three asked: What reasons do students who majored in the academic unit give for institutional withdrawal? To answer this question, the researcher contacted Polytechnic Studies majors who were enrolled at the beginning of the fall 2005 semester and who withdrew from the institution during or following the fall 2005 or spring 2006 semester. Each student was mailed a personalized letter to the last known address retrieved from the student records system. The researcher then attempted phone

contact with the students to ask them several questions, including their reasons for leaving Southeast Missouri State University, what they liked about their department and/or the School of Polytechnic Studies, and their suggestions for improvement. The researcher also asked each student if anything could be done to assist the person in returning to the institution.

Reaching a large number of students who withdrew proved difficult with out-of-date addresses and telephone numbers. Additionally, the researcher reached some parents who were reluctant to provide current contact information for their children. The researcher made contact with 17 former students.

After obtaining verbal consent, former students were first asked to explain their reasons for leaving Southeast Missouri State University. One student with whom the researcher spoke had since graduated from Southeast. Three people were enrolled in a cooperative Industrial Technology program in the St. Louis area; of these three, one had applied for graduation, and two were still working toward completion but were not enrolled in Southeast classes at some point between fall 2005 and fall 2006 which caused their names to appear on the list of students who withdrew. A handful of students were enrolled again in courses with the University, with a few pursuing majors outside of the School of Polytechnic Studies.

The reasons most often mentioned by students for leaving involved financial or personal and family matters. One student indicated that she “couldn’t get financial aid anymore.” Another noted that he “had trouble affording it.” He had hoped to get a job related to his major, but ended up doing something else to make ends meet. Several indicated the need to work full-time, making it difficult to stay in school. Personal and

family issues that were mentioned included being homesick, being stressed out, being in a relationship with someone who was living elsewhere, and getting pregnant. Several also mentioned personal and family illnesses.

A few former students made mention of not being sure about their majors. One mentioned that she was “really indecisive” about what she wanted to do. Another came to the University with a scholarship for a particular major, but she decided that she did not want to pursue that major any longer and the scholarship would not cover the new major.

Several students cited academic reasons for leaving. Although one young lady said that she “really didn’t want to leave,” she indicated that she was “flunking” her courses. Another former student noted that he “partied too much one semester” and got himself “into trouble.” He indicated that he failed to withdraw from his classes in time and was going to be “put on academic suspension.”

Former students were next asked what they liked about the Department of Agriculture, the Department of Industrial and Engineering Technology, and/or the School of Polytechnic Studies. In alignment with current students, many former students indicated that teachers and classes were the things they liked best. As summed up by one, “the teachers and classes were good.” Teachers earned the most comments. Former students mentioned teacher knowledge and organization: “liked the knowledge of the teachers,” “instructors were organized,” and “really went into in-depth explanations.” Others commented on personal relationships with the instructors: “teachers worked with you and didn’t single you out to make you feel like an idiot [which happened to this person in high school],” “teachers knew you,” and “treated well as a working adult.” Former students also indicated liking the classes they took. Several noted the breadth of

what was covered: “felt like they covered all the aspects” and “covering lots of things made it interesting and fun.” One student, who had been working in a technical field for 14 years, noted that he saw “lots of classes to help people learn advanced technology.”

Several former students noted good experiences with the Department of Agriculture, the Department of Industrial and Engineering Technology, and/or the School of Polytechnic Studies. One observed, “My experience was great.” Another mentioned, “I really enjoyed myself.”

Students in the St. Louis cooperative program noted the convenience and applicability of their studies. One said that he “did it [the program] for convenience.” Another noted that he liked that the program was local, easy and paralleled with his career. One student commented that the program “really met the needs of what I’m doing today.”

After former students were asked about strengths of the program, they were then asked to share their suggestions for improvement. Many students said that they could not think of any suggestions for improvement. Of the suggestions that were provided, several themes emerged, including expectations, depth of instruction, computer software, technology, and on-line classes.

Regarding expectations, one former student mentioned that he felt he was “sold a different program.” He said that he was not exactly sure what he expected, but he knew that he did not get it. Another student in the St. Louis cooperative program, who actually had continued on with his Southeast studies and was planning to soon graduate, mentioned that he was really looking for an engineering-type program. He said that

“having an engineering 2 + 2 would be a tremendous advantage” specifically with his employer.

Related to teachers and classes, several former students mentioned wanting more in-depth courses and instruction. One mentioned wanting “more than just introductory courses.” Another one indicated that “some of the teachers just didn’t go into enough depth in explanations.”

The related issues of technology, software and online courses received more than a few comments. One student suggested that his department should work on “keeping up-to-date with the technology” as “technology is always changing.” Another student, who had since graduated from Southeast, mentioned that he would have liked more database technology and indicated “that was lacking in some respects.” Comments related specifically to software included the desire to focus on one program per class instead of multiple programs and a complaint about a specific program that was described as “un-intuitive” and “a weird piece of software.”

Finally, several students specifically mentioned online classes. One former student expressed discontent with online classes, and indicated that his experience in his last online class was one of the reasons he had not returned to the institution. He commented that “teachers need to consider student lives outside of class,” and they “need to be flexible.” He continued, “When you work full-time, your schedule isn’t flexible, and that doesn’t work when the teachers are not flexible.” In regard to online classes, another student commented: “I’ve taken a bunch of web courses and another thing that would be helpful for the virtual student is a common web page format for the classes.”

He suggested that course home pages include the main headings for the week, with “all information” being “one layer down.”

Nearing the close of each conversation, former students were asked if the researcher could do anything to help them return to the University. Of those former students who had actually left the University, a number indicated a desire to return. Several discussed their changed lives with the researcher, including now being married and having children. Others discussed the number of courses or hours left to graduate with the same major. Several mentioned being interested in returning and pursuing different majors. The researcher discussed the process of returning and financial aid information (grants, loans, and scholarships) with those who expressed interest in returning.

Two students with whom the researcher spoke were currently attending other institutions. One had gotten married since leaving Southeast and was living in another part of the state. One was set to graduate with her associate’s degree at the end of the semester from a community college. Although she would have been interested in returning to Southeast, she had a child since leaving Southeast and needed to find a four-year institution within driving distance of her home.

Several students were not interested in or able to return to Southeast. One indicated that he was “probably not” interested in returning. Another had moved home to a different area of the state. One young man indicated that he “would love to come back to school,” but he was working two jobs trying to pay off his debt, including credit card debt, from when he attended.

Research Question Four

Research Question Four asked: Do differences between regularly-collected student records data exist between those students who were retained versus those who exhibited institutional withdrawal during or following fall 2005 or spring 2006? To answer this question, data provided by the Office of Institutional Research were reviewed. For non-fixed data, comparisons were made using fall 2005 fourth-week census records. Data regarding background characteristics, academic factors, and non-academic factors were reviewed.

Background characteristics, including high school academics. Background characteristics, including age, gender, ethnicity, marital status, and permanent residence, were reviewed for potential differences between those students who were retained versus those who exhibited institutional withdrawal. Additionally, high school grade point averages, ACT overall scores and ACT sub-scores were examined.

The mean age of students who persisted was 23.27 ($N = 511$; $SD = 6.81064$), while the mean age of those who withdrew was 25.65 ($N = 112$; $SD = 9.08985$). The minimum age was 17 for both groups, while the maximum age was 56 for those who persisted and 59 for those who withdrew. In terms of gender, the percentages of females and males were relatively close. Those who persisted were 21.3% female and 78.7% male, while those who withdrew were 23.2% female and 76.8% male.

The most noteworthy difference in terms of marital status between the two groups showed up in the percentages of students who were married. The breakdown of marital status for students who persisted was: .4% divorced, .8% single with dependents, 7.4%

married, and 91.4% single. The breakdown for those students who withdrew was: 1.8% divorced, 17.9% married, and 80.4% single.

The most notable variation that appeared in regard to ethnicity was the percentage of African American students who exhibited institutional withdrawal. Of the 511 students who persisted, 5.9% were African American, .6% were Asian, 90.6% were Caucasian, .4% were Hispanic, 1.4% were International, and 1.2% were classified as unknown. Of the 112 students who exhibited institutional withdrawal, 10.7% were African American, 85.7% were Caucasian, .9% were Hispanic, .9% were International, and 1.8% were classified as unknown.

High school grade point averages between students who persisted and those who withdrew were also compared. Information was not available for all students, as those who transferred to Southeast Missouri State University with 24 or more transferable hours were not required to provide high school records. High school grade point average information was available for 367 of the students who persisted. The mean was 3.25 ($SD = .55679$), with the grade point averages ranging from a minimum of 1.29 to a maximum of 4.0. The mean high school grade point average for the students who exhibited institutional withdrawal was 3.03 ($N = 71$; $SD = .61416$). High school grade point averages for those who exhibited institutional withdrawal ranged from a minimum of 1.02 to a maximum of 4.0.

Composite ACT scores, plus ACT sub-scores in English and math, were also averaged for the students who persisted and those with exhibited institutional withdrawal. As with other high school information, students who transferred to Southeast with 24 or more transferable hours were not required to supply ACT scores. The mean composite

ACT scores were 21.59 ($N = 404$; $SD = 3.49611$) for those who persisted and 20.70 ($N = 76$; $SD = 3.23324$) for those who withdrew. The minimum score for both groups was 11; the maximum was 32 for those who persisted and 31 for those who exhibited institutional withdrawal. When ACT math sub-scores were compared, those who persisted weighed in with a 21.22 mean ($N = 401$; $SD = 4.29596$; Range = 7 to 33), while those who withdrew had a mean of 19.97 ($N = 76$; $SD = 3.74868$; Range = 11 to 29). When ACT English sub-scores were compared, those who persisted had a mean of 20.37 ($N = 401$; $SD = 4.52807$; Range = 7 to 35), while those who withdrew had a mean of 19.50 ($N = 76$; $SD = 4.12634$; Range = 7 to 32).

Upon review of city, county and state of permanent residence figures, the most dramatic difference appeared between the percentages of Illinois students who persisted versus those who exhibited institutional withdrawal. Of the 511 persisters, 1% was international, .8% was from states other than Illinois or Missouri, 10.4% were from Illinois, and 87.9% were from Missouri. The breakdown of the percentages of students who withdrew was as follows: .9% Illinois, 1.8% states other than Illinois or Missouri, and 97% Missouri. Using actual numbers of Illinois residents, only one of the 54 students enrolled in the fall 2005 semester exhibited institutional withdrawal prior to the fall 2006 semester.

University-level academic and non-academic factors. University-level academic factors, such as college cumulative grade point average, academic standing, credits accumulated, class standing, and honors eligibility were compared for differences between those students who were retained versus those who exhibited institutional

withdrawal. Additionally, other non-academic factors, such as major, resident status, athlete status, and disciplinary standing were compared.

College cumulative grade point averages between students who persisted and those who withdrew were compared. Those who persisted had a mean cumulative grade point average of 2.91 ($N = 471$; $SD = .56046$; Range = 0.0 to 4.0), while those who exhibited institutional withdrawal had a mean cumulative grade point average of 2.75 ($N = 95$; $SD = .66048$; Range = .35 to 4.0). Closely related to grade point average is academic standing. Of the 511 students who persisted, 2.9% were on some form of academic probation, including beginning probation, continued probation, or transfer continued probation, or were classified as readmitted. The other 97.1% were in good academic standing. Review of the academic standing of those students who exhibited institutional withdrawal showed 7.1% as either beginning probation or readmitted, with 92.9% in good academic standing.

Class standing between students who persisted and those who withdrew were compared. Of those students who persisted, 12.9% were beginning freshmen, 5.7% were freshmen, 23.7% were sophomores, 24.1% were juniors, 32.7% were seniors, .6% were second degree students, and .4% were classified as either high school or dual enrolled. The students who withdrew from the institution were classified as 19.6% beginning freshmen, 18.8% freshmen, 17% sophomores, 13.4% juniors, 26.8% seniors, and 4.5% second degree. A clear difference exists between the percentages of first-year students who persisted and those who withdrew. Of those who persisted, 18.6% were classified as either beginning freshmen or freshmen; whereas, 38.4% of those who withdrew were classified either beginning freshmen or freshmen.

The number of credits accumulated between those students who persisted and those who withdrew were also compared. Students who persisted had a mean of 68.38 ($N = 511$; $SD = 41.11349$) credits accumulated by the fourth-week of the fall 2005 semester. The range of credits accumulated by those who persisted went from a minimum of 0 to a maximum of 181. Students who withdrew had a mean of 57.55 ($N = 112$; $SD = 46.72158$) credits accumulated by the same time, with the range beginning with a minimum of 0 and ending with a maximum of 197.

Several items that were compared between those who persisted and those who withdrew showed no real differences. Regarding honors eligibility, 5.5% of persisters were eligible for the honors program; whereas 5.4% of those who withdrew were eligible. Athlete status also showed no real difference; 2.7% of both those who persisted and those who withdrew were classified as athletes. And, finally, all of the students in both groups were classified as good standing in terms of disciplinary action as of the fourth-week of fall 2005.

When resident status for those who persisted versus those who withdrew was compared, the percentages were fairly consistent. Students who persisted were classified as 56.6% commuters, 21.7% local, and 21.7% on-campus housing. Those who withdrew were classified as 55.4% commuters, 20.5% local, and 24.1% on-campus housing.

In order to look for differences in terms of declared majors, the researcher calculated the percentage of students who withdrew from each major, based upon the total number of students enrolled in each major in the fall of 2005. The total number included all of those who persisted and those who withdrew. Five majors or combinations of related majors lost less than 10% of the student body to institutional withdrawal

between fall 2005 and fall 2006. The majors, followed by the overall percentage of each major that withdrew, included: Agribusiness: Plant and Soil Science (0%), Agribusiness: Horticulture (8.3%), Computer Technology: Automated Manufacturing (0%), Industrial Technology: Industrial Management (6%), and Engineering Technology: Manufacturing Systems plus Manufacturing Engineering Technology (9.8%). On the other end of the spectrum, six majors lost 25% or more of the overall percentage of majors enrolled between fall 2005 and fall 2006. Those majors, followed by the overall percentage of each major that withdrew, included: Agribusiness: Agriculture Industry (43%), Pre-Veterinary Medicine (25%), Industrial Technology: Technology Option (On-Campus) (26%), Industrial Technology: Technology Option (St. Louis) (41%), Pre-Architecture (46%), and Undeclared – Polytechnic Studies (29%).

