

PERCEIVED RELATION OF ADULT COMMUNITY COLLEGE STUDENTS
BETWEEN QUALITY OF EFFORT AND OUTCOME GAINS:
ADULT STUDENTS AT ONE COMMUNITY COLLEGE

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by
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Adult Students at One Community College

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TABLE OF CONTENTS

ACKNOWLEDGEMENTS.....	ii
LIST OF TABLES	vi
ABSTRACT	viii
CHAPTER	
1. INTRODUCTION.....	1
Characteristics of the Adult Student.....	2
Barriers.....	3
Comparison Between Adult and Traditional Students	5
Motivation to Attend College.....	8
Support Systems	9
Enrollment Patterns of Higher Education.....	10
Statement of the Problem.....	11
Purpose of the Study.....	12
Research Questions	12
Assumptions.....	13
Limitations	13
Definition of Key Terms.....	13
Significance of the Study.....	16
2. REVIEW OF THE LITERATURE.....	17
Characteristics of Adult Undergraduate Students	17
Barriers Faced by Adult Learners	19
Personal Motivation and Student Engagement	21

	Educational Support Systems.....	26
	Curriculum	29
	Effects of Student Involvement on Student Success	32
	Quality of Effort and Student Gains Outcomes for Adult Students.....	34
	Institutional Support of Student Learning Outcomes.....	36
	Summary.....	38
3.	METHODOLOGY	43
	Research Questions	43
	Research Design.....	44
	Research Sample	45
	Data Collection.....	46
	Instrumentation.....	47
	Data Analysis	56
	Summary.....	57
4.	ANALYSIS OF DATA	59
	Description of the Study’s Respondents.....	59
	Student Demographics Data.....	60
	Examination of Research Questions.....	70
	Summary.....	90
5.	SUMMARY, CONCLUSIONS, RECOMMENDATIONS, AND IMPLICATIONS.....	92
	Summary of Research.....	92
	Summary of the Student Demographics Data.....	97

Data Analysis	99
Research Questions	100
Limitations	105
Discussion	105
Implications and Recommendations Practice	112
Conclusions	115
APPENDIX	
1. CCSEQ QUESTIONNAIRE	117
REFERENCES	125
VITA	133

LIST OF TABLES

Table	Page
1. <i>Quality of Effort Scales</i>	51
2. <i>College Activity Scales: Estimates of Reliability</i>	53
3. <i>Estimate of Gains Scales: Estimate of Reliability</i>	55
4. <i>Gender of Student</i>	61
5. <i>Ethnicity</i>	62
6. <i>Native Language is English</i>	62
7. <i>Time Spent Working on Job</i>	63
8. <i>Affect of Job on School Work</i>	64
9. <i>In Work-Study Program</i>	64
10. <i>Total Credits Taken This Term</i>	65
11. <i>Total Credits Taken at This College</i>	66
12. <i>When Classes Meet</i>	66
13. <i>Most Grades at This College</i>	67
14. <i>Time Spent Studying</i>	68
15. <i>Time On Campus Not In Class</i>	69
16. <i>Most Important Reason for Attending</i>	70
17. <i>Quality of Effort Scales</i>	72
18. <i>Items of Career Preparation Estimate of Gains Scale</i>	74
19. <i>Career Preparation Estimate of Gains Scale</i>	74
20. <i>Items of Arts & Communication Estimate of Gains Scale</i>	75
21. <i>Arts & Communication Estimate of Gains Scale</i>	76

22.	<i>Items of Computers Estimate of Gains Scale</i>	77
23.	<i>Computers Estimate of Gains Scale</i>	77
24.	<i>Items of Personal and Social Development Estimate of Gain Scale</i>	79
25.	<i>Personal and Social Development Estimate of Gains Scale</i>	80
26.	<i>Items of Math, Science, and Integrated Technology Estimate of Gain Scale</i>	81
27.	<i>Math, Science, and Integrated Technology Estimate of Gain Scale</i>	82
28.	<i>Items of Perspectives of the World Estimate of Gains Scale</i>	83
29.	<i>Perspectives of the World Estimate of Gains Scale</i>	83
30.	<i>Estimate of Gains Scales</i>	84
31.	<i>Quality of Effort Scales & Estimates of Gains Scales: Correlations</i>	87
32.	<i>Quality of Effort Scales & Estimates of Gains Scales: Stronger Correlations</i>	89

PERCEIVED REALIIONS OF ADULT COMMUNITY COLLEGE
STUDENTS BEWTEEN QUALITY OF EFFORT AND OUTCOME GAINS:
ADULT STUDENTS AT ONE COMMUNITY COLLEGE

Ernestine V. Miller

ABSTRACT

This study's purpose was to explore the relationship between the perceived quality of student effort and the perceived gains in skills and knowledge of adult undergraduate students. The student population of Metropolitan Community College in Kansas City, Missouri was represented by student data collected using (CCSEQ), Community College Student Experiences Questionnaire. The CCSEQ instrument was administered fall 2004 semester to MCC students completing 45 credit hours and enrolled in either Day or Evening College courses. Adult learners aged 28 years and older were the sample for this study. Three research questions were posed for this study: (1) The reported quality of effort of adult undergraduate students; (2) Outcomes gains as reported by adult undergraduate students; and (3) The relationship between adult students' reported quality of effort and gains reported in college activities. Descriptive statistics were used to analyze student responses. Frequency, mean, and standard deviation were calculated for student responses to questions one and two. To answer question three, Pearson Correlation Coefficients were calculated between the nine reported quality of effort scales and the six reported gains scales. Results found in the present study show that correlations exist between adult student's quality of effort in their interactions with faculty, college courses, and college activities. Results found

in the study also show that students' reported most gains in four of the six stated gains. Findings also show that meaningful correlations exist between eight of the stated quality of effort scales, and six of the stated outcome gains.

CHAPTER ONE

INTRODUCTION

Community colleges have long been an important and valuable resource for those wishing to obtain vocational, career, or other academic training. The role of the community college is to serve the needs of the community by providing opportunities to inform its citizens, improve social climate, and improve living conditions through educational programs to those residing in the community (Maxwell, Hagedorn, Cypers, Moon, Brocato, Whal, & Prather, 2003). Learners attending these institutions are engaged in vocational and educational training for the purposes of personal development, as well as professional and career advancement. A number of factors influence the role of community colleges, including shifts in educational funding used to provide programs and changes in services needed to address enrollment increases in the adult student sample attending these institutions. Darkenwald and Merriam (1982) stated in their discussion of the importance of the role of community college, “More than any other institution, the community college exemplifies the ideals of lifelong learning” (p. 161). Community colleges continually display the unique ability to adapt to the needs in the communities they serve (Helfgot & Culp, 1995).

The National Center for Education Statistics: Special Analysis 2002 (2002) reports that adult learners seek undergraduate opportunities for education and training at public two-year community colleges at a greater rate (89%) than traditional age students who seek admission to these institutions (10%). Enrollment trends for adult learners continue to rise. One important factor contributing to this trend is an overall reduction in the number of basic manufacturing jobs and other employment opportunities requiring

little or no training before being hired. Also, rapid technological and economic changes in the work environment are increasing community college enrollment. Sissel, Hansman and Kasworm (2001) reported:

A recent study by the College Board (1998) indicated that half of all students enrolled for credit within a U.S. college or university are over the age of twenty-five. When this population is added to those adults who participate in noncredit, extension, or college- or university-sponsored community and economic development initiatives, it becomes apparent that adult learners are the new majority in higher education. (p. 17)

This study focuses on factors that influence the success of adult learners, age 28 and older, who attend community college as undergraduate students. Specifically, the study examines the perceived gains in academic, personal, and student outcome development by those students exposed to a variety of educational experiences. Further, the study examines the relation between student involvement within the college environment and student participation in both in and out of class activities. Finally, this study examines the relation that student quality of effort has with student outcome gains and academic achievement.