Research Question Five

Research Question Five asked: For students who exhibited institutional withdrawal during or following fall 2005 or spring 2006, what was their student classification at the time of withdrawal? To answer this question, data provided by the Office of Institutional Research were reviewed. One hundred-twelve Polytechnic Studies majors withdrew from the institution during or following fall 2005 or spring 2006 or did not return in the fall 2006 semester. Upon review of student classification in the semester of institutional withdrawal, the following breakdown was determined (numbers are followed by a percentage of 112): 38 freshmen, including 10 beginning freshmen (34%); 23 sophomores (21%); 14 juniors (13%); 32 seniors (29%); and 5 second-degree students (4%). Based upon these figures, the two groups with the largest percentages of

institutional withdrawals during or following fall 2005 or spring 2006 were freshmen and seniors.

It is interesting to note that 11 of the 112 students who met the criteria to be evaluated within this research question were enrolled in the fall of 2005, were not enrolled during the spring of 2006, and then returned for the fall of 2006. This meant that 10% of students who exhibited institutional withdrawal either during or following the fall 2005 semester returned in fall of 2006. Of these 11 students, 1 was a freshman, 5 were sophomores, 2 were juniors, and 3 were seniors. If the breakdown of institutional withdrawals was revised using a total of 101 students who were not enrolled in the fall of 2006, the numbers and percentages of each student group exhibiting institutional withdrawal were as follows: 37 freshmen, including 9 beginning freshmen (37%); 18 sophomores (18%); 12 juniors (12%); 29 seniors (29%), and 5 second-degree students (5%). These revised calculations did not change the fact that freshmen and seniors were still the two groups which exhibited the largest percentages of institutional withdrawal during or following fall 2005 or spring 2006.

Research Question Six

Research Question Six asked: For students who exhibited institutional withdrawal during or following fall 2005 or spring 2006, do certain courses appear more frequently than others in the last semester of attendance? To answer this question, class enrollment data for the 112 students who exhibited institutional withdrawal were reviewed. The data were provided by the Office of Institutional Research. Courses with occurrences in five or more student schedules were noted.

Several courses taught by the Department of Industrial and Engineering Technology appeared five or more times. These included (course title is followed by the number of times it occurred in student schedules): IM102 – Technical Communication (7), IM211 – Industrial Safety Supervision (7), MN260 – Technical Computer Programming Applications (7), and UI410 – Manufacturing Research in a Global Society (5). No classes taught by the Department of Agriculture appeared five or more times.

A number of courses taught from other departments but required for Agriculture and/or Industrial and Engineering Technology majors occurred five or more times in the schedules of students exhibiting institutional withdrawal. The courses, with their numbers of occurrence, were as follows: AD101 – Introduction to Microcomputer Applications (7), CH181 – Basic Principles of Chemistry or CH185 – General Chemistry I (7), MA095 – Intermediate Algebra (7), MA133 – Plane Trigonometry (15), MA134 – College Algebra (12), MA139 – Applied Calculus (9), and PH120 – Introductory Physics I (9).

Numerous University Studies, or general education, courses also appeared five or more times in the schedules of students who exhibited institutional withdrawal. These courses, with their numbers of occurrence, were as follows: EN100 – English Composition (14), EN140 – Rhetoric and Critical Thinking (10), MC101 – Mass Communication and Society (5), MU182 – Music: An Artistic Expression (5), PS103 – U.S. Political Systems (5), PY101 – Psychological Perspectives on Human Behavior (6), SC105 – Fundamentals of Oral Communication (8), and UI100 – First-Year Seminar (12). Although some UI100 sections are taught within the Department of Agriculture and the Department of Industrial and Engineering Technology, students majoring in the departments are not required to enroll in the sections within their own departments.

Two non-course graduation requirements also appeared five or more times on the schedules of students who exhibited institutional withdrawal. CL001 – Career Linkages I - appeared in 10 student schedules. This requirement is most often linked with the UI100 – First-Year Seminar class, but it is occasionally taken separately. WP003, a Writing Proficiency Exam, to be taken after the completion of 75 semester hours, appeared in the schedules of 11 students.

Summary

The purpose of this chapter was to analyze the data gathered in response to the six research questions developed in consultation with the primary intended users and the retention committee. Little can be found in retention literature about what specific academic units can do to improve persistence of students. However, the researcher and the primary stakeholders of this evaluation believe that individual units must assess themselves in terms of strengths and weaknesses related to retention factors.

The data gathered for this evaluation and discussed in this chapter provided ideas for recommendations for improving the persistence of students within the School of Polytechnic Studies. These recommendations will be fully discussed and explained in chapter five. After the recommendations for improving persistence are outlined, recommendations for future research will be offered. Appendices, which include the satisfaction survey, recruitment letters, informed consent documents, and protocol and questions for discussions with focus groups and students who left the institution, follow.

CHAPTER 5

FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

Introduction

In the fall of 2005 in his State of the University message, the President of Southeast Missouri State University launched an initiative aimed at improving student success, with overall goals of increasing freshman-to-sophomore student retention and overall graduation rates. After numerous campus-wide discussions and much deliberation resulting in over 400 comments and suggestions for improving retention, a much shorter list of action items was developed. One of the action items charged the Deans and the Provost with exploring college and departmental level initiatives for improving retention.

As part of this initiative, a Utilization-Focused Evaluation of the retention in the School of Polytechnic Studies – the academic unit with the lowest retention rate from the fall of 2003 to the fall of 2004 - was undertaken. The purpose of this evaluative study was to provide data and input toward the development of a plan to improve retention within the academic unit.

Little can be found in the retention literature about what specific academic units can do to improve persistence of students. This is likely because most recommendations are more global in nature, encouraging a united front across the institution. However, for overall institutional improvement in persistence rates to occur, this researcher and the primary stakeholders of this evaluation believe that individual units must assess themselves in terms of strengths and weaknesses related to retention factors. Expectantly, this will lead to actions within the unit that will contribute to unit-level and institution-wide gains in retention.

This chapter begins with a summary of the evaluative study. Since the study was guided by Patton's (1997) Utilization-Focused Evaluation, with an articulated goal of providing recommendations to improve persistence in the School of Polytechnic Studies, the bulk of this final chapter will focus on the recommendations which were developed by the retention committee. Findings and conclusions which led to the recommendations will be imbedded within the discussion. Where appropriate, recommendations will be linked to the literature review. Although some recommendations do not have direct links to the literature reviewed for this study, they are included because the committee felt they could contribute to improved retention. After the recommendations for improving persistence are outlined, recommendations for future research will be offered.

Summary of the Study

Since the framework guiding this study was Patton's Utilization-Focused Evaluation (1997), the research questions, and the means for data collection, instrumentation and analysis were developed in consultation with the primary intended users and the retention committee. The following research questions served as a guide:

1. How satisfied are current students (those who are persisting within the academic unit) specifically with factors related to retention?
2. How satisfied are graduates of the academic unit, specifically with factors related to retention?
3. What reasons do students who majored in the academic unit give for institutional withdrawal?

4. Do differences between regularly-collected student records data exist between those students who were retained versus those who exhibited institutional withdrawal during or following fall 2005 or spring 2006?
5. For students who exhibited institutional withdrawal during or following fall 2005 or spring 2006, what was their student classification at the time of withdrawal?
6. For students who exhibited institutional withdrawal during or following fall 2005 or spring 2006, do certain courses appear more frequently than others in the last semester of attendance?

In order to answer these research questions, both quantitative and qualitative methods were employed. Data were collected through a current student satisfaction survey, focus groups, graduate exit surveys, a review of student records data, and contact with students who withdrew from the institution. The content of the current student satisfaction survey was influenced by the review of literature and was developed in consultation with the primary intended users and the retention committee. Over one-third of the current students majoring in each department took the student satisfaction survey.

The population, or the larger group to which the results of this evaluative study were generalized (Fraenkel & Wallen, 2003), was students who had majors declared within the School of Polytechnic Studies. The actual sample, or subjects of the study (Fraenkel & Wallen), consisted of three groups of students: (a) students enrolled in a select group of courses, chosen by faculty to provide a representative sample of all departmental majors and grade levels, (b) sub-samples, such as those who persisted or graduated and those who withdrew, from all students who were declared as majors within the School of Polytechnic Studies during the fall 2005 and spring 2006 semesters, and (c)

students who took the graduate exit surveys the last times these were administered by each department.

The data gathered in response to the six research questions provided inspiration for recommendations for improving the persistence of students within the School of Polytechnic Studies. These recommendations will be fully discussed and explained in this chapter. After the recommendations for improving persistence are outlined, recommendations for future research will be offered.

Recommendations for Improving Persistence in the School of Polytechnic Studies

In general, the results of this study indicate that the School of Polytechnic Studies is doing many things well. The first research question asked: How satisfied are current students (those who are persisting within the academic unit) specifically with factors related to retention? As the means and comments from the satisfaction survey showed, many students were satisfied. When scoring items specifically linked to Agriculture, Industrial and Engineering Technology and/or Polytechnic Studies, students rated the lowest item (departmental academic experience) at just below 80%. The highest overall ranked item was interactions outside the classroom with other students, at over 85%. Another telling figure was that 92% of survey respondents would recommend a major in the School of Polytechnic Studies to a friend.

Even with current student satisfaction rankings specifically related to Agriculture, Industrial and Engineering Technology and/or Polytechnic Studies hovering around 80%, there is still room for improvement. As one student commented in the satisfaction survey, “A fairly good experience, but nothing is 100% perfect.” Another one commented, “Love the staff and program but it is not without some flaws.”

As mentioned previously, college student departure has been described as an “ill-structured problem” – a problem that defies a single solution and instead requires a number of possible solutions that may not improve the condition (Braxton et al., 2004, p. 2). As many authors suggested, there is no single retention template for colleges and universities to follow; instead, each institution must develop a coordinated strategy of policies and interventions to meet its particular needs (Berger & Lyon, 2005; Braxton et al., Swail et al., 2003; Tinto, 1990). Furthermore, institutions must implement multiple strategies to address their needs. As summed up by Pascarella and Terenzini (1991), “rather than seeking single large levers to pull in order to promote change on a large scale, it may well be more effective to pull more small levers more often” (p. 655).

In this same vein, the Polytechnic Studies Retention Committee, upon review of data that emerged in answer to the research questions, offers the following recommendations for improving the persistence of students within the Department of Agriculture, the Department of Industrial and Engineering Technology, and the School of Polytechnic Studies. For ease in comprehension, recommendations are grouped together under the following headings: experiential learning, instructional content, classroom strategies, campus resources, intentional student contacts, value of a liberal education, communication with students, graduate follow-up surveys, student finances, transfer students, advising, student involvement, facilities and equipment, and recruitment.

Experiential Learning

Many students who are attracted to the Department of Agriculture and the Department of Industrial and Engineering Technology programs are by nature “hands-on” students, who like to do projects and apply to real-world settings the concepts they

are learning in the classroom. With this in mind, it was expected these types of experiences would be addressed by the students in the study.

Review every single course in both departments for expanded meaningful hands-on experiences and real-world applications. Within the study, students expressed both positive and negative comments regarding experiential learning. On the one hand, students were appreciative of the hands-on and real-world experiences they gained. According to one student, “I have learned a lot not just by studying but by hands on experience too.” On the other hand, students clearly desired more of these applications and experiences. Numerous students mentioned that they would like to see more “real world application” and “more practical experiences.” As noted by one student, “some classes focus too much on book knowledge and not enough on real world applications.”

Agriculture students made specific suggestions in relation to hands-on experiences, including recommendations for more applications with row-crops and small animals. Additionally, agriculture focus group attendees were quite vocal about their disapproval of instances in which they felt they were providing free labor for the University and not reaping educational benefits.

Labs and their utilization were also mentioned by students in both departments. Agriculture students would like to see more use of the farms and the greenhouse, with a lessened focus on making a profit at each. An industrial and engineering technology focus group attendee recounted experiences in labs where several students were working in groups. Because of the lab set-up, not all group members got equivalent experiences; some were performing actions while others watched. “I think we can get more experience and learning when we actually are performing something than when we are just watching

something.” A similar comment was made by an agriculture focus group member, “You’ve got to learn by doing it . . . I’m not learning anything watching it, you know.” It is important for labs to be constructed so that each student has the opportunity for an equivalent hands-on experience.

Incorporate additional field-trip type experiences. In addition to students suggesting more “real-world application” and “practical experiences,” they also suggested that additional field trips would be valuable. Agriculture focus group members suggested that the department utilize established resources in the area, through field trips and even short-term lab opportunities. Specifically mentioned were excursions to row crop farms, demonstration fields, vineyards and fish ponds. Agriculture focus group attendees described in positive terms some of their field trip type experiences, and as summed up by one student, “Bottom line – I think we need to get out and see things. There’s more than just the SEMO farm. There’s more than just my farm or your farm or whosever farm.”

Instructional Content

A key element of any college experience is, of course, the in-class experiences through which students interact with faculty. Swail et al. (2003) cited curriculum and instruction as “perhaps the most important fundamental needs that colleges must address in terms of student retention” (p. 103-104). They offered four recommendations for addressing curriculum and instruction, with a specific focus on retention: using a variety of delivery methods that focus on comprehension rather than memorization, reviewing curricula regularly to assure congruence with society’s needs, encouraging faculty professional development, and implementing new assessment techniques. Several of the

recommendations found in the literature review correlate with recommendations regarding instructional content and classroom strategies developed by the Polytechnic Studies Retention Committee.

At the beginning of each class each semester, discuss course expectations with students. As mentioned earlier, the lowest overall ranked satisfaction item on the current student survey directly related to the departments was departmental academic experience; students ranked their departmental academic experiences at just below 80%. A theme that emerged from both departments was a feeling that some classes are not challenging enough. While the industrial and engineering technology comments were made on the survey itself, the issue was raised by the agriculture students during the focus group. According to one industrial and engineering technology major, “I did not feel like I learned a significant amount of knowledge despite 2 years of A and B grades.” An agriculture major commented in the focus group: “In general, the classes, I think . . . the curriculum needs to be a lot tougher. Most of them are . . . a lot of the classes are pretty easy; they’re not challenging at all. I don’t get near enough out of it. It’s not stimulating enough.” Several survey respondents mentioned perceived instructional content limitations, such as “there are some [faculty] that need a more better understanding of what the students want and need out of the courses.” A few survey comments related specifically to assignments given by instructors: “I would like more homework because I don’t understand when teachers just lecture or give notes” and “a few more little assignments assigned by the professor.”