Characteristics of the Adult Student

The National Postsecondary Student Aid Study (1998) identified adult student characteristics including financial need and income status, family size, enrollment patterns, attendance, and retention status. Adult community college students are frequently female and often first-generation college students with a total family income that is at, or below, poverty guidelines (Corrigan, 2003). Personal and economic circumstances influence the adult learner's choice of educational institutions. Citing family and personal obligations, adult students report life experiences that negatively impact their ability to attend a four-year college or university. Kasworm (2003, Summer)

reported “Nationally, 58.7 per cent of adult undergraduate students participated in two-year ... community colleges” (p. 7). Adult students have a varied background as a result of personal, work, social, cultural, and family experiences (Graham & Donaldson, 1999). Adult students are multidimensional. Kasworm (2003, Summer) and Donaldson (1999) concur that adult learners assume a number of roles, including part-time student, worker, parent, and spouse. Graham and Donaldson (1999) reported:

Adults come to the collegiate experience with rich personal biographies. These personal biographies are influenced by prior experiences in the real world... including those in college organizations or internships from earlier college experiences, to the social and cultural context of adult life in which adults participate as workers, family, and community members. (p. 4)

Barriers

Community college student demographic shifts are characterized and defined by the needs of adult learners. Timarong, TEMAUNGIL, and Sukrad (2002) reported adult students face individual and personal barriers to pursuing continuing opportunities in higher education. Barriers include the need for dependable childcare and transportation and lack of support from family, friends, and employers. Adult learners soon realize the need to juggle work and family commitments while attending college (Timarong et al.). Some adult learners are challenged by a lack of highly developed critical coping skills, including personal planning and family management. Often these students need additional support and academic assistance to be successful in the classroom (Timarong et al.).

Senter and Senter (1998) noted that, in some circumstances, adult students perceive a greater need for assistance and services in some areas of the institution than are traditionally provided. Their academic success is often in jeopardy as a result of

poorly managed personal skills that can lead to inconsistent patterns of student attendance, high student attrition, low academic performance, and a greater dropout rate (Corrigan, 2003; Summers, 2003). Concerns such as these often negatively impact continued enrollment, student persistence, and degree attainment among adult learners.

A lack of academic preparedness has also been found to be a barrier to academic success for first-time community college adult learners. Grimes and David (1999) reported, “41% of first-time freshmen in public two-year institutions [are] enrolled in at least one remedial course” (p. 73). Community college undergraduates often require a number of tutorial programs and educational services to enhance basic skills and vocational training or need re-training to meet their needs. Maxwell, et al. (2003) reported that first time community college students require remediation in basic reading, mathematics, and English. Haggan (2000) reported that some adult students have difficulty defining personal goals and lack focus and commitment. Summers (2003) found that unsuccessful previous educational experiences as well as personal, family, and social dynamics contribute to high attrition rates among adult community college students.

Personal financial instability presents additional challenges for adult undergraduates. Financially challenged, low-income adult students rely on financial aid subsidies to attend college (Corrigan, 2003). Low-income students are viewed as high-risk students. Nearly 90% of low-income students are adult undergraduate students attending community colleges (Corrigan).

When taken together, these factors are believed to impact personal motivation, academic persistence, and degree completion for adult students attending community

college. As adults enter college as first-time students, these and other related factors must be considered when college personnel are planning educational programs and services (Helfgot & Culp, 1995).

Comparison Between Adult and Traditional Students

Today, fewer than 20% of undergraduate students fit the image of the traditional undergraduate student. Currently, adult students have an ever-growing presence on college campuses. Adult learners seek undergraduate opportunities for education and training at the public two-year community college level at a greater rate (89%) than do traditional age students (10%) (National Center for Education Statistics: Special Analysis 2002, 2002). Graham, Donaldson, Kasworm, and Dirks, (2000) agree, adult learners are changing the nature of higher education today. “Adult learners comprise as much as 45% of all the students enrolled as undergraduates” (p. 3).

Previously held views about traditional college students have changed. Formerly, the traditional college student was defined as 18 to 24 years of age, living on campus, and attending school full time (Levine & Cureton, 1998). Traditional undergraduate students have few, if any, family, career, or other personal commitments impacting their educational goals. Traditional students are frequently successful in the four-year traditional environment, in large part because of favorable support systems including cultural and family beliefs that place high value on education. Tam (2002) observed, “there is a great deal of evidence about student’s growth in self-discovery and related changes in values, attitudes and life choices as a result of their university attendance” (p. 212). Traditional students are often assisted by family, loans, and other financial aid subsidies to assist with college related expenses.

Unlike adult community college students, traditional students possess both human and social capital (Balatti & Falk, 2002), whereby the educational constructs of traditional aged students involve support from teachers, mentors, and counselors. Also, favorable family economic factors customarily contribute to the academic success of these students. Researchers report traditional aged college students attend four-year educational programs at a greater rate (approximately 42.5% at public 4- year institutions, and 50% at private not-for-profit 4- year institutions) than adult learners (National Center for Education Statistics; The Condition of Education, 2003).

In contrast, community college adult learners are frequently first-generation college students (Corrigan, 2003). As such, adult students are often without either role models or mentors, factors that may have a negative impact on their academic success. Adult undergraduate learners and the institutions they attend are frequently faced with low student retention and low attainment of student educational goals. Students with special abilities are more prevalent on community college campuses today. Grimes and David (1999) observed, “Underperpared students are not simply students with lower academic skills; they constitute a group with specific characteristics and difficulties” (p.75).

Family circumstances and financial status largely determine student status at most colleges and universities (Kasworm, Polson, & Fishback, 2002). Middle-and upper-income adult students maintain professional or career-based financial resources of personal income and have employer reimbursement at their disposal to cover educational expenses. Middle-to-higher income adult students are more likely to persist to reach their

educational goals than low-income adult students. This is especially true when employers use financial incentives to reward course and program completion for their employees.

Unlike most traditional undergraduate students, most adult undergraduate students face financial obstacles to attending college. Low-income adult students with family and other personal obligations will often delay entry to postsecondary education. When compared to higher income traditional students, low-income adult students are less likely to persist and attain a college degree or certificate. These risk factors compound the challenges faced by low-income adult students (Horn & Premo, 1995). Corrigan (2003) reported, "In 1998, 59 percent of beginning low-income students had either attained a degree or certificate or were still enrolled three years after entry. In contrast, 75 percent of higher-income students had attained a degree or were still enrolled" (p. 27). In a report from the National Center for Educational Statistics, 1995-1998, findings indicated that nearly 90% of low-income adult students had delayed entry into college compared with 24% of middle to higher-income traditional students (Corrigan, 2003). Awareness of the financial challenges faced by adult students is imperative for educators and policy makers (Kasworm, 2003, Summer). Despite these concerns, adult students can succeed academically.

Motivation to Attend College

Adult undergraduate students choose to enroll in college programs in pursuit of an academic degree. Often this goal is tied to a desire for advancement in the work place or to seek new career employment prospects (Kasworm, 2003, Summer). Additionally, a number of adults are motivated to attend college or to seek vocational training as a result of changing circumstances in their work setting frequently requiring skill enhancement to address technology advancements in their professional surroundings. Kasworm (2005) stated, “For these adults, their sense of self and future were highly invested in being successful as academic students” (p. 18).

Affected by a number of family, employment, and personal commitments, adult students approach their educational needs based on factors different than those influencing college choices among traditional aged college students. Community colleges attract adults who are aware of the value and worth of receiving training and education, but who often find traditional four-year education programs and processes just out of reach. Community colleges are viewed by many adult undergraduate learners as being more accessible and providing the best option to meet their educational goals. Motivated by low cost, convenience, smaller class size, and being close to home, adult learners often choose the community college setting to begin their educational experience (Cohen & Brawer, 1988). The community college setting often provides advantages that are attractive to the adult student. Concerned about the time commitment required to complete most university academic programs, adult learners seek education programming that can be completed in a shorter period of time and which produces the least amount of

disruption to their lives. The community college setting in theory allows adult undergraduates to pursue and complete their educational goals in two years or less.

Support Systems

Displaying the capacity to be responsive to the needs of adult students, the community college setting demonstrates an understanding of the importance of providing timely development of academic training programs. Personal motivation, academic persistence, and degree completion are challenges for some adult community college students. These and other related factors must be considered when college personnel are planning educational programs and services (Helfgot & Culp, 1995).

Demonstrating a lack of adequate academic preparation, effective study skills and stress management, some adult students have difficulty defining personal goals and lack focus and commitment. Such limitations can present challenges to college administrators as they attempt to reduce attrition rates among adult community college students. As personal and academic needs of the adult student sample are identified, instructors, counselors, and advisors will need to modify conventional educational practices including communication and teaching methodology as well as the extent and the availability of student support services used to address student limitations (Haggan, 2000). Accordingly, institutional services and resources should be in place to assist these students' transition to college. The community college is perceived by adult undergraduate learners as a means to improve their personal, family, and financial circumstances.