Discussing expectations at the beginning of the semester would give both instructors and students a basis for preparing for and assessing the rest of the semester. In

addition to discussing expectations with students at the beginning of each course, course evaluations at the end of the semesters can be used to gather input regarding student suggestions for improvement.

Regularly review content of related courses within each department, to eliminate redundancy and ensure that classes build upon each other. Of concern specifically to Department of Agriculture survey respondents and focus group participants was a feeling of redundancy in some classes. Courses that were mentioned several times by students included agriculture business classes (marketing, finance, economics) and some of the animal-based classes (beef production, animal breeding, animal science). As summarized by one student's survey comment: "I feel that we are taking the same class over and over and it seems that it's more of a review at times." An agriculture focus group member noted, "A lot of our general classes are the same thing being taught over and over again, and we're spending three times the money that we're getting out of one class. Whereas, we could instead, be taking more specific classes for our emphasis . . . getting more prepared for grad school or for a job."

Encourage faculty to make and keep connections with local major-related organizations. One of the recommendations cited in the literature review by Swail et al. (2003) was reviewing curricula regularly to assure congruence with society's needs. One agriculture graduate, highlighting the importance of keeping curricula in line with society's needs, observed: "Instructors are great. The quality that we learn is great, but the information that is needed in the Agriculture job field is not covered. Wasted too much time on things not needed." Making connections with local major-related organizations will help faculty stay up-to-date with current trends and needs, thus

allowing them to incorporate this material into the curriculum. These connections will also allow for contacts with outside sources who can convey to students how what they are learning in the classroom relates to real-world environments. Additionally, these contacts may help current students and graduates secure major-related employment.

Classroom Strategies

Braxton et al. (2004) recommended that faculty members be encouraged to improve on their existing teaching methods and to acquire new ones that encourage student persistence. It was also recommended that faculty earn credit toward the promotion and tenure reward system for using methods that facilitate student retention (Braxton et al., Swail et al., 2003). One way to place a special focus on teaching methods is to host faculty meetings dedicated solely to the topic.

Incorporate periodic faculty meetings that focus specifically on teaching strategies. Findings from the evaluative study showed that while many students agreed that faculty were very knowledgeable, some indicated a desire for knowledge beyond textbooks and for improved or revised teaching methods. One student commented, “There are some instructors who are well knowledgeable in the area, however, they are not as good at explaining/teaching.” Another student observed, “Some faculty could know more about the subject they are teaching besides what comes out of a book.” Other students stated their desires for faculty to teach more to their level: “Teachers can’t be simple.”

A few suggestions regarding teaching approaches were supplied by students in the industrial and engineering technology focus group. One was the use of more visual aids, including video clips, to show students real-world applications of what they are learning.

Additionally, students suggested that instructors exhibit patience and break down concepts into details to aid comprehension. As one student commented [about a helpful professor]: “I think if we had more instructors like that – that just went into more detail and made sure that you understand it as much as they did, that a lot of people would be more satisfied.”

At periodic faculty meetings focusing specifically on teaching strategies, faculty can share ideas with each other, and staff from the Center for Scholarship in Teaching and Learning (CSTL) can be invited as guest speakers. Additionally, new faculty can be paired with seasoned faculty who earn good instructor evaluations as mentors.

Encourage faculty who speak English as a second language to begin each semester using PowerPoint or other visual aids to aid student comprehension. More than a few industrial and engineering technology majors commented in the survey on faculty who spoke English as a second language. One stated, “I have trouble understanding why I am focusing on understanding what the professor says rather than what he is teaching. As in the English language.” Several students observed that faculty were good instructors, but that language barriers made understanding difficult at times. One student remarked, “good, educated individuals, but hard to understand sometimes.” One of the students who left the University noted that he could not understand some of his international instructors, which made learning difficult. He indicated that the professors, although really smart, did not always understand the questions students were asking, and in addition, did not always answer on the students’ levels.

An industrial and engineering technology focus group member, who also happened to be an international student, compared three of his instructors who spoke English as a second language. He described two as “really amazing in what they were doing.” He noted difficulties in taking an online class with an instructor who spoke English as a second language: “Because . . . like sometimes . . . they didn’t make sense on what they are typing, and when they are face-to-face, it’s better, because they can explain it with . . . I don’t know . . . hand motions.” He suggested that online instructors should be more detailed in email communications.

Although using PowerPoint or other visual aids will not eliminate the language barriers experienced between faculty and students, these can help both parties feel more comfortable with the material that is being presented. These visual aids should be utilized until the faculty members and students agree that they are no longer necessary. Additionally, instructors who speak English as a second language should be encouraged to ask other faculty to review their instructional materials, especially online materials, for clarity.

Campus Resources

Learning support is a concept related to curriculum and instruction. The umbrella classification of learning support was one of the main categories of practices responsible for the greatest contribution to retention in four-year public institutions, according to a fairly recent ACT survey (Habley & McClanahan, 2004). Learning support includes items such as developmental education courses, supplemental instruction, study groups, comprehensive learning centers, summer bridge programs between the senior year in high school and the first year in college, and tutoring programs (Habley & McClanahan; Swail

et al., 2003; Tinto, 2005). Based upon data that emerged from this evaluative study, the Polytechnic Studies Retention Committee offers several recommendations related to campus resources and learning support.

Faculty and professional advisors should stay up-to-date on available campus resources and should refer students as needed to these sources of learning support. Data analysis for several research questions contributed to this recommendation. The current student satisfaction survey, used to partially answer research question one, included an item in which students were asked to rate their satisfaction with the campus resources and support available to them. A related survey item asked students to indicate their knowledge and use of a variety of campus resources. Students were further asked to indicate if Polytechnic Studies instructors recommended the resources. Research question four examined the differences between regularly-collected student records data for students who persisted versus those who withdrew, including college grade point averages and ACT scores. And, finally, to answer research question six, the course schedules of students who exhibited institutional withdrawal were reviewed to determine which courses appeared more frequently than others in the last semester of attendance.

A good portion of students in both departments who took the current student satisfaction survey (in partial response to research question one) indicated that they had rarely or never used the campus resources available to them. A number of students also indicated not knowing about certain campus resources. A huge majority of agriculture majors indicated that Polytechnic Studies instructors had not recommended any of the listed campus resources. As one commented, “I rarely think to use them, no encouragement to do so.” As explained by Tinto (2005), “Unfortunately, more than a few

students enter the university insufficiently prepared for the rigors of university study. For them, as well as for others, the availability of academic support . . . is an important condition for their continuation with the university” (Tinto, p. 322). Referring students to campus resources encourages them to be proactive in seeking assistance for their needs.

According to Lenning (1982), most students who leave college have satisfactory grades, although they do tend to be slightly lower than the grades of persisters; “therefore, those who exhibit any sign of academic difficulty (for example, low grades, self-report of study problems) during the first term probably deserve special observation and attention” (p. 37). In comparing the college cumulative grade point averages of those who persisted and those who withdrew, Lenning’s words rang true. The grade point averages of those who withdrew were slightly, but not dramatically, lower than those who persisted. The mean college cumulative grade point average of students who persisted was 2.91 ($N = 471$; $SD = .56046$), while the mean of those who exhibited institutional withdrawal was 2.75 ($N = 95$; $SD = .66048$).

ACT composite, and ACT math and English sub-scores provided similar results. The mean composite ACT scores were 21.59 ($N = 404$; $SD = 3.49611$) for those students who persisted and 20.70 ($N = 76$; $SD = 3.23324$) for those with withdrew. When ACT math sub-scores were compared, those who persisted weighed in with a 21.22 mean ($N = 401$; $SD = 4.29596$), while those who withdrew had a mean of 19.97 ($N = 76$; $SD = 3.74868$). When ACT English sub-scores were compared, those who persisted had a mean of 20.37 ($N = 401$; $SD = 4.52807$), while those who withdrew had a mean of 19.50 ($N = 76$; $SD = 4.12634$). As suggested by Lenning (1982), students – especially first-year

students - exhibiting any sign of academic difficulty should be referred to available campus resources.

Between 30 and 40 percent of all incoming first-year students enter the college setting unprepared for college-level reading and writing; as a consequence, roughly 44 percent of all college students who complete two- or four-year degrees registered in at least one remedial writing, reading or math class. Inadequate academic preparation is one of the primary reasons that many students leave college during or immediately following their first year (Swail et al., 2003). When the schedules of students who exhibited institutional withdrawal were reviewed (for research question six), several English and math courses appeared five or more times: EN100 (English Composition), EN140 (Rhetoric and Critical Thinking), MA095 (Intermediate Algebra), MA133 (Plane Trigonometry), MA134 (College Algebra), and MA139 (Applied Calculus). In addition, several courses requiring math prerequisites also appeared: CH181 (Basic Principles of Chemistry), CH185 (General Chemistry I), MN260 (Technical Computer Programming Applications), and PH120 (Introductory Physics I). One non-course graduation requirement that also appeared five or more times in the schedules of students who exhibited institutional withdrawal was WP003, a Writing Proficiency Exam, to be taken after the completion of 75 semester hours.

Faculty and professional advisors should use opportunities in advising and teaching to refer students to appropriate campus resources. Departmental staff members should also feel comfortable making referrals. For example, students can be referred to the Writing Center when they need to improve their writing skills in departmental classes, they are struggling in an English class, when they have lower English ACT sub-scores,

and/or when they are preparing to take the WP003, the 75 Hour Writing Proficiency Exam. Students should be referred to the Math Learning Center when they have lower math ACT sub-scores and when they are experiencing difficulties in any math class. Students should also be referred to the Learning Assistance Programs and Disability Support Services Office when they would benefit from tutoring.

Representatives from the wide range of campus resources should be invited on a regular basis to share information and processes for referring students with faculty and staff. In addition, the use of some form of brochure or handout with campus resources information should be encouraged. This information can be shared with students during an initial advising appointment, in addition to being used when referrals to specific offices are made.

Provide tutoring for departmental courses in which students often struggle.

Several sources can provide information about which courses would be good candidates for the provision of tutoring. Departmental course rosters can be tracked to determine those courses which produce a larger numbers of withdrawals and larger percentages of Ds, Fs, and Xs. Additionally, as was done for research question six, the last semester schedules of students who exhibit institutional withdrawal can be reviewed for departmental courses which appear more frequently.

Several courses taught by the Department of Industrial and Engineering Technology appeared five or more times in the last semester schedule of the 112 students exhibiting institutional withdrawal. These included (course title is followed by the number of times it occurred in student schedules): IM102 – Technical Communication (7), IM211 – Industrial Safety Supervision (7), MN260 – Technical Computer

Programming Applications (7), and UI410 – Manufacturing Research in a Global Society (5). No classes taught by the Department of Agriculture appeared five or more times.

According to Astin (1985), under prepared students often have special problems with involvement. In combining recommendations from Astin and Tinto, academic support should be “connected to, not isolated from, the learning environment in which students are asked to learn” (Tinto, 2005, p. 323) and should involve student peers as tutors. If tutoring is provided by departmental majors, this will allow for an extra connection opportunity for students who are struggling.

Encourage students to utilize services provided by Career Linkages, beyond what is required for graduation. Students in both departments made comments, in response to the current student satisfaction survey and in the focus groups, about their fears of not being prepared for the next step after college - whether that step was a career or graduate school. One industrial and engineering technology survey respondent noted, “I feel like I have learned a massive amount of information, but I don’t know that I’m fully prepared for a job in this career.” An agriculture survey respondent commented, “Many students including myself feel unprepared for our careers.” Additionally, several industrial and engineering technology graduates commented on finding a job after graduation. One noted, “The program could be strengthened by educating students on job searching. When I graduated I didn’t know how to go about looking for a job – i.e. job types, what I qualified for, etc.” Another graduated observed, “SEMO needs better job placement outside of the Cape/Sikeston area . . . I am very unsatisfied with SEMO in that respect.” One agriculture focus group member described his perception of job placement assistance at Southeast as “here’s your degree, good luck on your job.”

Not all students who took the current student satisfaction survey were obligated to participate in four career proficiency checks as part of their graduation requirements, as these were not required until the fall semester of 2005. Although the implementation of these career proficiency checks will oblige students with newer catalog years to utilize the assistance provided by the Office of Career Linkages, supplementary interaction can be encouraged by the faculty and professional advisors. Career advisors can help students feel more confident about the education they have obtained and assist them in writing and updating resumes, searching for internships, searching for jobs in a variety of locations, applying to graduate schools, and practicing interviewing skills. Students interested in employment in the St. Louis area should be encouraged to contact the St. Louis Career Specialist who works specifically with St. Louis area job development. Faculty should also be encouraged to invite the Polytechnic Studies Career Advisor into their classrooms to provide guest lectures on topics related to searching for careers, internships and graduate programs.

Intentional Student Contacts

Much was said in the review of literature about the importance of student and faculty contact. Tinto (1990) found that the quality of faculty teaching and the nature and extent of faculty contact, both inside and outside the classroom, were predictors of student persistence and student learning gains. According to Lotkowski et al. (2004), “frequency and perceived worth of interaction with faculty, especially outside the classroom is the single strongest predictor of student voluntary departure” (p. 36). These interactions with faculty, who often serve as role models, tend to increase students’ social

integration and institutional commitment, in addition to increasing their academic integration.

As indicated by Astin (1985), frequent interactions with faculty members are more strongly correlated to college satisfaction than any other type of involvement; consequently, “institutional planners and administrators would do well to ask how much contact their students currently have with professors and whether there are means available to increase this contact” (p. 163). Although meaningful contact is important for all students, some student groups would benefit from additional intentional contacts. These groups include: first-year students; international students; minority students; non-traditional students; non-enrolled students; students on any form of academic probation; students exhibiting behaviors such as non-attendance, poor grades, etc.; students in cooperative programs; and students who leave the institution.

Encourage faculty to continue to take expressed personal interest in all students, both in the classroom and in advising. As indicated by Swail et al. (2003), informal contact between faculty members and students should be encouraged as it builds trust, support, self-worth, and motivation. Student comments in this evaluative study spoke volumes about the importance of interactions with faculty. Numerous students commented in the satisfaction survey that faculty and staff were caring, helpful and friendly. An agriculture major stated that faculty and staff “seem to care about students (learn names, show concern about personal lives, etc.)” Another agriculture major commented, “I recently switched from a major where most of my teachers didn't know our names. Since I switched, all of my teachers have been so friendly and helpful.” One of the industrial and engineering technology majors observed, “Most faculty in the

Polytech honestly care that you leave with a great education.” A comment by one student showed the impact and lasting impression faculty interactions make: “All but one professor has taken time out of their schedule to help me over a course of four years.”