While it is important to recruit adult students into the community college setting, it is equally important to institute college-wide programs focused on student retention

(Grimes & David, 1999). Promoting a social environmental structure that encourages student involvement, faculty student interaction, and student peer interaction supports and facilitates student learning outcomes. Graham and Gisi (2000) reported

the role of the “educational ethos” (i.e., students’ satisfaction with the faculty’s respect for students, their availability, their concern and contact with students, as well as the quality of instruction) played a larger role in the students’ learning outcomes. (p.115)

In a significant number of instances adult undergraduate students’ learning outcomes are positively affected when the institution’s faculty and educational culture supports and encourages respect for students and their learning.

Enrollment Patterns of Higher Education

The number of adult learners enrolling in higher education programs continues to increase. Hadfield (2003), citing the 1996 U.S. Census Bureau’s statement forecasting the expansion of adult education participation in the USA through the year 2002, estimated nine million adult learners would enroll in some form of higher education between 1996 and 2002. More recently, statistics reported by the National Center for Education Statistics (2001) indicated participation in formal adult education, over a twelve month period, rose to 46% of about 198 million adults. Postsecondary education institutions, both public and private, have become so diverse in their offerings and educational opportunities that adult learners now have numerous educational options from which to choose. Consequently, adult learners are taking advantage of the opportunity to enroll in educational programs including technical and professional training that best fit their needs (The National Center for Education Statistics, 2002).

Based on recent trends, it seems clear that adult students will continue to seek opportunities for personal and professional improvement by participating in community

college education programs (National Center for Education Statistics 2001). Cohen and Brawer (1987) in their discussions of the role and purpose of the community college observed the following:

The community colleges' collegiate function is an amalgam of liberal arts curriculum and efforts to promote student transfer. It is most pronounced in the colleges' activities designed first to provide a general education, then to pass students through to senior institutions. But students seeking only job training are also affected by the collegiate functions; all occupational degree programs include a component of college-level studies.... The collegiate curriculum in community colleges centers on the academic disciplines, modified to fit students, staff, and programs. (p. 5)

Despite the variety of education options including transfer, career programs, and certificate offerings, student retention and student academic completion are issues faced by a number of community colleges. Brookfield and Knox (1986) suggested that in the role of a facilitator for student learning, community college administrators, student support professionals, and college faculty should respond with appropriate programs to address the challenges to student academic learning.

Statement of the Problem

A new student majority, adult undergraduate students, maintains an enormous presence on community college campuses around the country (Sissel et al., 2001). Historically, adult undergraduate students attending community college have received little public attention. However, adult learners are increasingly enrolling in community colleges. Most adult students face a number of personal barriers that impact their academic success. As a result, community college administrators continue to be challenged by increased needs among adult students, including students who are less academically prepared, are most often first generation, and require education remediation (Grimes & David, 1999). This study will examine the relation between student

involvement within the college environment, student participation in both in and out of class activities, and student interaction with college faculty members, mentors, peers, and the learning process. More specifically, this study will examine the relation that student quality of effort has with student outcome gains and academic achievement.

Purpose of the Study

The major purpose of this study of the adult undergraduate student sample at the Metropolitan Community College (MCC) is to explore the relationship between the perceived quality of student effort and the perceived gains in knowledge and skills. The results of this research can be used in community college settings to improve educational practices, promote student satisfaction, and enhance opportunities for student academic success.

Research Questions

Using the Community College Student Experience Questionnaire (CCSEQ), the following research questions are used to guide the study.

1. What are adult students' reported quality of effort in nine areas of collegiate activities (Course Activities; Library Activities; Faculty; Student Acquaintances; Art, Music, and Theater; Writing Activities; Science Activities; Career/Occupational Skills; and Computer Technology) as measured by the CCSEQ for adult students at MCC who took the CCSEQ in Fall 2004?
2. What are adult students' reported gains in six outcome areas (Career Preparation; Arts & Communication; Computers; Personal and Social Development; Mathematics, Science, and Integrated Technology; and

Perspectives of the World) as measured by the CCSEQ for adult students at MCC who took the CCSEQ in Fall 2004?

3. What is the relationship between adult students' reported quality of effort in the nine areas of collegiate activities and students' reported gains in the six outcome areas as measured by the CCSEQ for adult students at MCC who took the CCSEQ in fall 2004?

Assumptions

It is assumed that adult undergraduate students 28 years and older, the subjects of this study, have responded to the questions on the Community College Student Experience Questionnaire truthfully and without bias. It is further assumed that the administration of the CCSEQ was conducted without bias and followed conventional survey methods.

Limitations

One two-year community college is utilized in this study. The findings are particular to that institution, and generalization of the findings to the student sample of a different community college may be limited. However, the demographic characteristics of this study's subjects are similar to many adult students, age 28 years and older, enrolling and attending at the community college level. Therefore, findings may be applicable to adult learners enrolled in similar community college contexts.

Definition of Key Terms

Academic Advising. A service provided to students assisting them in the selection of and enrollment in college courses.

Academic Services. Services designed to academically assist students during their college experience.

Academic Success. Completion of educational goals as determined by adult students.

Adult Learning Focused Institution (ALFI). Educational institution that has as its major focuses the educational needs of the adult non-traditional learner (CAEL, 2005).

Adult Student. An individual who is 28 years of age or older attending college.

Adult Undergraduate Basic Skill Development. Coursework designed to assist under-prepared students to meet minimum college academic entry requirements.

Adult Undergraduate Student. A student with any of the following characteristics: has delayed enrollment, attends college part time, works full time while enrolled in college, is considered financially independent for purposes of determining financial aid, has dependents other than a spouse, is a single parent, or does not have a high school diploma (National Center for Education Statistics, 2002).

Campus Climate. The learning atmosphere of the college perceived by the learner.

Community College. An educational institution that confers a two-year degree or certificate after the successful completion of specified number of credit hours.

Community College Student Experience Questionnaire (CCSEQ). The survey instrument used to collect information from community college students about their educational experiences.

Curriculum Structure. The courses offered to meet program and other requirements for a certificate or degree awarded by an educational institution.

Estimate of Gains. Students' self-report of gains they have made toward a series of educational goals (Ethington et. al, 2001).

Faculty. Instructor whose role it is to provide academic instruction to students and manages academic curriculum within the institution.

Full-time Student. Student who carries a total of 12 credit hours during fall or spring semesters and at least three credit hours during the summer semester.

Institutional Effectiveness. In this study, the term refers to the quality of instruction and services designed to support and increase student gains.

Institutional Initiatives. Academic programs and/or services initiated to address an educational objective, or objectives within an educational institution.

Learner Transactional Process. During this process the learner is exposed to multiple learning experiences, including the development of strategies for personal improvement (Galbraith, 1991).

Learning Strategies. Courses, activities, and guidance developed by educational institutions to enhance learning outcomes.

New Majority. The term is found in the literature and refers to adult learners who fall into one or more of the following categories: English Language Learners, Prison Parolees, Aid to Dependent Children recipients, displaced homemakers, candidates for employment retraining, and students with disabilities.

Professional Support Staff. A college employee assigned the task to assist students throughout their educational process. These may include academic tutors, counselors, student advisers, and librarians.

Quality of Effort. “the amount, scope, and quality of effort students put into taking advantage of the opportunities offered to them [students] by the college.” (Ethington et. al, 2001, p. 12)

Traditional Age Student. College student eighteen to twenty-four years old.

Significance of the Study

Developing a better understanding of the needs of adult learners will enable community college personnel to provide enhanced teaching and learning opportunities leading to improvement in student learning (Lutes, 2004). Understanding the expectations and perceptions held by adult students regarding their views of the value and usefulness of remedial programs and services provided to support their educational experiences are important and contributes to student achievement (Grimes & David, 1999).

The results of this research will inform administrators, instructors, and support professionals regarding the importance of adopting multiple methods of student engagement including the provision of instructional and supplemental academic support by professional staff (i.e., academic tutors, counselors, student advisers, and librarians) to address the range of teaching and learning needs of adult students (Ross-Gordon, 2003). Exploring issues contributing to an increase in student retention may assist community college educators to understand the connections leading to student academic success (Graham & Donaldson, 1999; Richardson & King, 1998). The results of this inquiry will provide information to guide understanding about the connections among variables influencing student academic achievement outcomes and create opportunities for student academic success (Hadfield, 2003).