When Department of Agriculture graduates were asked if they felt that the faculty in the department cared about them as a person, they responded with a mean score of 4.75 (on a 1 – 5 Likert scale, with 1 being the lowest and 5 being the highest). One student, who rated this question as a 5, wrote “Very much” beside the number selection. In the current student satisfaction survey, some students commented about faculty saying “hi” in the hallways. As one agriculture major mentioned, “The staff almost always says ‘hi’ to you if they see you walking and aren’t busy. This, to me, allows me to freely talk in class during discussions.” Other students mentioned the importance of faculty recognizing them: “They know who I am,” and “Faculty recognizes who you are.” One industrial and engineering technology major observed, “A few of my instructors seem happy to see me outside of class, and that improves my impression of them.” Students who had left the institution also made some positive comments about their interactions with the faculty, including “the teachers knew you . . . good one-on-one” and “the teachers worked with you and didn’t single you out to make you feel like an idiot.”

Initiate special contacts with first-year students, both beginning and continuing.

Numerous authors indicated the importance of focusing on first-year students, as most students who drop out of postsecondary education do so during or immediately following their first year of college (Blöse, 1999; Education Commission of the States, 2004; Strumpf & Hunt, 1993; Tinto; 1987; Yockey & George, 1998). In fact, between one-half

and three-quarters of students who leave institutions do so during or immediately following the first year (McClanahan, 2004; Strumpf & Hunt; Tinto, 1987).

Research Question Five asked: For students who exhibited institutional withdrawal during or following fall 2005 or spring 2006, what was their student classification at the time of withdrawal? Of the 112 students who left the institution, 38 or 34% were classified as first-year students in the semester of withdrawal. Research Question Four asked: Do differences between regularly-collected student records data exist between those students who were retained versus those who exhibited institutional withdrawal during or following fall 2005 or spring 2006? To answer part of this question, class standing between those who persisted and those who withdrew was compared as of the fourth-week of fall 2005. First-year students, beginning and continuing, comprised 18.6% of those students who persisted, as compared to 38.4% of those who exhibited institutional withdrawal. Based upon a comparison of the percentages of first-year students who persisted versus those who withdrew, there is clear evidence to endorse a special focus on first-year students.

According to Upcraft and Gardner (1989), first-year involvement is enhanced by interaction between students and others in the academic community. First-year students are more likely to succeed when they find others who care about them, especially faculty. Based upon this, both departments should continue to offer UI100 [First-Year Seminar] sections within the departments, with new majors being encouraged to enroll in the departmental sections. This will provide additional opportunities for faculty to develop relationships with new majors, especially if outside class activities are planned.

First-year students are not the only group of students who would benefit from intentional contacts. In the coming years, there is expected to be a decline in the overall rate of population growth in the United States. Not only will the rate of growth decline, but there will be changes in the source of the growth. As a result, students on university campuses will become increasingly diverse in terms of race, culture, ethnicity, age and gender, so colleges and universities must be willing to make major changes in their approaches, if they are to best serve these students (Murdock & Hoque, 1999; Upcraft & Gardner, 1989).

Have the chairperson or a faculty member make special contact with international students, either individually or in groups. The current student satisfaction survey contained ten questions for which students were asked to rank their levels of satisfaction. When these ten satisfaction rankings were compared by disaggregated data, those identified as international students gave the lowest ranking in five of the ten items. Although just four percent of students completing the satisfaction survey identified themselves as international students, these nine students were noticeably less satisfied.

One question in the survey asked students to indicate if the education they were obtaining at Southeast was worth the money it was costing them. When results were disaggregated by ethnicity, the students who marked either foreign citizen or designated an international hometown indicated 22% yes, 44% no, and 33% not sure. Several monetary factors could contribute to these international student ratings. International students do pay incidental fees at the same rate as out-of-state residents. When making application to the University, they also pay a higher application fee. Moreover, in order to obtain visas, international students must be able to document that they have adequate

financial support; for undergraduate students, this level of monetary support has to meet or exceed nearly \$18,000 per school year (for the 2008-2009 school). Due to their higher costs, international students may, in turn, have higher expectations.

If the chairperson or a faculty member makes a special point of seeking out the international students to check in with them, this could help improve their satisfaction levels. In addition to these special contacts, international students should be encouraged to actively participate in programming offered by the Office of International Education and Services.

Initiate special contacts with minority students, specifically African American students. Another group of students who could benefit from intentional contact is minority students. “Given that the United States will become significantly ‘less white’ over the course of the next fifty years, issues of color cannot be ignored” (Swail et al., 2003, p. 2). With expected changes in the population in the coming years, more and more students from minority backgrounds, specifically Latino and African American, will be entering higher education settings. This growth will be composed primarily of those students who will encounter the most hurdles between high school graduation and college graduation (American Association of State Colleges and Universities, 2005).

Students who identified themselves as minorities on the current student satisfaction survey indicated the lowest level of satisfaction among all disaggregated groups with their overall experience at Southeast. In addition, 40% of minority students answering the survey indicated that they were not sure if the education they were obtaining was worth the money it was costing them. Also, when data were compared for those students who were retained versus those who exhibited institutional withdrawal, the

most notable variation that appeared in regard to ethnicity was the percentage of African American students who exhibited institutional withdrawal. Of the 511 students who persisted, 5.9% were African American. Of the 112 who exhibited institutional withdrawal, 10.7% were African American.

As noted by Swail et al. (2003), “With regard to underrepresented minorities in universities, contact with positive role models is even more significant than it is for majority students” (p. 65). Lotkowski et al. (2004) offered several recommendations including pairing first-year minority students with a big brother or big sister, in the form of an upper-class student or a faculty member who can provide support, tutoring, and study skills assistance. They also suggested that multicultural centers can provide a place for minority students to congregate and share common interests while they receive academic and social support. Based upon this information from the review of literature, contacts with minority students could be even more effective if they were made by minority faculty or upper-level minority students. Students who are minorities should also be encouraged to actively participate with the Office of Minority Student Programs.

Initiate special contact with nontraditional students, especially those who are married. Another group of students meriting additional intentional contacts is nontraditional students, specifically those who are married and have families. Bean and Metzner (1985) presented a conceptual model of attrition, specifically focused on nontraditional students. Nontraditional students (older than 24, or not living in a campus residence, or part-time – or a combination of these factors) are not significantly influenced by the institution’s social environment. Instead, they are more concerned with the academic offerings, specifically courses, certification and degrees. Bean and Metzner

indicated that “the chief difference between the attrition process of traditional and nontraditional students is that nontraditional students are more affected by the external environment than by the social integration variables affecting traditional student attrition” (p. 485).

In analyzing the data for research question four, which asked if differences exist between regularly-collected student records data between those who were retained versus those who exhibited institutional withdrawal, the most noteworthy difference in marital status showed up in the percentages of students who were married. The breakdown of marital status for those who persisted included 7.4% who were married. On the other hand, 17.9% of those students who withdrew were married. In addition, when students who left the institution were contacted by the researcher to answer research question three, a number of students – some who were then married and/or had children, mentioned personal and family reasons for leaving the institution. Several also indicated the need to work full-time, making it difficult to stay in school.

As mentioned in the literature review, nontraditional students are less likely to participate in the social aspects of the University. If faculty and staff make intentional efforts to initiate contact with nontraditional students, specifically those who are married and have multiple responsibilities outside school, these students may be more open to discussions with the faculty about how to best balance their many activities. For example, faculty might discuss reasonable course loads with nontraditional students; these students might be encouraged to take fewer courses, allowing them to better allocate their time to work, family, school and other responsibilities. Nontraditional students might also be encouraged to network with other nontraditional students to form a network of support

(shared babysitting, carpooling, etc.). Additionally, these students should be encouraged to utilize any campus resources that would prove beneficial.

After the priority enrollment period has ended each semester, make personal contact with those students who are not enrolled for the next fall or spring semester, unless they are graduating. Making personal contacts with students who are not enrolled will let them know that they are important to the institution. Students could be dealing with issues that feel overwhelming or annoying, but discussing them with a concerned institutional representative could lead to potential solutions.

When the researcher contacted former students who withdrew from the institution to gather data regarding their reasons for leaving (research question three), numerous contributing factors were mentioned. Some of these issues had potential solutions. For example, one student mentioned being locked out of his Southeast email account after dropping his only class for the semester. When this happened, it contributed to his decision to not return. Several students mentioned going to work full-time. Had someone encouraged them to continue taking classes at least part-time, they might have persisted through to graduation. Other students mentioned financial issues. Discussions regarding financial aid and scholarship opportunities plus referrals to Student Financial Services could have encouraged these students to persist. Others mentioned questions about their major choices and stresses in their personal lives. Referrals to appropriate resources, such as Career Linkages or Health and Counseling Services, could have encouraged these students to seek solutions and persist to graduation.

Work with students on any form of academic probation (beginning, continuing, transfer, or readmitted students) to develop a plan to address problem areas. According to Pascarella and Terenzini (1991), “A student’s grades are probably the most revealing indicator of his or her successful adjustment to the intellectual demands of a particular college’s course of study” (p. 388). College grades may affect persistence and withdrawal decisions for numerous reasons: students with low grades are forced to withdraw involuntarily, grades serve as an extrinsic reward for students, and grades may equate to compensation in work settings (Bean, 1985).

When the researcher looked for differences between students who persisted and those who withdrew for research question four, academic standing stood out as one difference. Of the 511 students who persisted, 2.9% were on some form of academic probation, including beginning probation, continued probation, or transfer continued probation, or were classified as readmitted. Review of the academic standing status of those students who exhibited institutional withdrawal showed 7.1% as either beginning probation or readmitted.

Many students who end up on some form of academic probation exhibit a variety of behaviors, such as non-attendance, poor grades, poor study habits, etc. Catching these students with early intervention could prove beneficial. Additionally, it is important for faculty advisors to know the meanings of the different categories of academic probation and to know how to communicate with campus resource staff about students on probation. For example, some students who are advised by faculty have conditions for continued enrollment, such as meeting with staff in the Office of Learning Assistance

Programs and Disability Support Services (formerly Learning Assistance Programs) to develop plans of action for improved performance.

Instructors and/or advisors should make contact with students (especially first-year students) who are exhibiting behaviors which serve as early warnings of academic problems, such as non-attendance, poor grades, not turning in assignments, poor study habits, etc. According to Lenning (1982), most students who leave college have satisfactory grades, although they do tend to be slightly lower than the grades of persisters; “therefore, those who exhibit any sign of academic difficulty (for example, low grades, self-report of study problems) during the first term probably deserve special observation and attention” (p. 37). Lotkowski et al. (2004) suggested that institutions can monitor student performance (in the way of exams, presentations, and class participation) and attendance patterns to identify those who may not be performing at acceptable levels. Those students can then be targeted for institutional interventions. Although there is no set formula for successful freshman intervention programs (Yockey & George, 1998), Levitz et al. (1999) suggest that interventions focus on five areas: personal, social, academic, life issues and institutional issues.

Although not important only for first-year students, several authors also mentioned the value of developing early warning and monitoring systems of student performance. As Tinto (1990) indicated, “Institutions must invest in forms of intrusive monitoring of academic progress that enable them to intervene early, rather than late, in the student career” (p. 46). Early interventions could provide some students with the motivation and encouragement needed to make necessary changes.

Maintain consistent contact with students in cooperative programs, including the times when they are not enrolled in Southeast courses. According to Mortenson (2005), there are retention rate measurement problems that must be considered, including accounting for student transfers between institutions, student progression at different rates, and student stopouts. Mortenson differentiated between institutional persistence and summary persistence. Institutional persistence refers to students who do persist at the same institution through to graduation. Summary persistence includes “student ‘swirling’ – enrollment in more than one institution between matriculation and graduation” (p. 36). Additionally, some students may stopout, as opposed to dropout. Stopout “refers to a student who temporarily withdraws from an institution or system” (Berger & Lyon, 2005, p. 7).

The retention rate measurement problems mentioned by Mortenson (2005) became evident as the researcher was analyzing data for several research questions. The analysis of data for research question four highlighted differences between students who persisted and those who withdrew. In order to look for differences in terms of majors, the researcher calculated the percentage of students who withdrew from each major between fall 2005 and fall 2006, based upon the total number of students enrolled in each major in the fall of 2005. Two of the majors that appeared on the list with withdrawal rates of 25% or more were Industrial Technology: Technology Option (On-Campus) (26%), and Industrial Technology: Technology Option (St. Louis) (41%).

The Industrial Technology: Technology Option St. Louis Option numbers, specifically, should not be nearly as alarming as they appear. When the researcher made contact with students who showed up on the list of those who had withdrawn from the

University (to answer research question three), several were enrolled in the St. Louis Option. This program, by design, creates student “swirling,” as the students intentionally take courses from multiple institutions to fulfill graduation requirements. The students were not enrolled with Southeast at some point between fall 2005 and fall 2006, causing their names to appear on the list of those who withdrew. One person in the on-campus version of the program was also “swirling,” as he returned to his community college for a semester to take classes. Finally, one of the St. Louis Option students had stopped out for a while, as he indicated being a part-time student who is a full-time father, husband and worker, so he does not necessarily take classes each semester.

That being said, maintaining consistent contact with students in cooperative programs could prove beneficial. One student with whom the researcher spoke (who had applied for graduation from Southeast) mentioned that he “got lost in the loop once I finished taking Southeast classes” and he was worried about missing important information, as his Southeast email account had been disabled. Suggestions for maintaining contact include utilizing non-Southeast email accounts, working with Information Technology to keep the email accounts of “swirling” students active, and/or developing a newsletter that is sent to all students in the program each semester.

Contact former students who leave the institution within a year or so of their departure, to discuss the possibility of returning. For those students who do actually leave the institution, contact within a year or two by a faculty or staff member could result in their return. When the researcher contacted former students who had left the institution, several were interested in finding out what it would take to return. When these contacts are made, University representatives should be prepared to discuss processes and

procedures, financial aid options, potential major changes, etc. Bottom line - it is worthwhile to contact students who leave, as some may very well come back.

Value of a Liberal Education

“Why do I need this class?” and “When will I ever use this information?” These are questions that students, from elementary school through college, have long asked. The students in this evaluation were no exception. As mentioned previously, many students who are attracted to the Department of Agriculture and the Department of Industrial and Engineering Technology programs are “hands-on” and practical, by nature. Many current students in the satisfaction survey commented that the classes required outside their departments were “pointless,” “unnecessary,” “worthless,” and a “waste of time and money,” even though some mentioned understanding the purpose of taking the courses. One student who had withdrawn from the institution noted that the “gen ed courses were really annoying.” He mentioned spending 90% of his time one semester studying for a biology course, which to him “seemed pointless.” He had been enrolled at a technical school before transferring to Southeast, and he described the curriculum at Southeast as “too book oriented” after being at a technical school.

Use opportunities in advising and teaching to help students see the relevance and value of University Studies courses. The fact of the matter is this: all students completing bachelor’s degrees with Southeast Missouri State University must complete the University Studies, or general education, requirements. If faculty talk positively about these courses and their relevance to students’ futures, student perceptions of these courses may improve. Faculty and advisors can also discuss the importance of making thoughtful course choices for career enhancement.

Review departmental courses for the possibility of inclusion in the University Studies curriculum. Students in both departmental focus groups discussed the University Studies curriculum. They mentioned the desire for fewer required University Studies classes and/or options that were more closely related to agriculture and industrial and engineering technology. One industrial and engineering technology major commented, “And the different kinds, I would say they are wonderful. I’m just saying it’s just the amount we have to take over the major period. That’s the only thing.” An agriculture focus group attendee noted, “Instead of having us go take a ceramics class, maybe we could have a CAD/drafting class or something along those lines . . . I think they’re a good idea . . . the whole idea is you should be a more well-rounded student, but I think more of them could be offered through our department.” If more courses meeting University Studies requirements were offered through the departments and more closely related to students’ majors, student satisfaction of these courses might improve.

Explain the University Studies program, including the objectives, to all new transfer students who do not need to take the UI100 [First-Year Seminar] course. One-third (33%) of the current students who completed the satisfaction survey signified that they had transferred from another college or university. Transfer students who enter the institution with 24 or more transferable hours are not required to take the First-Year Seminar course. A student in the agriculture focus group commented on a couple of her teachers going “on and on about the points that you learn in your UI100 [First-Year Seminar] class,” but as a transfer student who did not need to take UI100, she was not aware of the University Studies objectives. Taking the time to explain the University

Studies program and its objectives to transfer students who do not need UI100 could help improve the perception of the University Studies program by transfer students.

Promote the importance and value of life-long learning. Students in both departments made comments, in response to the survey and in the focus groups, about their fears of being prepared for the next step after college, whether that step was a career or graduate school. One industrial and engineering technology survey respondent noted, “I feel like I have learned a massive amount of information, but I don’t know that I’m fully prepared for a job in this career.” An agriculture survey taker commented, “Many students including myself feel unprepared for our careers.” Several agriculture focus group members were planning to attend graduate school and mentioned being “very nervous” about what they would be expected to know upon entry into master’s degree programs. One commented, “I feel like I’m not prepared at all.” Another agriculture focus group member noted, “I just feel like my education is not going to help me in my new job at all. I’m going to have to learn . . . everything I wanted to come to college to learn, I didn’t. I’m going to have to do it all on my own.”

Herein lays the value of the liberal component of a college education. Faculty, through individual and classroom discussions, can help students see the relevance of the University Studies curriculum and a broad generalized curriculum to their futures. When appropriate, they can explain to students that they are not being trained for specific jobs and that they will not learn all they need to know at this University (or any other). They can point to the opportunities that University Studies courses provide for learning a host of transferable skills such as researching, communicating in writing and speaking, critical

thinking, problem solving, appreciating the differences among us, working with others, and being a responsible citizen.

Communication with Students

Braxton et al. (2004) and McClanahan (2004) emphasized the importance of seeking opinions from students and allowing them to participate in campus decision making. These actions provide opportunities for students to take responsibility for their own success. Students who participated in both focus groups expressed appreciation to the researcher for the opportunity to express their views.

Host periodic open forums or focus groups for current students. The express purpose of these forums or focus groups should be to give students a chance to be and feel heard about issues that are important to them. Key decision makers, such as the Dean and Department Chairs, should be in attendance. Although their attendance will allow them to explain what is realistic, the focus should be on listening.

Focus groups can be utilized to gather information from students in each department about specific areas of concern. For example, agriculture majors mentioned numerous topics they would like to see covered or covered in much more detail in the curriculum. Topics mentioned on the current student satisfaction survey, in the focus groups, and on the graduate survey included more well-rounded animal classes, instead of focusing primarily on cows. Additional topics included dairy; poultry; pork; dogs; cats; donkeys; sheep; a variety of horses; disease class; judging class; meats class; anatomy and physiology of animals; artificial insemination certification class; organics; hydroponics, more ID classes for plants; a floral design class; a better landscape design class; weed science; entomology; chemical management; pesticides; agriculture systems

management; pest management; a better agronomy class; plant propagation; viticulture; aquaculture; agriculture law; and agriculture accounting.

Another topic that arose in the agriculture current student focus group was the small computer lab that is adjacent to the departmental classrooms. Students did express appreciation for the lab, while articulating several suggestions for improved use of the space. A focus group centered on this topic would allow students to provide ideas and suggestions for improvement.

Preferred course formats and offerings were topics that industrial and engineering technology students mentioned both in the satisfaction survey and in the focus group. Numerous students noted that they do not like classes that are not offered each semester: “Don’t offer half the courses once a year.” Other comments covered a wide spectrum of desires for class time scheduling. Some expressed the desire for more day, afternoon, or evening classes/sections. A few commented that they did not like weekend option classes (classes meeting just several times a semester on the weekend). Online classes received both positive (“More web based courses”) and negative (“There are too many online classes”) comments, with a few students noting specific courses that should not be offered in an online format. Evening classes also received both affirmative (“More night classes”) and negative (“Reduce number of night classes”) comments. A focus group dedicated to this topic would allow students to share their concerns and ideas.

A good number of students in both departments mentioned lab availability on the current student satisfaction survey. Several mentioned the desire for labs to be open longer, including weekend accessibility. A focus group related to this topic would allow students to express their opinions regarding lab usage and availability.

Finally, with the low satisfaction ratings given by international students on the current satisfaction survey, a focus group dedicated to discussions with them would be warranted. This would provide international students with a special opportunity to express their opinions and suggestions for improvement.

At least one time per semester, provide students with updates on departmental happenings. Doing so will allow students to feel connected and up-to-date on recent and planned departmental events. These updates could come from the Department Chairs, with additional information from the Dean. Summaries of comments from open forums and focus groups could be shared in this format. The communications could be sent in the form of list serve messages, using the Southeast email system.

If additional contamination is found in Magill Hall, send a letter (from the President or the Dean) to students taking classes in the building. Several agriculture students made written reference in the satisfaction survey to the radiation that was found in Magill Hall. According to one, “Ag building is horrible – especially with the feared radiation.” Although the focus group members did not seem overly concerned about the radiation, they did make mention of the inconveniences and disruption related to the clean-up. When the focus group was asked if they felt like they had received enough information about the radiation, one commented “From the Southeast Missourian [local newspaper], yes . . . but from campus, no.” A letter from the President or the Dean would keep students informed, lessening the perception that information is coming only from the news media.

Graduate Follow-Up Surveys

Research Question Two asked: How satisfied are graduates of the academic unit, specifically with factors related to retention? To answer this question, results compiled by the departments from recent graduate survey administrations were reviewed. Several recommendations would have made the graduate survey information more user-friendly and more informative.

Keep graduate survey results in an electronic format. Keeping results of the graduate surveys in an electronic format would allow for ease in comparisons between administrations of the surveys. Although the Department of Industrial and Engineering Technology keeps electronic versions of graduate survey results, the Department of Agriculture does not.

Request qualitative comments to back up numeric choices on graduate surveys. As the results from the current student satisfaction in this study showed, much information can be gained from asking students for qualitative responses to back up their quantitative selections. Surveys from both departments did provide students with opportunities to share additional comments at the end of the survey, but asking for comments about each item would contribute to the depth of the answers provided. Qualitative responses would supply specifics in terms strengths and areas for improvement. A faculty member from each department with an interest in qualitative research could be recruited to work with the chairperson to revise the departmental graduate surveys to include more qualitative prompts.

Student Finances

One of the non-academic factors playing a role in student persistence decisions is finances. Habley and McClanahan (2004) found that inadequate financial resources was one of the student characteristics making the greatest contribution to student attrition at four-year public colleges. When majors in the School of Polytechnic Studies who left the institution were contacted regarding their reasons for leaving (research question three), several provided reasons specifically related to student finances. One mentioned not being able to get financial aid any more. Another noted that he “had trouble affording it.” Several indicated the need to work full-time to make more money, making it difficult to go to school at the same time.

Students were asked in the current student satisfaction survey to indicate if the education they were obtaining at Southeast was worth the money it was costing them. Overall, 51% of survey respondents indicated yes, while 13% indicated no, and 35% were not sure. Students from both departments commented on the expense of an education from Southeast: “It seems that an education is starting to cost more and more, it’s hardly affordable.”

Departure can result if a student perceives that the costs of attending a particular institution outweigh the benefits of attendance (Braxton & Hirschy, 2005; St. John et al., 2000; Swail et al., 2003; Tinto, 1975). As noted by St. John et al., financial needs may serve as psychological stressors, which cause some students to reallocate attention from academic activities to monetary worries. Working to increase on-campus employment and scholarship opportunities for Polytechnic Studies majors could help address some of these issues related to student finances.

Work to increase major-related on-campus employment opportunities for students. Although having a job generally increases a student's chances of persistence, the number of hours a student works has been shown to be important (Astin, 1975). Students who work full-time at off-campus jobs tend to be retained in fewer numbers, likely because they have to spend a lot of time and energy on their non-academic activities (Astin, 1975; 1985; Astin & Oseguera, 2005; Schuh, 2005). According to the current student satisfaction survey, eighty-two percent (82%) of survey completers indicated that they worked. Of these, 11% worked 0 to 10 hours per week, 22% worked 11 to 20 hours per week, 24% worked 21 to 30 hours per week, 14% worked 31 to 40 hours per week, and 12% indicated working more than 40 hours per week. Regarding location of employment, 80% of those who worked did so at an off-campus location. Fourteen percent (14%) worked on-campus, and five percent (5%) indicated both on- and off-campus employment.

Part-time on-campus work, especially in a federal work-study program, has been shown to increase a student's chances of finishing college. These types of positions encourage students to spend more time on campus, which provides them with more occasion and opportunity to make contacts with other students, faculty and staff (Astin, 1975; 1985).

On-campus major-related employment opportunities are especially important for international students who are unable to work off-campus jobs. An industrial and engineering technology focus group attendee described his experiences as an international student trying to gain work experience related to his desired career, "I cannot find any kind of part-time or any way to improve my skills in a work-area, here on

campus, and it's more limited to me, because I am an international student, and I cannot really work off-campus. So, it's really hard for me to try to improve my skills before I go with a degree out into the world.”

Work to raise money for more scholarships, specifically for Agriculture and Industrial and Engineering Technology students. The sources and amounts of financial aid have been shown to be important factors in a student's ability to complete college, especially for low-income and minority students. Students receiving scholarships or grants over loans have shown increased persistence rates (Astin, 1975; Swail et al., 2003). When asked on the current student satisfaction survey how they were paying for school, many students listed multiple funding sources. In order from the highest to the lowest percentages, the forms of payment included: parents/grandparents (48%), self (39%), loan (35%), scholarship (27%), grant (19%), state or federal agency (5%), other (4%), military (2%) and spouse (1%). Working to raise money for scholarships would allow more students to receive funding that would not need to be repaid.

Transfer Students

Responses to the demographic section of the current student satisfaction survey showed that one-third (33%) of survey completers had transferred from another college or university. Of the students who indicated transferring to Southeast Missouri State from another institution, nearly half signified owning a degree from another institution. Based upon the number of students classified as transfers, several recommendations focused on this group of students are warranted.

Keep articulation agreements up-to-date and keep visiting area community colleges for recruitment visits. Braxton et al. (2004) and McClanahan (2004) discussed the importance of providing information before and after matriculation, about campus goals, values, policies and procedures. For incoming students, the initial contact with an institution is often in the form of recruitment materials and visits from institutional representatives; efforts geared toward retention actually begin with this initial contact. In recognizing the concept of student-institution fit, effective recruitment programs must help students make knowledgeable decisions about college attendance and major selection (Swail et al., 2003; Tierney, 2000; Tinto, 1990). Keeping articulation agreements up-to-date and making contacts with potential transfer students will help those students develop realistic expectations about what Southeast has to offer.

Encourage faculty to develop and maintain relationships with community college counterparts. Faculty should be encouraged to develop and maintain working relationships with faculty counterparts at area community colleges. As students often hear about Southeast programs from their community college instructors, this can also assist potential transfer students in developing realistic expectations.

Work with students entering articulated programs, making sure they have a clear understanding of the graduation requirements they will need to meet. Although related to the last one, this recommendation involves more one-on-one communication with potential or new transfer students. When the researcher spoke with one transfer student who had left the institution, he indicated that his main reason for leaving was that he was initially told that he could complete his transfer program (a bachelor's degree and a master's degree) in three years, but by the end of his first semester, the number of years

for completion had been changed from three to five. Although the student mentioned other reasons, he clearly stated that this was his main reason for leaving the institution. Additionally, several majors specifically designed for transfer students had withdrawal percentages over 25% between fall 2005 and fall 2006: Agribusiness: Agriculture Industry (43%), Industrial Technology: Technology Option (On-Campus) (26%), and Industrial Technology: Technology Option (St. Louis) (41%). A few caveats are necessary to articulate. Agriculture Industry was a relatively new major with small numbers at that point and probably included native as well as transfer students. Additionally, conversations with those appearing on the list of students who left the institution included several Industrial Technology majors who had not actually left the institution for good. Regardless, clear individualized communications with students in transfer programs – both before and after matriculation - can help them develop and maintain realistic expectations, based upon their unique situations.

Advising

Overall, advising was ranked fairly well by students on the current student satisfaction survey. When the rankings of all students taking the survey were reviewed for the ten satisfaction items, advising was one of the items rising to the top. It weighed in with a satisfaction ranking that equated to 85% satisfaction or higher. Additionally, when asked to rank the quality of the advising they received, agriculture graduate exit survey respondents indicated a mean score of 4.75 (on a 1 – 5 Likert scale, with 1 being the lowest and 5 being the highest). Even though advising fared well in several evaluation venues, comments on the survey itself and in the focus groups showed areas for improvement that could boost satisfaction levels even higher.