CHAPTER TWO

REVIEW OF THE LITERATURE

The review of the literature revealed five related areas of inquiry central to this study. Each section synthesizes theories, concepts, and research most relevant to this study's purpose and research questions. Section one contains literature that describes the characteristics of the adult undergraduate student. Section one also examines literature describing why adults are motivated to participate in educational programs and the personal barriers they face as learners. Section two examines literature regarding the adult learner's personal motivation and self-engagement in the context of establishing goals for learning. The third section examines the role of the community college in providing educational programming and student support services to adult undergraduates. The fourth section examines instructional delivery systems and teaching methods that contribute to student engagement. Section five examines the role that institutions play in addressing the needs of adult undergraduate students.

Characteristics of Adult Undergraduate Students

The term "new majority" used by Martens, Lara, Cordova, and Harris (1995) describes adult learners' participation in higher education. They observed the following, "The needs, expectations, and lifestyles of these new students are vastly different from those of traditional undergraduates" (p. 5). Unlike traditional aged students, 16-24 years old, adult learners are older. Many adult students return to college because of life transitions. Life and personal changes may include a change in job requirements or career changes that force adults to get additional education to survive or advance in the job market (Benshoff & Lewis, 1992). Often delaying entry into college because of family,

work, or other commitments, adult learners bring to the learning situation numerous skills, talents, and life experiences developed over time (Graham & Donaldson, 1999). These skills are used to cope with and manage their personal and professional lives and their commitment to family, children, social, and political responsibilities (Richardson & King, 1998).

Adult students, more than traditional aged college students, have higher personal motivations for engaging in learning activities (Benshoff & Lewis, 1992). Kasworm (2003, Summer) states, “Adult undergraduate students typically enroll in a college that is readily accessible, relevant to current life needs, cost effective, flexible in course scheduling and supportive of adult lifestyle commitments” (p. 7). Adult students frequently participate in education and related events on voluntary bases, and they do so at a greater rate than other groups of learners. Therefore, the need to achieve personal and academic success is often very high among adult students (Tam, 2002). Adult students demonstrate greater interest and concern about their success in college than do traditional aged students.

Adult students bring a number of cognitive skills to the college environment, including the ability to connect classroom learning to real life experiences. Graham and Donaldson (1999) report, “adults have complex cognitive schema, rich with previous knowledge and experience. This generally allows them to connect new information to something they have already experienced” (p. 3). Timarong, Temaungil, and Sukrad (2002) agree; “Adult learners are usually able to understand the relationship between knowledge being learned and the application of this knowledge to daily living” (p. 2).

Barriers Faced by Adult Learners

Community college student demographic shifts are characterized and defined by the needs of adult learners. Kasworm (2003, Summer) stated, “Adults continue to be predominantly part-time students (69 percent) compared with 27 percent of younger undergraduate students....adults are time-focused on adult life demands, with a more limited time commitment and priority to collegiate involvement beyond the classroom” (p. 8). Timarong et. al (2002) reported that adult students face individual and personal barriers to pursuing opportunities in higher education. In addition to the challenges of family, work, and other commitments, adult community college students often face academic and economic barriers that impact entry into college. Summers (2003) found that unsuccessful previous educational experiences as well as personal, family, and social dynamics contribute to high attrition rates among adult community college students. Barriers include the need for dependable childcare and transportation and lack of support from family, friends, and employers. Adult learners soon realize the need to cope with work and family commitments while attending college (Timarong et al., 2002). Lack of personal planning and family management skills and highly developed critical coping skills challenge some adult learners. Haggan (2000) reported that some adult students have difficulty defining personal goals and lack focus and commitment. To be successful in the classroom, often these students need supplementary support and academic assistance (Timarong et al.).

Under some conditions, adult students have need of assistance and services not traditionally provided by the institution (Senter & Senter, 1998). Corrigan (2003) and

Summers (2003) noted poorly managed personal skills often place the academic success of adult students at risk and can result in inconsistent patterns of student attendance, high student attrition, low academic performance, and a higher dropout rate. Concerns such as these often negatively impact continued enrollment, student persistence, and degree attainment among adult learners. Most are academically underprepared and many require remediation in one or more subjects (Summers, 2003). Adult students, more often than traditional aged students, recognize they have academic deficiencies that must be addressed. Senter and Senter (1998) report, “adult students believe that they are more in need of remediation than younger students and that they have weaker academic preparation and less well-developed study skills” (p. 271). Grimes and David (1999) found,

Currently, community college populations represent 44% of all undergraduates and 49% of first-time-in-college students, including many minority, low socioeconomic status, and nontraditional age students who frequently enter college less academically prepared.... Nationally, 46% of all public institutions and 57% of two-year institutions rank the academic preparation of entering students as fair or poor. (p. 73)

Hoyt (1999) observed, “Community colleges serve many students who are underprepared for their academic studies” (p. 51). Grimes and David (1999) reported, “41% of first-time freshmen in public two-year institutions enrolled in at least one remedial course” (p. 73). Community college undergraduates often require a number of programs and services to enhance college basic skills and vocational training or re-training to meet their needs. Maxwell, Hagedorn, Cypers, Moon, Brocato, Wahl, and Prather (2003) reported that first time community college students require remediation in basic reading, mathematics, and English.

Often financial instability presents additional barriers and challenges for adult undergraduates. Financially challenged, low-income adult students rely on financial aid subsidies to attend college (Corrigan, 2003). Low-income students are viewed as high-risk students. Nearly 90% of low-income students are adult undergraduate students (Corrigan). When taken together, these factors are believed to impact personal motivation, academic persistence, and degree completion for adult students attending community college. As adults enter college as first-time students, these and other related factors must be considered when college personnel are planning educational programs and services (Helfgot & Culp, 1995).

Personal Motivation and Student Engagement

Adult students are motivated to attend college for a number of personal and professional reasons. Kasworm (2003, Summer) reported, “Many adults are influenced to enroll in college following key life transitions and changes that foster new understandings or perspectives in individuals or present conditions in which college is viewed as necessary” (p. 6). Known for self-reliance, adult students often utilize personal experiences for the purpose of problem solving and developing learning strategies. Graham and Donaldson (1999) stated,

The learning experiences...run the entire gamut, ranging from the authentic, to simulated, to inauthentic learning. These experiences and their assessment of their performance, as well as the assessment of others, influence the adults’ initial interactions with the college environment as they return to college. (p. 4)

As adults mature, their readiness to learn increases. They are more oriented to learning and have an increased motivation to learn (Smith, 1996; 1999). Kerka (2002) explained,

Research shows that motivational, affective, and developmental factors are more crucial in adults than in younger learners; adults are more able to be

self-directed and reflective and to articulate learning goals, and they are more disposed to bring their life experiences to what and how they learn. (p. 3)

Educational goals, instructional methodologies, and learning outcomes are most valuable to adult learners when the curriculum is competency based and performance centered. An educational atmosphere deemed more conducive to the needs and learning preferences of adults has emerged. Adults now have changing expectations about how instructional materials and course information is translated into learning for their use. In research conducted on adult development and learning theory, the model of andragogy differentiates five assumptions about adult learning. These assumptions are believed to be central in understanding learning preferences of adult students: self-concept, experience, readiness to learn, orientation to learning, and motivation to learn (Smith, 1996; 1999).

Ross-Gordon (2003), reporting on findings of research conducted in adult learning theory, discussed the concept of andragogy, defined as a teaching/learning process. One objective of andragogy is to employ instructional and teaching methodologies that respect the learner and create suitable learning conditions for adult learning to take place. As a learning tool, andragogy addresses the conditions under which the learning needs of adult students are best met. Andragogy is expressed by Ross-Gordon to “consist of elements aimed at establishing a suitable physical and psychological climate for learning (mutual respect, collaborativeness, supportiveness openness, and fun) and involving learners in mutual planning” (p. 44). Expanding the discussion, Ross-Gordon relates 1971 research conducted by Allen Tough who presented the first comprehensive description of Self-Directed Learning (SDL), a “significant proportion of empirical research in the area has focused on the characteristic referred to

as SDL readiness” (p. 44). If adults are viewed as possessing distinctive characteristics signaling their readiness for learning, then instructors and other members of the faculty may want to consider encouraging learner involvement and self-direction as a personal learning tool for adult students (Kerka, 2002).

When considering the learning environment to support learning readiness of adult learners, Brookfield and Knox (1986) stated “The task of the facilitator of learning, therefore, is to create an educational program and setting in which adult students can develop their latent self-directed learning skills” (p. 92). Personal motivation, commitment, and learning preferences are reflected in the effort adult learners place on assuming responsibility for their learning. Ross-Gordon (2003) agreed: “Adults are assumed to prefer self-direction in determining the goals and outcomes of their learning” (p. 43). Hadfield (2003) concurred: recent research supports Malcolm Knowles’ theory about the nature of adult learning: “The traditional pedagogical model, which defines the appropriate role of the learner to be that of a dependent recipient of subject and content, is inappropriate for a mature adult” (p. 21).