Advising is one of the arenas through which a student has a chance to have quality interaction with a concerned person on campus, a primary factor affecting college retention (Lotkowski et al., 2004). Swail et al. (2003) made several recommendations regarding academic advising. First, they indicated the importance of laying out an appropriate road map for students. Second, they stressed the importance of students receiving guidance that reflects their needs. Finally, they encouraged a regular and standard practice of face-to-face advising, including a “proactive . . . system of checks and balances [that] would require scheduled meetings to catch problems before they occur” (p. 103). Several recommendations developed by the retention committee in response to evaluation outcomes relate to the recommendations made by Swail et al.

Allow more time for advising appointments with new students, to permit time for sharing an overall picture of what their studies at Southeast will entail. As noted by Swail et al. (2003), it is important to assist students in laying out an appropriate roadmap. This is significant for all students, both native and transfer. Comments related to this recommendation were mentioned by some students on the current student satisfaction survey and by others in the Department of Agriculture focus group. The most often expressed criticism by students in regard to academic advising was feeling responsible for making decisions on their own, without guidance from an advisor. As one student commented, “I have to make my own schedule before meeting with my advisor and then have him give the okay. But I'm not entirely sure what I'm supposed to take in order to graduate.” Agriculture focus group attendees also expressed a desire for advisor assistance in planning out their programs: “Well, you know, in a lot of departments, they plan out their entire four years their first semester. I mean, I've seen that with a lot of

other departments . . . I've never even heard wind of that . . . you know, there's no scheduled planning ahead; it's all, 'okay, you've got to register next week, what are you going to take?'" Taking time to thoroughly cover critical information that new students need to know should assist these students in feeling more prepared and better able to take more responsibility for their academic planning in the future.

Conduct training on how to read degree audit reports for both faculty and students. Some students expressed concerns in the current student satisfaction survey about not understanding the degree audit report. Professional advisors should conduct training on how to read degree audit reports, both for faculty and for students. In order to reach multiple students at one time, professional advisors can be continuously invited into lower-level classes that are required for all departmental majors either once per semester or once per year, to go over the basics of reading the degree audit report. For example, AY101 (Animal Science) could be appropriate for Agriculture majors (each fall), whereas IM102 (Technical Communication) could be appropriate for Industrial and Engineering Technology students (each semester). Additionally, professional advisors should explain how to read the degree audit to new transfers during the first advising session.

Continue hosting faculty and professional advisor training. As faculty advise a good portion of the students in Polytechnic Studies, it is important to host continued faculty and professional advisor training. Some of the trainings can be conducted by the professional advisors in the unit, and others should be presentations by invited guests such as representatives from campus resource organizations. New advisors should be given in-depth training, with updates provided for all.

Add semesters-offered information to the bulletin. One issue that was discussed in the current student satisfaction survey and both focus groups is the fact that all classes in each department are not offered each semester. Students in the agriculture focus group specifically requested that pertinent advising information (course descriptions, prerequisites, and course rotations) be available in a “user-friendly” format. As one focus group member commented: “I mean, here, you have like three different papers telling you when classes are available, what the prereqs are . . . if it could all be set up, like . . . more straight lined.” Adding the semesters-offered information to the bulletin would allow for these three key pieces of information, all critical for student planning, to be located in one spot. If adding semesters-offered information to the bulletin is not possible or probable, current resources should be revised to offer these key pieces of information in one format; this information should be available both hard-copy and online. Regardless of how this information is available, it is critical that students be informed very early in their programs that all classes are not offered each semester.

Work specifically with undeclared and pre-professional majors in discussing career planning, goals, etc. Several groups of students require advising focused more heavily on decision making and planning. According to Tinto (2005), advising is especially important for the success of students who begin college undecided about a major or those who change their majors. “The inability to obtain needed advice during the first year or at the point of changing majors can undermine motivation, increase the likelihood of departure, and for those who continue, result in increased time to degree completion” (p. 322).

Upon review of the percentage of students who withdrew between fall 2005 and fall 2006 from each major, undeclared majors in Polytechnic Studies withdrew at a rate of 29%, Pre-Veterinary Medicine majors withdrew at a rate of 25%, and Pre-Architecture majors withdrew at a rate of 46%. In addition, several students who left the institution indicated indecisiveness or a change of heart about their majors as factors contributing to their leaving. These figures and comments point to the need for a special focus on students who are undeclared or unsure of their majors or who are declared as pre-professional majors. Connecting undeclared or unsure students as early as possible with Career Linkages personnel can help them explore their career and major options. In addition, a special early focus in advising pre-professional majors should be sharing with those students the realities of transfer to a pre-professional program at another institution.

Student Involvement

According to Astin, a widely-cited retention theorist, “*Students learn by becoming involved*” (1985, p. 133). This involvement with the academic experience, in terms of both physical and psychological energy, is critical for retention (Astin; Berger & Lyon, 2005; McClanahan, 2004). According to Astin, his theory’s most important point for educators is “the effectiveness of any educational policy or practice is directly related to its capacity for increasing student involvement” (p. 156-157). In a later study of his own model, Astin noted that the three most important forms of student involvement were academic involvement, involvement with faculty, and involvement with student peer groups (McClanahan). Furthermore, the student’s peer group was cited as the most powerful source of influence on growth and development during the undergraduate years (Astin, 1993).

The concept of encouraging contact with peers is important both in academic and non-academic settings. As Lotkowski et al. (2004) indicated, “Despite poor academic performance, many students persist because of their successful social integration and feelings of fit with their institution” (p. 15). Swail et al. (2003) indicated that interacting with peers and developing new friendships are the most customary methods of social integration.

Within this evaluative study, students did speak highly of their interactions with other students. The highest ranked satisfaction item on the current student survey, equating to over 85%, was interactions outside the classroom with other students. Many students commented on making new friends. Others noted the availability of peers to help when questions arise. As succinctly described by one industrial and engineering technology major, “I’ve met friends and study partners.” With these things in mind, both departments should work to increase student contact with their peers and with faculty, in both academic and non-academic settings.

Promote activities that encourage student interactions and involvement both inside and outside the classroom. Astin (1993) suggested that institutions use peer groups to their advantage: “By judicious and imaginative use of peer groups, any college or university can substantially strengthen its impact on student learning and personal development” (p. xiv). Faculty should implement activities and assignments that encourage students to get involved with each other both inside and outside the classroom. Activities should include both academic and non-academic, or social, components. Involvement like this is especially important in courses such as UI100, First-Year Seminar, and other courses which enroll mainly first-year students. First-year students are

more likely to succeed when they find others who care about them, especially faculty (Upcraft & Gardner, 1989). Students at any level can also be encouraged to form study groups in departmental and non-departmental courses, which provide another format for interaction with peers.

Faculty and advisors should encourage student involvement in departmental organizations. “For many undergraduates, extracurricular activities provide some of the most significant consequences of college attendance. In certain respects, these activities offer an opportunity to develop skills that are more relevant to later life than the knowledge and cognitive skills acquired in the classroom” (Astin, 1977, p. 115). One avenue through which students may get involved in extracurricular activities is departmental student organizations.

Although many students in the current student satisfaction survey indicated a great deal of satisfaction with their interactions with their peers outside the classroom, a relatively small percentage of current students were involved in student organizations. Over half (53%) of respondents indicated no involvement in either departmental or campus student organizations. When specifically asked about departmental student organizations, 30% of survey completers indicated involvement, with 70% indicating no involvement. Encouraging involvement in student organizations not only promotes interactions with peers, it also provides opportunities for students to get connected with the faculty and the department.

Faculty advisors for student organizations should encourage the organizations to promote the benefits of active involvement. Within the evaluative study, focus group members were asked how students could be encouraged to get involved in departmental

extracurricular activities. Respondents in both groups mentioned the importance of letting students know how the club and its activities would be beneficial. As one agriculture major commented, “You see flyers, okay, but I mean . . . what’s that going to do for me? I don’t feel educated in what the clubs have to offer . . . to me, in particular.” This sentiment was echoed by an industrial and engineering technology major, “When they are trying to promote these activities, they should say why they are doing it, more than promoting the activity itself.” Another focus group member noted the significance of educating first-year students on the value of being involved in organizations: “Being involved in organizations and having a job and all that, is actually beneficial for your resume or if you’re going to grad school . . . especially, you know, to show that you’re a more well-rounded student . . . and not just, okay, I’m going to go take my classes . . . and then go home and study all night.” Student organizations may be able to recruit more students by promoting the benefits of active involvement.

Facilities and Equipment

Although a review of literature generated no retention-related comments about facilities and equipment, the retention committee did decide to include an item on the current student satisfaction survey regarding facilities. Students were asked to rate their satisfaction with the facilities where their agriculture or industrial and engineering technology classes are held. Overall, survey respondents ranked their mean level of satisfaction with this item at 4.1620 ($N = 213$; $SD = 1.07647$). Responses ranged from 0 to 5. The Department of Agriculture mean satisfaction level was the lowest overall at 3.7615 ($n = 65$; $SD = 1.16963$), while the Department of Industrial and Engineering Technology mean satisfaction level was the highest overall at 4.3401 ($n = 147$; $SD =$

.98965). Based upon comments on the survey and in the focus groups, the retention committee offers the following facilities and equipment related recommendations:

Look for ways to update computers in both departments. One theme that emerged from students in both departments was the desire for updated, faster computer equipment. Industrial and engineering technology students made observations such as “The computers and printers are always having problems, therefore slowing down the work completed here,” and “Some of the computers simply aren’t good enough for what is expected!” Numerous agriculture majors echoed that theme, with an additional grievance. One student noted, “Some of our computers are out of date. These computers don't take flash drives.” Additionally, several agriculture majors indicated frustration over getting what they considered “hand-me downs” and “second hand stuff.” One commented: “Every other building has new computers and we just get the hand-me downs.” These sentiments were echoed in the focus groups.

Look for ways to spruce up Magill Hall, for example new paint and curtains. In responses on the current student satisfaction survey to the question regarding facilities, numerous agriculture students commented on Magill Hall and its classrooms: “The building just needs an update,” and “Classrooms could be updated and building also.” Updating the paint scheme and curtains would go a long way in making the classrooms look more inviting. Input regarding proposed improvements from Department of Agriculture majors could also be gathered during a focus group centered on the topic of improvements for Magill Hall.

Recruitment

Recruiting is the point at which the work of retaining students essentially begins. As mentioned earlier, the initial contact with an institution is often in the form of recruitment materials and visits from admissions representatives; efforts geared toward retention actually begin with these contacts. Through admissions information and publications, institutions should help students develop realistic and accurate expectations of the academic and social aspects of the institution (Braxton et al., 2004; Tinto, 1982).

Review all departmental recruitment materials and talking points, in light of the expectations they will instill in prospective students. Fifty-eight percent (58%) of students taking the current student satisfaction survey indicated they had heard about the School of Polytechnic Studies before they started attending Southeast. In response to a follow-up question asking if their expectations had been met, 20% or 25 students indicated that their expectations had not been met. One student with whom the researcher spoke who left the institution indicated that he felt he was “sold a different program.” Another person who left commented that his experience “wasn’t what I expected.” Taking a look at recruitment materials and talking points from the standpoint of prospective students could elicit suggestions for changes that could increase the percentage of students whose expectations are met. Current students could be enlisted to assist in the evaluation of recruitment materials. In addition, any offices and people outside the departments who recruit for the departments should be kept up-to-date on programs.

Encourage student organization members to get involved in recruitment-type events for the departments. Current students, especially those involved in departmental clubs and organizations, could also be invited to participate in recruitment events. This

suggestion came out of the Department of Agriculture focus group. One student described a recruitment-type program involving current students at another institution. She also commented about helping with an open-house type recruitment event for Southeast, and indicated, “It was so much fun to actually try to talk to kids about it.” Talking with actual current students could also help prospective students develop realistic expectations.

Consider stepping up departmental recruitment efforts in Illinois. When reviewing information for research question four (differences between regularly-collected student records data between those who were retained versus those who exhibited institutional withdrawal), the most dramatic difference appeared between the percentages of Illinois students who persisted versus those who exhibited institutional withdrawal. Of the 511 persisters, 1% was international, .8% was from states other than Illinois or Missouri, 10.4% were from Illinois, and 87.9% were from Missouri. The breakdown of the percentages of students who withdrew was as follows: .9% Illinois, 1.8% states other than Illinois or Missouri, and 97% Missouri. Using actual numbers of Illinois residents, only one of the 54 students enrolled in the fall 2005 semester exhibited institutional withdrawal prior to the fall 2006 semester. If comparisons from subsequent years yield similar data, it would be well worth the effort to recruit more Illinois residents to Polytechnic Studies programs.

As mentioned previously, the preceding list of recommendations was developed in consultation with the School of Polytechnic Studies retention committee, which served as an evaluation task force for this Utilization-Focused Evaluation. According to Patton, “in the end, they [primary users] are the ones who must translate data into decisions and

actions” (p. 302). After determining which recommendations they will implement, the retention committee must determine what strategies will be used. Additionally, decisions about measurement and evaluation must be made.

Recommendations for Future Research

Due to the fact that this study was a Utilization-Focused Evaluation with the express purpose of providing data and input toward the development of a plan to improve the persistence of students within the School of Polytechnic Studies, the recommendations for future research are focused on ideas for conducting similar, yet improved, studies in the future. Portions of this evaluation could be repeated within the same academic unit in the future to determine changes. Furthermore, these recommendations are intended to inform others looking to conduct similar evaluations at other institutions.

1. If a survey and focus groups are conducted in the future, conduct both in the same semester. The current student satisfaction survey for this study was conducted in the spring semester, with the focus groups following in the fall. As some students who volunteered to participate in the focus groups had graduated in the spring and summer, the pool of potential focus group members was smaller than if the focus groups had been conducted in the same semester as the survey. Another idea for improved focus group participation would be to utilize classes from each department as focus groups.
2. Consider the benefits of a late fall survey over a spring survey. It is likely that some students who were dissatisfied left between the fall and spring semesters, so they were not in attendance to take the survey in the spring. For example, on the

one hand, the first-year students who took the satisfaction survey provided the highest satisfaction ranking in four of ten items. On the other hand, evaluation of student records data showed that over 30 percent of first-year students enrolled during the fall 2005 semester were not in attendance at the institution in fall 2006. Although the data are from different years, these items appear contradictory.