Based on the evidence regarding the nature of the commitment adult learners construct in the management of other segments of their lives, educators of adult undergraduate learners must promote the concept of self-direction. Guiding adult undergraduate students toward greater personal responsibility and independence creates the effect of promoting learning within adult students despite the setting. Skill development in self-direction is appropriate whether in the classroom, an academic enhancement program, or a student services program. Closson (1996) stated,

Given the on-going changes in society, the community college is challenged to improve the ways in which it (a) enhances individual competency to learn on one's own and (b) supports individual efforts at self-directed education beyond the formal college setting. (p. 3)

Wlodkowski, Mauldin, and Gahn (2001) reported results of research, noting that “Studies indicate that personal motivation and self-regulation skills can mediate the individual differences in capacity and background that students bring to a college program” (p. 8). Findings suggest that students have the capacity for self-regulation of behavior, self-regulation of motivation and affect, and self-regulation of cognition. Adults who become academically and socially involved in their own learning process demonstrate personal motivation. They also utilize available resources, including identifying student peers and members of the faculty as mentors and role models. Through personal motivation, becoming more goals oriented, less anxious, more in control and involved in their personal learning, adults become more successful learners. Students with the capacity to identify strategies for learning that are most useful when learning a new skill-set often adopt and engage in three components of academic learning: self-regulation of behavior, self-regulation of motivation and affect, and self-regulation of cognition. Learners with these skills are better equipped to identify and take control over their resources for learning (Wlodkowski et. al).

Graham, Donaldson, Kasworm, and Dirkx (2000) stated, “There is a need to understand the adult learner's engagement in collegiate experiences through multiple venues of learning both on and off campus” (p. 2). To foster an understanding of the effect of learners' life experiences and their participation in college, The Model of College Outcomes for Adult Learners, based on research developed by Graham and Donaldson (1999), is used to examine adult student participation in collegiate learning.

Graham et. al report, “The model is composed of six components: (1) Prior Experience and Personal Biographies, (2) Psychosocial and Value Orientations, (3) Adult Cognition, (4) Life-world Environment, (5) College Outcomes, and (6) the Connecting Classroom” (p. 6). Adults returning to college bring personal knowledge and personal histories that are shaped by prior real world experiences. These experiences affect the perceptions of adults, including of themselves, their ability to be successful as college students, and their classroom expectations. Graham et. al (2000) found, “These knowledge structures and mental schema then in turn influence learners’ motivations, self-esteem, self- confidence, responsibility, and how adults will interpret their experiences in college by establishing patterns for understanding and evaluating their surroundings” (p. 5).

Drawing on the work of Anderson (1993); Bruer (1993); Rummelhart and Norman (1978), Graham et, al (2000) described research conducted on the mental process of adult learners. Adult mental processes are comprised of three distinctive areas: (a) declarative and procedural knowledge structures, (b) meta-cognitive or self-regulatory processes, and (c) cognitive operations. Adults employ these processes to regulate learning opportunities, including interactions with instructors and their classroom experiences, as well as work and personal life roles. Furthermore, a number of psychosocial dimensions influence an adult’s abilities to persists and achieve success in college. Adults who are committed to academic achievement possess adequate study skills, have a clear purpose for participating in education, and manage the competing life roles they face can be successful learners.

As adult learners translate their life experiences to connect classroom learning, Graham et. al (2000) suggested, “Adults likely draw upon an understanding of their

learning habits that allow them to manage their time and energies to get the most out of school” (p. 6). Adults’ cognitive abilities and mental processes combined with practical know-how provide benefits to the learners for achieving their educational goals. Unlike traditional learners, adult learners do not typically spend time on college campus engaged in activities they believe to be unrelated to their educational goals. Adult learners often seek and find support and social outlets revolving around family, friends, and coworkers. The classroom experience is thought to interact with other components of adults’ lives to connect adults with their instructors and student peers. Graham et. al (2000) stated, “Classroom interactions provide a social context for learning and shape adults’ role as college students” (p. 9).

Educational Support Systems

American community colleges are becoming more diverse and are composed of a more diverse student population. Lau (2003) reported that the “Americans with Disabilities Act in 1990 opened doors for an increasing number of individuals with disabilities, such as impairments of mobility, vision, hearing, speech, or learning, to attend institutions of higher education” (p. 4). In addition, an increasing number of female heads of household and other ethnic groups, including African American, Asian, Hispanic, and Latino students, are enrolling in community colleges at a rate of 33% by the year 2000 (Lau, 2003). Long (1983) stated:

Increasing pressures stemming from political, social, and economic changes confronts today’s adult learner with demands of reinterpretation of learning that includes learning as a lifelong process. Simultaneously, educators of adults are challenged to recast traditional concepts of learning, its content, and processes to facilitate it. (p. 3)

Successful adult learners require multiple social, psychological, and academic support systems (Graham, Donaldson, Kasworm, & Dirkx, 2000). Effective student development professionals are assets and can both prepare and guide the learner through early steps of admission, advising, and enrollment processes. Adult education researchers, other specialists in the field, and adult students themselves agree, they are most positively affected when a number of campus resources are available for their use (Hoyt, 1999). To address the varied needs of these students, a number of resources must be in place. Facilities and services established to accommodate the needs of disabled students, access to peer mentors, campus organizations, and other support resources to assist students towards their educational goals must be readily available (Lau, 2003). Access to counseling, advising, mentorship, and financial aid resources are critical and often enhance educational outcomes for the adult learner (Kasworm, 2003, Summer).

Assisting community college students in the development of strategies for coping with personal setbacks and adversity should be a goal of college counseling professionals. Jarrell (2004) incorporates the concept of “Quality of Life and Resiliency: Student Development Success, advanced through research by Forde (2002), which centers on a more student-focused approach to college admission” (p. 517). Jarrell also suggested “Fostering a sense of community among students is important because students grow and learn collaboratively, together with and separate from, educators” (p. 516). Developing services, including academic advising and counseling, that are designed specifically to address the unique needs of adult students contributes to student satisfaction (Richardson & King, 1998).

Much of the guidance extended to the learner by advising and counseling professionals can assist students to gain solid footing as they prepare for the role and the responsibility of becoming a college student (Tinto, 2002). Faculty involvement provides a key component for student educational support. Summers (2003) reported students who participated in alternate forms of instructional delivery such as “learning communities found that the enhanced classroom experience influenced student persistence” (p. 6). Developing opportunities for student-peer and student-faculty relationships promotes social and learning interactions and encourages student involvement (Donaldson, 1989; Graham & Gisi, 2000). Tinto (2002) supported this view and emphasized the need for educational support systems that include faculty involvement to be central if adult students are to be retained.

Student development professionals and others in the institution must promote personal responsibility in the learner, especially the capabilities to develop skills to identify, access, and utilize learning resources and other tools made available to them by the institution (Ryan, 2003). Jarrell (2004), reporting on the earlier work of Tinto, noted that “students need to give focus to... maintaining finances, challenging academics, learning time management skills, and taking responsibility for their own lives” (p. 518).

Ryan (2003) reported

community colleges invest in technology to improve the quality and accessibility of counseling. In practical terms, the author suggests that community colleges create web-based programs that allow students to enroll for courses, obtain degree audits or transcripts, conduct job searches, and address basic questions related to academic policy and advising. (p. 4)

Support for student intervention programs linking students with campus and program faculty mentors, student support professionals, and student services resources is required to assist with the transition to college.

Curriculum

The role of the faculty is critical in shaping the academic curriculum. Cohen and Brawer (1987) stated “The faculty are the arbiters of the collegiate curriculum.... They decide on course content and the level, select textbooks, and determine classroom activity patterns, write and mark the examinations, and, in general structure the conditions of learning” (p. 62). Lau (2003) suggested, if there is to be an emphasis on teaching and learning, “faculty must attempt to be less theoretical and more practical in preparing students for their future careers....faculty members must help them to think logically, critically, and imaginatively, and to develop more effective oral and written communication skills.” (p. 6).

Education, curriculum, and programs that are designed specifically for adult students are most effective, and sought after by the learner, when learning is perceived to have relevance to their life situation (Knowles, 1984; Merriam & Caffarella, 1991). Adult learners exhibit multiple learning styles and learning preferences. Faculty and instructors should become skilled in recognizing these unique differences among adult learners and should consider using innovative teaching and instructional strategies and approaches to affect student-learning outcomes (Closson, 1996). Donaldson (1989) suggested that adult learners experience a more meaningful learning atmosphere when instructors are caring and respectful of learners and when a sense of “community of learners” is developed within the class. Donaldson (1989) further stated that, “There is some evidence that

communities of learners can be developed. These communities are characterized by intense involvement, cohesiveness, a focus on common goals, full participation, caring, sharing and helping” (p. 74).

Teaching methods characterized as reflective, supportive, and learner-centered are found by the learner to be helpful and more often promote student satisfaction (Brookfield & Knox, 1986; Knowles, 1975). Donaldson (1989) suggested that adult learners benefit when in class and out of class activities facilitate cooperative group interaction and foster a culture of learning. Cooperation and group processes are used most effectively to guide learning. Students gain a supportive learning atmosphere through which goals are mutually achieved. Social interdependence and patterns of cooperation increase cognitive development; thus, such behaviors must be supported and encouraged in learners (Johnson & Johnson, 1998). Johnson and Johnson broadened the premise by introducing the concept of “interdependent promotive interaction” to advance students’ learning; “Promotive interaction occurs as individuals encourage and facilitate each other’s efforts to reach the group’s goals (such as maximizing each members’ learning)” (p. 5). Encouraging the group process supports the concept of social integration and promotes mentorship by connecting learners with other program participants and members of the institution (Donaldson, 1989).

It is well known that faculty play a key role in promoting educational growth among learners. Adult learners, like most students, experience a variety of needs as they undertake the learning process. Galbraith (1991), drawing on the earlier work of Brookfield (1986), agreed that teaching and learning are transactional processes. The transactional process is defined as “a democratic and collaborative endeavor whereby

facilitators and learners are engaged in a mutual act of challenge, critical reflection, sharing, support, and risk taking. The essence of the transactional process is collaboration” (p. 2). Similarly, there are professional facilitator characteristics and other relevant factors that are pertinent and contribute to effective adult learning. Many working and teaching in the field of Adult Education agree that adult education facilitators who demonstrate strong interpersonal skills, including respect for the learner, are sincere, genuine, and provide encouragement to learners, thus contributing to their learning experiences. An effective learning facilitator utilizes the transactional process to enhance the learning process.

Galbraith (1991) stated, “In the transactional process, helping skills, motivational strategy skills, and instructional planning skills are essential” (p. 8). Reinforcing the view are nine strategies identified as enhanced teaching and learning transactional processes as illustrated by Wlodkowski (1985, April; 1985, June; 1999): (1) help learners create a positive attitude toward the subject and learning situation; (2) develop a positive learner self-concept for learning; (3) establish learner expectancy for success; (4) ensure responsiveness to learners needs; (5) build learner interest; (6) develop learner involvement; (7) encourage and integrate learner emotions within the learning process; (8) increase learner awareness of progress, mastery, achievement, and responsibility in learning; (9) help learners to be aware of positive changes their learning produced. Instructional faculties who adopt these strategies often create a positive learning environment. Learners who engage and experience the transactional learning process develop an appreciation for a collaborative, challenging, and reflective learning environment. As a result, adult learners gain increased understanding of their educational

goals and how best to achieve them. Adults begin to design, plan, participate, and evaluate their course of study (Wlodkowski, 1985, April; 1985, June; 1999).

Effects of Student Involvement on Student Success

Lundberg (2003) stated, “Adult students are likely the most time-limited group of the college student population; nearly all adults commute, most work, and many enroll part-time, leaving them with less time available for on-campus involvement” (p. 665). Graham and Donaldson (1999) agree the leading challenge faced by adult students is the constraint of time restrictions they must contend with on a daily basis. However, adult students who are actively involved and highly engaged in their personal learning and intellectual development often experience greater academic success (Pike, Kuh, and Gonyea, 2003). Hutto (2002) related

Astin (1985) defined student involvement as the amount of physical and psychological energy that the student devotes to an academic experiences. To be more specific, the involved student is described as expending considerable energy in studying and interacting with faculty, school personnel, and other students. (p. 15)

Hutto (2002) observed, student involvement and engagement suggests strong commitment to the learning process and is associated with vigilance, time on task, and student effort. Each are found to be significant and contributes to student success.

Adult students often rely on family, friends, and work relationships as a means of personal support. Adult students, who broaden their network of supporters to include establishing and maintaining connections with peers, mentors, faculty and others in the college environment, contribute to student persistence and the achievement of educational outcomes (Wlodkowski, Mauldin, and Gahn, 2001). Students, who integrate

both social and academic aspects of learning in support of their education, are likely to be more successful. Supporting this line of thought, Pike and Killian (2001) observed,

student learning and intellectual development are influenced by efforts in studying, involvement in out-of-class activities, and interaction with faculty and peers....These studies found that a model including both involvement and integration provided an accurate representation of the relationships between involvement and learning outcomes and supported the causal ordering of involvement, integration, and learning. (p. 434)

Adult students credit the relationships they developed with faculty members, students, and course related learning experiences with the success they experience as students (Donaldson 1991; Graham and Donaldson, 1999; Graham and Long, 1998; Kasworm and Blowers, 1994).

Adult students who participate in educational programs and services that are designed to increase their academic achievement often experience greater learning and academic outcomes. Graham and Long (2000) stated, “When considering the effect of the college environment on adults, one possible explanation is that involvement in class-related learning and relationships with faculty have the greatest influence on their experiences” (p. 102). Understanding the impact student involvement and participation has on both students’ academic success and effective learning outcomes for students may suggest a number of important implications for educators. Graham and Long (2000) stated, “In particular, involvement with peer groups, academic pursuits, and faculty member is associated with enhanced learning, academic performance, and retention” (p. 101). Hutto (2002) agrees and concluded “Outcomes in student learning and development are directly proportional to the quality and quantity of student involvement” (p. 16).

Quality of Effort and Student Gains Outcomes for Adult Students

Student involvement affects adult students' experiences as learners. Their involvement also has a significant impact on student performance, student achievement, and student learning outcomes. Douzenis (1996) stated, "Community college students are often older, work full-time, and have families to support" (p. 27). However, adult students, who participate in educational programs and services and engage with both peers and faculty in educationally related activities that facilitate academic achievement, often experience greater academic outcomes. Polizzi and Ethington (1998) reported student gains are dependent "on the 'amount, scope, and quality' of their effort" (p. 1). Douzenis (1996) concurs,

student quality of effort in academic and social endeavors was positively related to self-reported gains in intellectual skills and personal development....hours spent per week studying or doing homework was significantly related to self-reported increases in cognitive and affective skills. (p. 2)

Skidmore and Aagaard (2004) expand the concept;

student learning at all instructional levels recognizes that students engagement is key to academic competence. Effective study skills are foundationally important to competence....These include competencies associated with acquiring, recording, organizing, synthesizing, remembering and using information" (p. 304).

Lundberg (2003) concurs and stated, "Faculty integration was a stronger predictor of gains for older students (p. 679). Tam (2002) stated, "the idea that institutions of higher education are founded on the process causing growth and development of students in a holistic sense, incorporating not just intellectual growth, but social, emotional and cultural development as well" (p. 211). Graham and Long (2000) reported, "The more time that adults were engaged in course and related learning activities as well as college

organizations, the greater their reported learning outcomes” (p. 99). Graham and Donaldson (1999) suggested

adults may really be seeking, and in many cases achieving, different levels of outcomes related to their college experiences and learning.... Adults differentiate between learning that (a) is required to pass an academic test; (b) actually increases their knowledge and understanding of the world; (c) can be applied directly at work, in their families, or in other life situations; or (d) can be used to help the larger community or for the benefit of society. (p. 18)

Adult students often measure their academic growth with success related to achievements they experience in their work and professional lives. Graham et. al (2000) reported

Kasworm (1995, 1997) found that academic outcomes were related to adults’ perceptions of how well they integrated academic learning with their real life-world roles. She identified at least three outcomes including (a) distinct academic and life-world knowledge – where learners maintained a distinction between what they were learning in class and their lives; (b) elaborated life-world knowledge – where students used what they learned in college to elaborate on what they knew from their life experiences; and (c) integrated and transformed life-world and academic knowledge – where adults integrated what they had learned across their various life-world and collegiate contexts. (p. 7)