3. Look at data on first-year students separately. Since we, like most other institutions, lose a large percentage of first-year students, reviewing their data separately could prove beneficial.
4. Consider a study focused on international student satisfaction. When the ten satisfaction rankings on the current student satisfaction survey were compared by disaggregated data, international students gave the lowest ranking in five of ten items. Evaluative measures focused on international students and their unique situations could provide much richer data, resulting in recommendations aimed specifically at improving their satisfaction.
5. Ask on the survey and remind students in person to be as specific as possible when recording their written comments. When a survey such as this is done anonymously, there is no way to go back to individual respondents for clarification. When the researcher was analyzing themes, some comments were not of use, as their significance could not be determined without further context.
6. For future survey administrations, the data could be collected in an online electronic format. The benefit of this method would be a dramatic reduction in the time needed for data entry by the researcher. A drawback would be the loss of

hands-on contact with the data, which allows the researcher to see developing themes.

7. If contacts are made with students who depart from the institution, those contacts should be made soon after it is determined that the students have actually exhibited institutional withdrawal. By the time the researcher attempted contact with students who had left, it had been between one and two years or more since active enrollment for some of the students. Many students were no longer living at the same residence or had disconnected telephone numbers. Making contacts sooner should improve the chances of reaching former students.

Summary

“The retention of college students at the freshman and sophomore levels has been a top priority in higher education since the 1980s when fiscal concerns shifted administrative philosophies from survival-of-the-fittest competitiveness toward the desire for student continuance” (Molina & Abelman, 2000, p. 5). Administrators recognize that retaining enrolled students is more efficient and less expensive than expending resources to recruit new ones (Berger & Lyon, 2005; Schuh, 2005; Terenzini, 1982). Research by Levitz, Noel and Richter (1999) indicated that a four-year institution will, on average, gain between \$15,000 and \$25,000 in gross revenue over four to five years by reducing the number of freshmen dropouts by a single student. Even a small increase in an institution’s retention rate can have a quantifiable impact on institutional finances (Yockey & George, 1998).

Monetary impact alone is an important reason for retaining students, especially first-year students, although there are additional noble and notable reasons. Retention of

college students through to graduation impacts individuals and society as a whole, both economically and socially.

At Southeast Missouri State University, the retention rate for full-time undergraduate bachelor degree-seeking first-year students from the fall of 2004 to the fall of 2005 was 70% (Institutional Research, 2005a). Based upon the monetary projections presented by Levitz et al. (1999), the 30% of first-year students who were not retained by the institution will constitute a huge economic impact on the University budget over the next few years.

In the fall of 2005 in his State of the University message, the President of Southeast Missouri State University launched an initiative to improve student success, with overall goals of increasing freshman-to-sophomore student retention and overall graduation rates. After numerous campus-wide discussions and much deliberation resulting in over 400 comments and suggestions for improving retention, a much shorter list of action items was developed. One of the action items charged the Deans and the Provost with exploring college and departmental level initiatives for improving retention.

The impetus for this study, a Utilization-Focused Evaluation of retention, was the request by the Dean of the academic unit for the development of a plan to increase retention. The purpose of this evaluative study was to provide data and input toward the development of a plan to improve the retention rate within the academic unit.

Little can be found in the retention literature about what specific academic units can do to improve persistence of students. This is likely because most recommendations are more global in nature, encouraging a united front across the institution. However, for overall institutional improvement in persistence rates to occur, this researcher and the

primary stakeholders of this evaluation believe that individual units must assess themselves in terms of strengths and weaknesses related to retention factors.

Since the framework guiding this study was Patton's Utilization-Focused Evaluation, the research questions, and the means for data collection, instrumentation and analysis were developed in consultation with the primary intended users and the retention committee. The methods and instruments that were utilized for collecting data included a current student satisfaction survey, focus groups, graduate exit surveys, student records data, and contact with students who withdrew from the institution. Both quantitative and qualitative data were collected. Descriptive statistics were used to summarize quantitative data, and the qualitative data were analyzed for the emergence of themes. The researcher met with the retention committee, which served as an evaluation task force, on four occasions to review data, and to develop, revise and affirm recommendations. The retention committee members included two faculty members, one from each department, and two professional advisors.

In general, the results of this evaluative study indicated that the School of Polytechnic Studies was doing many things well. Although much of the evaluative data were positive, there is still room for improvement. The recommendations developed by the retention committee in response to the data were grouped under the following headings: experiential learning, instructional content, classroom strategies, campus resources, intentional student contacts, value of a liberal education, communication with students, graduate follow-up surveys, student finances, transfer students, advising, student involvement, facilities and equipment, and recruitment. The retention committee

will determine which recommendations to implement and what strategies will be utilized. Moreover, they will make decisions about measurements and further evaluations.

Regardless of the strategies that are chosen, the design and implementation of these strategies is not a process with a clear beginning and an obvious end. It is a complicated and continuous process that involves analysis, implementation and evaluation – all focused on improvement. Evaluation will lead to new strategies, implementation and further assessment (Braxton et al., 2004; Habley & McClanahan, 2004; Lotkowski et al., 2004; Swail et al., 2003). This continuous quality improvement cycle is what sets institutions, and academic units, that focus on improving student persistence apart from those who do not.

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Appendix A

Student Satisfaction Survey

School of Polytechnic Studies

Student Satisfaction Survey

Spring 2007

Ratings reminder:

5 4 3 2 1 0 N/O
100% satisfied 80% satisfied 60% satisfied 40% satisfied 20% satisfied 0% satisfied No opinion

**Rating
(5-0 or N/O):**

_____ 6. **Satisfaction with my interactions outside the classroom with faculty/staff in Ag, IET and/or Polytech**
A specific reason for your numeric choice:

_____ 7. **Satisfaction with the facilities where my Ag or IET classes are held**
A specific reason for your numeric choice:

_____ 8. **Satisfaction with the campus resources and support available to me**
(Math Learning Center, Writing Center, Learning Enrichment Center, Career Counselor, etc.)
A specific reason for your numeric choice:

_____ 9. **My satisfaction with my overall experience with Ag, IET and/or Polytech**
A specific reason for your numeric choice:

_____ 10. **My satisfaction with my overall experience at Southeast**
A specific reason for your numeric choice:

My assigned advisor is a faculty member ₁ in the advising center ₂
If I am assigned to a faculty member, I normally see him/her ₁ go to the advising center ₂

Please place a check in the appropriate boxes to indicate your knowledge of and use of each of the following campus resources (you may check more than one box for each resource).

	Know about and use	Know about and do not use	Did not know about the resource	Polytech instructors recommended services
Career Linkages				
Center for Health and Counseling				
Learning Enrichment Center				
Math Learning Center				
Minority Student Programs				
Nontraditional and Commuter Student Services				
Office of International Education and Services				
Student Support Services				
Writing Center				

The five things I like best about Ag, IET, and/or Polytech are:

- 1.
- 2.
- 3.
- 4.
- 5.

The five areas in which I would like to see improvements in Ag, IET, and/or Polytech are:

- 1.
- 2.
- 3.
- 4.
- 5.

The education I am obtaining at Southeast is worth the money it is costing me.

- Yes ₁
 No ₂
 Not sure ₃

Please explain answer given above.

Why did you choose a major in the School of Polytechnic Studies?

Would you recommend a major in the School of Polytechnic Studies to a friend?

- Yes ₁
- No ₂

Unless you are graduating at the end of this semester (or transferring to complete a pre-professional program), do you intend to return to Southeast next semester?

- Yes ₁
- No ₂
- I am graduating ₃
- I am transferring to complete a pre-professional program ₄

Did you hear about the School of Polytechnic Studies before you started attending Southeast?

- Yes ₁
- No ₂

If yes, were your expectations with Polytech met?

- Yes ₁
- No ₂

Please explain reasoning for the answer to previous question below.

Demographic Information

Answers to the following questions will be used for statistical purposes.

I am a: Freshman ₁ Sophomore ₂ Junior ₃ Senior ₄ Other ₅

I am: Male ₁ Female ₂

I am: Now Married ₁ Widowed ₂ Divorced ₃ Separated ₄ Never Married ₅

My race or ethnic origin: American Indian or Alaskan Native ₁ Asian or Pacific Islander ₂
 Black, Non-Hispanic ₃ Foreign Citizen ₄ Hispanic ₅
 White, Non-Hispanic ₆

Age _____ Hometown (city, state) _____ High School Attended _____

My estimated cumulative GPA is (0.0 to 4.0) _____ My ACT composite score _____

I transferred to Southeast from another college/university: Yes ₁ No ₂

If yes, from where? _____

Do you have a degree from another college or university? Yes ₁ No ₂

I live on campus ₁ am a commuter student ₂

I attend school part-time (1-11 credit hours) ₁ full-time (12+ credit hours) ₂

How many hours per week do you work?

I don't work ₁ 0-10 ₂ 11-20 ₃ 21-30 ₄ 31-40 ₅ 40+ ₆

If you work, where do you work?

on-campus ₁ off-campus ₂ both on- and off-campus ₃

How are you paying for school (check all that apply)?

- self ₁
 grant ₂
 loan ₃
 scholarship ₄
 parents/grandparents ₅
 spouse ₆
 military ₇
 state or federal agency ₈
 other ₉

Do you have a child or children? Yes ₁ No ₂

My major is (check all that apply):

<p>Undecided:</p> <p><input type="checkbox"/> Undecided in the School of Polytechnic Studies ₁</p> <p>Department of Agriculture: Agribusiness/Agriculture</p> <p> <input type="checkbox"/> Agribusiness (older option) ₂ <input type="checkbox"/> Agriculture Industry ₃ <input type="checkbox"/> Animal Science ₄ <input type="checkbox"/> Horticulture ₅ <input type="checkbox"/> Plant and Soil Science ₆ </p> <p> <input type="checkbox"/> Pre-Veterinary Medicine ₇ <input type="checkbox"/> Pre-Vocational Agriculture Education ₈ </p>	<p>Department of Industrial and Engineering Technology:</p> <p>Engineering Technology</p> <p> <input type="checkbox"/> Electrical and Control ₉ <input type="checkbox"/> Manufacturing ₁₀ </p> <p>Industrial Technology</p> <p> <input type="checkbox"/> Construction Management and Design ₁₁ <input type="checkbox"/> Industrial Management ₁₂ <input type="checkbox"/> Technical Graphics ₁₃ <input type="checkbox"/> Technology ₁₄ <input type="checkbox"/> Telecommunications and Computer Networking ₁₅ </p> <p><input type="checkbox"/> Industrial Education ₁₆</p> <p>Computer Technology (AAS)</p> <p> <input type="checkbox"/> Automated Manufacturing ₁₇ <input type="checkbox"/> Microcomputer Systems ₁₈ <input type="checkbox"/> Technical Computer Graphics ₁₉ </p> <p><input type="checkbox"/> Pre-Architecture ₂₀</p> <p>Certificate Programs</p> <p> <input type="checkbox"/> Design Drafting ₂₁ <input type="checkbox"/> Electronics ₂₂ <input type="checkbox"/> Graphic Technology ₂₃ </p>
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I am involved in the following departmental student organizations (check all that apply):

<p>Department of Agriculture:</p> <p> <input type="checkbox"/> Agriculture Club ₁ <input type="checkbox"/> Delta Tau Alpha ₂ <input type="checkbox"/> Farm Bureau ₃ <input type="checkbox"/> Golf Course Superintendents Association of America ₄ <input type="checkbox"/> Horticulture Club ₅ <input type="checkbox"/> Pre-Veterinary Medicine Club ₆ </p>	<p>Department of Industrial and Engineering Technology:</p> <p> <input type="checkbox"/> Club TEC ₇ <input type="checkbox"/> Gaming Club ₈ <input type="checkbox"/> Society of Manufacturing Engineers ₉ <input type="checkbox"/> Society of Photographic Artists ₁₀ </p>
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Please list other campus student organizations in which you are involved:

Thank you for your time and effort in completing this survey. We appreciate your input!!

Appendix B

Recruitment Letter for Student Satisfaction Survey

March 12, 2007

RE: A Utilization-Focused Evaluation of Institutional Persistence and Withdrawal in an Academic Unit

Dear School of Polytechnic Studies Major,

As a current School of Polytechnic Studies' (SPS) major, you will be asked to complete a satisfaction survey during this class the week after spring break. The purpose of the survey is to provide data and input toward the development of a plan to improve the retention rate of SPS students. Your honest and frank responses will help us determine our strengths and opportunities for improvement. In addition to providing critical information toward the development of a retention plan by the SPS Retention Committee, this survey is part of my dissertation.

You may be approached in several classes to complete the satisfaction survey. Please take it only once. If you took the survey when it was being pilot tested, please do not take it again.

The satisfaction survey will take approximately 30-45 minutes. You may also volunteer to participate in a focus group with other students from your department to provide further information on findings and themes that will emerge from the written surveys. If you choose to participate in a focus group, you will spend approximately one hour with the SPS retention committee and other students, answering questions and discussing topics related to student satisfaction and retention. If you are willing to participate in a follow-up focus group to share your thoughts, please sign up on the interest sheet that will be passed around the room on the day of the survey administration.

The risks associated with taking the survey and participating in the focus group (if you volunteer) are minimal and no more than the risks associated with your customary, everyday activities. Your participation is voluntary; you may refuse to participate and/or discontinue your participation at any time without penalty or prejudice. Your student status will not be affected as a result of your participation (or lack thereof) in this study.

Your answers to the satisfaction survey will be anonymous; you are not asked to identify yourself on the survey, nor will any attempt be made to determine your identity from your answers. If you choose to participate in a focus group, your information will remain confidential. Comments that you share in the focus group, but not your identity, will contribute to the data. That data related to this study will be kept for a period of up to three years.

By participating in this research project and by signing the consent form, you will not be waiving any of your legal rights.

If you have questions or concerns about this study, you may contact any of the following:

- Kim Austin Madigan, Investigator, kmadigan@semo.edu, 573-472-3210
- Dr. Jerry Waddle, Investigator's Faculty Advisor, jwaddle@semo.edu, 573-651-2427
- University of Missouri-Columbia Campus Institutional Review Board, umcresearchcirb@missouri.edu, 573-882-9585
- Dr. Tahsin Khalid, College of Education Human Subjects Committee, tkhalid@semo.edu, 573-651-2505

Sincerely,

Kim Madigan
Primary Investigator

Appendix C

Current Student Satisfaction Survey Informed Consent

Informed Consent

Title of Project: A Utilization-Focused Evaluation of Institutional Persistence and Withdrawal in an Academic Unit

Investigator: Kim Austin Madigan

Departments: College of Education, Southeast Missouri State University
Educational Leadership and Policy Analysis, University of Missouri – Columbia

The purpose of this project, a Utilization-Focused Evaluation, is to provide data and input toward the development of a plan to improve the retention rate within the School of Polytechnic Studies.