Adult students seek relevancy in the education experience in which they engage. Early studies that researched student motivation indicated student efforts, both in and out of the classroom, including the use of the library and positive interaction with other students and faculty members, influence learner outcomes. Swigart and Murrell (2001) stated, “Using the CCSEQ, Glover and Murrell (1998), reported that quality of effort, regardless of student age, predicted gains in both personal and social growth and general education” (p. 299). Students reported quality of effort in art, music, communications, and developing writing skills influence gains. Tam (2002) stated,

college performance can be assessed in light of the impact it has on student participants...the effects of the college on student outcomes is consistent with the view that higher education can literally transform one's self-image, equip the individual with more skills, build on the basis of the knowledge that the individual had before arrival, and change attitudes and assumptions. (p. 217)

Institutional Support of Student Learning Outcomes

Community college presidents, deans, directors, managers, and other leaders are managing increasingly complex educational institutions. Faced with reduced educational funding, increased tuition rates, rising demands for innovative and timely instructional programs, the influx of diverse adult learners, many of whom are underprepared and who are in need of basic skills remediation, present educators with new challenges (Harbour, 2003). However, community college administrators must play a significant role in providing funding streams, physical facilities, and other resources to support the needs of adult students attending their institutions. Sissel, Hansman, and Kasworm (2001) stated, "Advocates for adult learners must be politically savvy about higher education policies, power, and privilege while having an awareness of the politics within the higher educational institution" (p. 21).

College administrators who exhibit institutional commitment to learners provide adequate educational support systems to assist students to stay in college. Seeking out and making financial subsidies available for academic programs and student services that support the diversity of students and their needs is important if learners are to be retained. College leaders must continually identify opportunities for increased resources needed to facilitate students' academic progress in programs. Adult student service offices should be developed to address the multiple needs of these learners. Rice (2003) stated, "referrals in the following areas: financial planning and budgeting, child care and elder-

care resources, counseling services, addiction and recovery services, time-management, and studying skills development” (p. 54) are required for student success.

To achieve these goals college leaders must look outside of their institutions for funding sources. If college leaders are to be successful in competing for scarce resources, they must respond to stakeholders. Institutional accountability standards, including program effectiveness, student performance, and clear strategic planning, must be articulated to various internal and external stakeholders (Harbour, 2003). Milliron and de los Santos (2004) agree and suggest the role of college leaders is to seek opportunities to promote the concept of “learning first.” Institutional leaders should communicate openly with stakeholders and others in the community about education outcomes and program performance objectives. Leaders must adopt policies and practices that ensure learning-centered strategies are in place and are used to connect, improve, and expand learning outcomes (Milliron & de los Santos, 2004).

Promoting and maintaining a culture of support and positive social interactions among faculty, administrators, and students will increase student retention (Lau, 2003). Jarrell (2004) stated, “The institutional commitment should be developed through the interaction with mentors –faculty and upperclassman– and through extracurricular activities, student union, and peer associations” (p. 516). Adult learners require the institution and its members to have a clear understanding and commitment to fulfill their needs as students (Lau, 2003). An academic culture that engages in such behavior contributes to a sense of belonging in the student, reduces feelings of isolation, and enhances learning outcomes (Read, Archer, & Leathwood, 2003). Tam (2002) suggested that the quality of student growth and development is an indicator of institutional

commitment; “institutions of higher education are founded on processes of causing growth and development of students in a holistic sense, incorporating not just intellectual growth, but social, emotional and cultural development as well” (p. 211).

Summary

A review of the literature reveals much about the characteristics, needs, and barriers adult undergraduate students face as community college students. A number of past studies in the field of adult education illustrate that adult community college students are motivated to attend college for reasons that are unlike those of traditional students. In addition, adult college students, unlike traditional students, maintain multiple roles, including that of parent, worker, and member of their community. Adult learners bring to their learning numerous skills, talents, and life experiences developed over time (Graham & Donaldson, 1999). While adult learners bring a range of life and personal experience to the classroom setting, most adults may not bring positive previous academic experience as they re-enter college (Summers, 2003). Research conducted by Timarong, Temaungil, and Sukrad (2002) reported adult students face individual and personal barriers to pursuing opportunities in higher education. Barriers include the need for dependable childcare and transportation and lack of support from family, friends, and employers. Adult learners soon realize the need to juggle work and family commitments while attending college.

Adult students perceive, in some circumstances, a greater need for assistance and services in some areas of the institution than are traditionally provided (Senter and Senter, 1998). Poorly managed personal skills often jeopardize the academic success of adult students. Inconsistent patterns of student attendance, high student attrition, low

academic performance, and a greater dropout rate can be the result (Corrigan, 2003; Summers, 2003). Community college undergraduates often require a number of programs and services to enhance college basic skills and vocational training or re-training to meet their needs. Maxwell, Hagedorn, Cypers, Moon, Brocato, Wahl, and Prather (2003) reported that first time community college students require remediation in basic reading, mathematics, and English. However, a number of studies indicate as adults mature their readiness to learn increases. They are more oriented to learning and have an increased motivation to learn (Smith, 1996; 1999). Kerka (2002) reported

Research shows that motivational, affective, and developmental factors are more crucial in adults than in younger learners; adults are more able to be self-directed and reflective and to articulate learning goals, and they are more disposed to bring their life experiences to what and how they learn.
(p. 3)

Adult learners have changing expectations about how instructional materials and course information is translated into learning for their use. A number of studies examine adult students' personal motivation and self-engagement for learning. They indicate that a number of approaches to teaching and learning can have favorable outcomes for adult community college undergraduate students. Andragogy, a teaching methodology and learning tool, can be used to address conditions under which the learning needs of adult students are best met. In research conducted on adult development and learning theory, the model of andragogy differentiates five assumptions about adult learning. These assumptions are believed to be central in understanding learning preferences of adult students: self-concept, experience, readiness to learn, orientation to learning, and motivation to learn (Smith, 1996; 1999). One objective of andragogy is to employ instructional and teaching methodologies that respect the learner and create suitable

learning conditions for adult learning to take place. In related research, the concept of the student's readiness to learn and the role faculty play in the process shifts when considering the learning environment to support learning readiness of adult learners. Brookfield (1986) stated, "The task of the facilitator of learning, therefore, is to create an educational program and setting in which adult students can develop their latent self-directed learning skills" (p. 92). Hadfield, (2003) supports this view: "The traditional pedagogical model, which defines the appropriate role of the learner to be that of a dependent recipient of subject and content, is inappropriate for a mature adult" (p. 21).

Guiding adult undergraduate students toward greater personal responsibility and independence creates the effect of promoting learning within adult students despite the setting. Wlodkowski, Mauldin, and Gahn (2001) reported findings that suggest adult students have the capacity for self-regulation of behavior, self-regulation of motivation and affect, and self-regulation of cognition. Graham, Donaldson, Kasworm, and Dirks (2000) examined adult undergraduates and the degree to which their previous life experiences influence their role as learners. Research that describes the role of community college educational support systems reveals successful adult learners require multiple social, psychological, and academic support systems. The role of effective student development professionals is to both prepare and guide the learner through early steps of admission, advising, and enrollment processes. Adult education researchers, other specialists in the field, and adult students themselves agree that they are most positively affected when a number of campus resources are available for their use (Hoyt, 1999).

Facilities and services established to accommodate the needs of disabled students; access to peer mentors, campus organizations, and other support resources to assist students toward their educational goals must be readily available (Lau, 2003). Access to counseling, advising, mentorship, and financial aid resources are critical and often enhance educational outcomes for the adult learner (Kasworm, 2003, Summer). Literature also reveals that faculty and student interactions are a key if student success is to be achieved. Developing opportunities for student-peer and student-faculty relationships promotes social and learning interactions and encourages student learning (Donaldson, 1989; Graham & Gisi, 2000).

The curriculum is the domain of the faculty. Programs that are designed specifically for adult learners are most effective, and sought after by the learner, especially when learning is perceived to have relevance to their life situations (Knowles, 1984; Merriam & Caffarella, 1991). Adult learners exhibit multiple learning styles and learning preferences. Faculty and instructors should become skilled in recognizing the unique differences among adult learners and should consider using innovative teaching and instructional strategies. Teaching methods characterized as reflective, supportive, and learner-centered are found by the learner to be helpful and more often promote student satisfaction (Brookfield & Knox, 1986; Knowles, 1975). Donaldson (1989) suggested that adult learners benefit when in class and out of class activities facilitate cooperative group interaction and foster a culture of learning. Cooperation and group processes are used most effectively to guide learning. Students gain a supportive learning atmosphere through which goals are mutually achieved.