I understand that I am being asked to participate in this research project because I am a major in the School of Polytechnic Studies. As part of this project, I will complete a current student satisfaction survey that will take approximately 30-45 minutes. If I volunteer to do so, I may also participate in a focus group with other students from my department to provide further information on findings and themes that emerge from the written surveys. During the focus group (if I volunteer to participate), I will spend approximately one hour as part of a group of students who will be answering questions and discussing topics related to student satisfaction and retention.

I understand that the risks associated with these procedures are minimal and no more than the risks associated with my customary, everyday activities.

I understand that my participation is voluntary; I may refuse to participate and/or discontinue my participation at any time without penalty or prejudice. I also understand that my student status will not be affected as a result of my participation (or lack thereof) in this study.

I understand that all information collected in this project will be anonymous or confidential. The written survey will be anonymous; I will not be identified in any way to the researcher or to others who will see the data. If I choose to participate in a focus group, my information will remain confidential. Comments that I share, but not my identity, will contribute to the data. The data related to this study will be kept for a period of up to three years.

I understand that by agreeing to participate in this project and signing this form, I have not waived any of my legal rights.

If I have questions or concerns about this study, I understand that I may contact any of the following:

- Kim Austin Madigan, Investigator, kmadigan@semo.edu, 573-472-3210
- Dr. Jerry Waddle, Investigator’s Faculty Advisor, jwaddle@semo.edu, 573-651-2427
- University of Missouri-Columbia Campus Institutional Review Board, umcresearchcirb@missouri.edu, 573-882-9585
- Dr. Tahsin Khalid, College of Education Human Subjects Committee, tkhalid@semo.edu, 573-651-2505

By signing below, I attest that I am freely and without pressure consenting to participate in this research. I also attest that I am 18 years of age or older.

Printed Name _____

Signature _____

Date _____

Appendix D

Focus Group Questions and Protocol

Focus Group Questions and Protocol

Regarding: Project Number 1079237 – A Utilization-Focused Evaluation of Institutional Persistence and Withdrawal in an Academic Unit

Date: April 23, 2007

From: Kim Madigan

Two focus groups will be conducted with groups of students who volunteered to participate. One focus group will be conducted with Department of Agriculture students, and one group will be conducted with Department of Industrial and Engineering Technology students.

Members of the Polytech retention committee will be conducting the focus groups, which will last approximately one hour. The sessions will be audio taped.

Since some topics that emerged from the current student satisfaction survey differed between the students in the two departments, the questions will not be exactly the same for each focus group. Although the questions below will be used as a guide, additional probing questions may be asked to elicit more information regarding the answers that are given by students.

Department of Agriculture Focus Group Questions

- What changes would improve your satisfaction with your academic experiences in the Department of Agriculture?
 - If students don't bring up additional subject matter to be incorporated into current majors, ask about this (several survey respondents indicated that they wanted to learn more about specific topics related to their majors that were either not covered or not covered in enough detail)
 - If students don't bring up instructors' teaching styles, ask about this (several made comments regarding instructors' teaching styles)
- What types of additional hands-on activities would enhance the current academic programs?
- How could the Department of Agriculture computing facilities be improved?
- How can the Department of Agriculture lecture and lab facilities (not computer labs) be improved?
- What are your feelings on the low levels of radiation contamination found in Magill Hall within the last few years?
- How can academic advising be improved?
 - If students don't bring it up, ask how the department can get the word out better regarding classes that are fall or spring only or only offered every other year
- Please share your thoughts on the University Studies courses that are required outside your majors.
- How can students be encouraged to get involved in departmental extracurricular activities?

Department of Industrial and Engineering Technology Focus Group Questions

- What changes would improve your satisfaction with your academic experiences in the Department of Industrial and Engineering Technology?
 - If students don't bring up instructors' teaching styles, ask about this (several made comments regarding instructors' teaching styles)
- What types of additional hands-on activities would enhance the current academic programs?
- How could the Department of Industrial and Engineering Technology computing facilities be improved?
- How can the Department of Industrial and Engineering Technology lecture and lab facilities (not computer labs) be improved?
- How can instructors with English as their second language communicate more effectively with students?
- How can academic advising be improved?
 - If students don't bring it up, ask how the department can get the word out better regarding classes that are fall or spring only or only offered every other year
- Please share your thoughts on the University Studies courses that are required outside your majors.
- Please share your thoughts on course formats, including day courses, evening course, weekend courses and online courses.
- Please share your thoughts on departmental internships and career fairs.
- How can students be encouraged to get involved in departmental extracurricular activities?

Appendix E

Focus Group Informed Consent

Informed Consent

Title of Project: A Utilization-Focused Evaluation of Institutional Persistence and Withdrawal in an Academic Unit

Investigator: Kim Austin Madigan

Departments: College of Education, Southeast Missouri State University
Educational Leadership and Policy Analysis, University of Missouri – Columbia

The purpose of this project, a Utilization-Focused Evaluation, is to provide data and input toward the development of a plan to improve the retention rate within the School of Polytechnic Studies.

I understand that I am being asked to participate in this research project because I am a major in the School of Polytechnic Studies. As part of this project, I will complete a current student satisfaction survey that will take approximately 30-45 minutes. If I volunteer to do so, I may also participate in a focus group with other students from my department to provide further information on findings and themes that emerge from the written surveys. During the focus group (if I volunteer to participate), I will spend approximately one hour as part of a group of students who will be answering questions and discussing topics related to student satisfaction and retention. I understand that the focus group will be audio-taped.

I understand that the risks associated with these procedures are minimal and no more than the risks associated with my customary, everyday activities.

I understand that my participation is voluntary; I may refuse to participate and/or discontinue my participation at any time without penalty or prejudice. I also understand that my student status will not be affected as a result of my participation (or lack thereof) in this study.

I understand that all information collected in this project will be anonymous or confidential. The written survey will be anonymous; I will not be identified in any way to the researcher or to others who will see the data. If I choose to participate in a focus group, my information will remain confidential. Comments that I share, but not my identity, will contribute to the data. The data related to this study will be kept for a period of up to three years.

I understand that by agreeing to participate in this project and signing this form, I have not waived any of my legal rights.

If I have questions or concerns about this study, I understand that I may contact any of the following:

- Kim Austin Madigan, Investigator, kmadigan@semo.edu, 573-472-3210
- Dr. Jerry Waddle, Investigator’s Faculty Advisor, jwaddle@semo.edu, 573-651-2427
- University of Missouri-Columbia Campus Institutional Review Board, umcresearchcirb@missouri.edu, 573-882-9585
- Dr. Tahsin Khalid, College of Education Human Subjects Committee, tkhalid@semo.edu, 573-651-2505

By signing below, I attest that I am freely and without pressure consenting to participate in this research. I also attest that I am 18 years of age or older.

Printed Name _____

Signature _____

Date _____

Appendix F

Letter Mailed to Students Exhibiting Institutional Withdrawal

February 6, 2008

Former Student Name
Address
City, State Zip

Dear Student Name,

In early 2006, the School of Polytechnic Studies (SPS) initiated a Retention Committee, with the purpose of implementing initiatives aimed at improving the academic unit's student retention rate. As part of this process, the committee and I are collecting data to guide our actions. In addition to serving as a member of the retention committee, I am also conducting this research as part of my dissertation for a doctoral program in educational leadership. This study has been approved by both the University of Missouri-Columbia Campus Institutional Review Board and by the Southeast Missouri State University College of Education Human Subjects Committee.

The SPS Retention Committee, along with the Dean and chairpersons of each department (Agriculture and Industrial and Engineering Technology), felt that contacting students who withdrew from the institution to gather information would be beneficial. You have been identified as a student who was enrolled at Southeast and majoring in some area within the School of Polytechnic Studies at the beginning of the fall 2005 semester but who withdrew from the institution during or following the fall 2005 or spring 2006 semester.

Within the next few weeks, I will be attempting to contact you at your last known telephone number available on the Southeast student records system. I anticipate that our phone conversation will take between five and ten minutes. After I obtain your oral consent for participation in the study (please see consent information on the back of this letter), I will be asking you several questions, including:

- Your reasons for leaving Southeast Missouri State University;
- What you liked about the Department of Agriculture, the Department of Industrial and Engineering Technology and/or the School of Polytechnic Studies;
- Your suggestions for improving the Department of Agriculture, the Department of Industrial and Engineering Technology and/or the School of Polytechnic Studies; and
- Is there anything that I can do to assist in your return to Southeast?

The risks associated with your participation in this study are minimal and are no more than the risks associated with your customary, everyday activities.

Your honest and frank responses will help us determine our strengths and opportunities for improving services to our students. Your identity will remain confidential; your answers will only be reported in a summary format.

Your participation in this telephone survey is voluntary. You may choose not to participate. If you would prefer to not receive a telephone call from me, or if you would prefer to communicate by email, you may reach me at kmadigan@semo.edu. If you choose to discuss the questions with me by email and you initiate the email, it will be assumed that you are providing your consent to participate in the study.

If you have questions or concerns about this study, you may contact any of the following:

- Kim Austin Madigan, Investigator, kmadigan@semo.edu, 573-472-3210
- Dr. Jerry Waddle, Investigator's Faculty Advisor, jwaddle@semo.edu, 573-651-2427
- University of Missouri-Columbia Campus Institutional Review Board, umresearchcirb@missouri.edu, 573-882-9585
- Dr. Tahsin Khalid, College of Education Human Subjects Committee, tkhalid@semo.edu, 573-651-2505

Sincerely,

Personal signature in blue ink

Kim Madigan
Primary Investigator

Oral Informed Consent

I will read this consent statement at the beginning of our phone conversation, prior to asking you the questions on the reverse side of this letter:

Thanks for taking the time to talk with me about your reasons for leaving Southeast Missouri State University, plus for sharing information regarding our strengths and areas for improvement.

The title of this project is “A Utilization-Focused Evaluation of Institutional Persistence and Withdrawal in an Academic Unit,” and I, Kim Madigan, am the primary investigator. If you have questions or comments after this conversation, please contact me or any of the contacts listed in the letter that I recently sent to you.

The purpose of this project is to provide data and input toward the development of a plan to improve the retention rate within the School of Polytechnic Studies.

You are being asked to participate in this study because you were enrolled at Southeast and majoring in some area within the School of Polytechnic Studies at the beginning of the fall 2005 semester but withdrew from the institution during or following the fall 2005 or spring 2006 semester.

As part of this study, you will be asked the questions that were included in the letter that I recently sent to you. Answering these questions should take between five and ten minutes. The risk associated with your participation in this study is minimal and is no more than the risk associated with your everyday customary activities.

Your participation is voluntary, and you may refuse to participate and/or discontinue your participation at any time without penalty or prejudice.

All of the information that is collected as part of this phone conversation will remain confidential. Your name will be known only to me, and in no case, will your name be associated with your comments.

By agreeing to participate in this project and verbally agreeing to consent, you are not waiving your legal rights.

Are you 18 years of age or older, and do you consent that you are freely and without pressure consenting to participate in this research project by answering several questions?

Appendix G

Oral Consent Protocol for Contact with Students who Withdrew

Oral Informed Consent

To be read at the beginning of phone conversation with former students who exhibited institutional withdrawal from Southeast Missouri State University:

Thanks for taking the time to talk with me about your reasons for leaving Southeast Missouri State University, plus for sharing information regarding our strengths and areas for improvement.

The title of this project is “A Utilization-Focused Evaluation of Institutional Persistence and Withdrawal in an Academic Unit,” and I, Kim Madigan, am the primary investigator. If you have questions or comments after this conversation, please contact me or any of the contacts listed in the letter that I recently sent to you.

The purpose of this project is to provide data and input toward the development of a plan to improve the retention rate within the School of Polytechnic Studies.

You are being asked to participate in this study because you were enrolled at Southeast and majoring in some area within the School of Polytechnic Studies at the beginning of the fall 2005 semester but withdrew from the institution during or following the fall 2005 or spring 2006 semester.

As part of this study, you will be asked the questions that were included in the letter that I recently sent to you. Answering these questions should take between five and ten minutes. The risk associated with your participation in this study is minimal and is no more than the risk associated with your everyday customary activities.

Your participation is voluntary, and you may refuse to participate and/or discontinue your participation at any time without penalty or prejudice.

All of the information that is collected as part of this phone conversation will remain confidential. Your name will be known only to me, and in no case, will your name be associated with your comments.

By agreeing to participate in this project and verbally agreeing to consent, you are not waiving your legal rights.

Are you 18 years of age or older, and do you consent that you are freely and without pressure consenting to participate in this research project by answering several questions?

If the former student gives oral consent, I will continue with the four questions:

- Please tell me your reasons for leaving Southeast Missouri State University;
- Please tell me what you liked about the Department of Agriculture, the Department of Industrial and Engineering Technology and/or the School of Polytechnic Studies;
- Please provide your suggestions for improving the Department of Agriculture, the Department of Industrial and Engineering Technology and/or the School of Polytechnic Studies; and
- Is there anything that I can do to assist in your return to Southeast?

VITA

Kimberly Austin Madigan was born December 24, 1967, in Cape Girardeau, Missouri. After graduating from Sikeston High School (Sikeston, Missouri) in 1986, she attended Southeast Missouri State University, earning both Bachelor's and Master's Degrees in Vocational Home Economics Education. After working as a graduate assistant, Kimberly began her professional career as a job training case manager, helping others obtain training needed for self-sustaining employment. For the next several years, she worked at Three Rivers Community College in Poplar Bluff, Missouri, as the Director of the New Perspectives Program - a program which served single parents, displaced homemakers, and people training for careers not traditionally held by their gender. In 1997, Kimberly began working for Southeast Missouri State University, where she has served students in several advising-related capacities. In addition, she taught the University's First-Year Seminar course for seven years. In 2000, she was named Southeast Missouri State University Professional Staff Member of the Year.

Kimberly is married to Mark John Madigan. They have one son, Jonathan, who is truly a gift from God.