Maintaining institutional support of student learning outcomes is the responsibility of college leaders. Community college administrators play a significant role in providing funding streams, physical facilities, and other resources to support the needs of adult students attending their institutions. Successful college leaders must compete for scarce resources by responding to external stakeholders. Institutional accountability standards including program effectiveness, student performance, and clear strategic planning must be articulated to various internal and external stakeholders (Harbour, 2003). Milliron and de los Santos (2004) agree and suggest the role of college leaders is to seek opportunities that promote the concept of “learning first.” Institutional leaders should communicate openly with stakeholders and others in the community about education outcomes and program performance objectives. Jarrell (2004) stated “The institutional commitment should be developed through the interactions with mentors-faculty and upperclassman and through extracurricular activities, student unions, and peer associations” (p. 516). Adult learners require the institution and its members to have a clear understanding and commitment to fulfill their needs as students (Lau, 2003).

CHAPTER THREE

METHODOLOGY

The major purpose of this study of adult undergraduate students, 28 years and older, attending Metropolitan Community College, was to explore the relationship between the perceived quality of student effort and the perceived gains in knowledge and skills. Questions concerning student experiences and student perceived achievement were also analyzed to determine what educational opportunities influence student engagement, student quality of effort, and personal gains achieved by students.

Research Questions

The research questions addressed in this study were:

1. What are adult students' reported quality of effort in nine areas of collegiate activities (Course Activities; Library Activities; Faculty; Student Acquaintances; Art, Music, and Theater; Writing Activities; Science Activities; Career/Occupational Skills; and Computer Technology) as measured by the CCSEQ for adult students at MCC who took the CCSEQ in Fall 2004?
2. What are adult students' reported gains in six outcome areas (Career Preparation; Arts & Communication; Computers; Personal and Social Development; Mathematics, Science, and Integrated Technology; and Perspectives of the World) as measured by the CCSEQ for adult students at MCC who took the CCSEQ in Fall 2004?
3. What is the relationship between adult students' reported quality of effort in the nine areas of collegiate activities (Course Activities; Library Activities; Faculty; Student Acquaintances; Art, Music, and Theater; Writing Activities; Science

Activities; Career/Occupational Skills; and Computer Technology) and students' reported gains in the six outcome areas (Career Preparation; Arts & Communication; Computers; Personal and Social Development; Mathematics, Science, and Integrated Technology; and Perspectives of the World) as measured by the CCSEQ for adult students at MCC who took the CCSEQ in fall 2004?

The methodological framework for investigating the answer to these questions is presented in this chapter as follows: (1) research design, (2) identification of the sample, (3) a description of the instrument used to collect the data, (4) data collection procedures, (5) methods used to analyze the data, and (6) a summary of the study's methodological framework.

Research Design

Survey research in the form of questionnaires or interviews is commonly used when the goal is to understand characteristics of the sample (Johnson & Christensen, 2000). Using surveys as a method of research conducted at Hudson County Community College (HCCC), Mark Oromaner, Dean of Planning and Institutional Research, and Eleanor Fujita, Director of Institutional Research, concluded the utilization of statistical data resulting from surveys and questionnaires is useful when identifying program needs and levels of student participation. Such data can provide a great deal of information (Fujita & Oromaner, 1992). Katz (1993) states an advantage of self-administered surveys is they “can be done by mail, via group administration” (p. 18). Inoue (2003) asserts, “Survey questionnaires provide an efficient way to collect data. Questionnaires can reach large numbers of people at relatively low cost; ensure anonymity; and be written for specific purposes” (p. 3). Johnson and Christensen (2000) stated “Researchers

use questionnaires so that they can obtain information about the thoughts, feelings, attitudes, beliefs, values, perceptions, personality, and the behavioral intentions of research participants” (p. 127). Metropolitan Community Colleges’ Subcommittee for the Assessment of Student Development selected the Community College Student Experience Questionnaire (CCSEQ) survey for use with student assessment for the following reasons: the information desired about students could be obtained by using the survey design; survey questions and statements were well thought out, written clearly, and provided the opportunity to collect the desired student data/information; appropriate reliability and validity tests have been administered on the instrument; and data results can be used to compare local MCC students with students from institutions across the country (The Office of Research, Evaluation, and Assessment, MCC, 2003).

Research Sample

The Metropolitan Community College (MCC) located in Kansas City, Missouri serves urban, suburban, and rural communities spread over five counties in Eastern Jackson, Clay, Cass, Platte, and Ray counties in Missouri. The student population of Metropolitan Community College is 43,000. The assessment of students’ achievement and institutional effectiveness is a continuing process at MCC. The principal goal for the assessment of student academic achievement is to improve teaching and learning (Office of REA, 2003). The Steering Committee for Institutional Assessment, Student Development Assessment Subcommittee, of Metropolitan Community College collects data periodically from the student population using the Community College Student Experience Questionnaire. Student data results for both CSEQ and CCSEQ have been archived in the research office at MCC since 1999. The data from the sample (N = 114)

used for this study was collected in the Fall 2004 semester and was the most recent data available at the time of this study. The student population at MCC is ethnically and culturally diverse. At the time of the administration of this questionnaire, the student population was 58.2% female and 41.8% male, Native American 0.6%, Asian-Pacific Islander 3.1%, Black African American 16.5%, Hispanic Latino 3.6%, White 73.3%, Other 2.7% (MCC CCSEQ Results, 2004). To gain understanding about students' experiences enrolled at Metropolitan Community College (MCC), 30 classes were randomly selected to participate in the Community College Student Experience Questionnaire (CCSEQ). Surveys were administered to students who had completed 45 credit hours and were enrolled in either Day or Evening college courses in Fall 2004 (N = 885). In addition to credit hours completed, other criterion for student selection into this study was age 28-39 years (n = 114). Only surveys collected from adult students who were age 28 years and older were included in this analysis of data (i.e., the defined sample).

Data Collection

Katz (1993) states the advantage of self-administered surveys is that they “can be done by mail, via group administration” (p. 18). Inoue (2003) asserts, “Survey questionnaires provide an efficient way to collect data. Questionnaires can reach large numbers of people at relatively low cost; ensure anonymity; and be written for specific purposes” (p. 3). To gain understanding about students' experiences enrolled at Metropolitan Community College, the Community College Student Experience Questionnaire was administered to a total of (N = 885) students enrolled at Metropolitan

Community College in Day or Evening college courses, during Fall 2004. Students who had completed up to 45 credit hours were eligible to participate.

To avoid the possibility of students retaking the survey, the college identified specific course sections for data collection points. One additional page containing sixteen supplemental questions developed by college personnel was also administered during each administration session. Classroom faculty could either administer the questionnaire or an alternate test proctor would be provided. Questionnaires were self-administered during regular class sessions. Each class was allotted 30 minutes to complete the questionnaire. No other criteria or limitations were placed on students or classroom faculty. At the beginning of each session, instructions for the completion of the survey were read to students. Using the Community College Student Experience Questionnaire (CCSEQ), one hundred thirty-four questions in ten areas of education were posed to students. In addition to the section on student demographics, students were asked to provide feedback by rating their educational experiences in the following nine activities: Course Activities; Library Activities; Faculty; Student Acquaintances; Art, Music, and Theater; Writing Activities; Science Activities; Career/Occupational Skills; and Computer Technology.

Instrumentation

The Community College Student Experience Questionnaire was administered in-class within a randomly selected group of course sections representing a cross section of students. The value of self-administered surveys is generally high cooperation rates among students (Katz, 1993). Ethington, Guthrie, and Lehman (2001) describe the content of the questionnaire: “The CCSEQ is comprised of several sections: Background,

Work, and Family; College Program; College Courses; College Activities; Estimate of Gains; College Environment; and Additional Questions” (p. 6). The Community College Student Experience Questionnaire (CCSEQ) instrument was selected for its ease of use with students and its potential to collect specific information about students’ experiences in an educational setting. The CCSEQ has a number of useful themes and scales within the instrument. Also of benefit is the reasonably short timeframe in which CCSEQ assessment can be administered.

Questions concerning the demographic characteristics were incorporated at the beginning of the survey. Gaining specific demographic information (i.e., academic status, gender, age, number of courses taken, types of courses completed, and student GPA) provided a clearer perspective of adult students at the Metropolitan Community College.

Student Demographic Characteristics

Demographic information includes Background, Work, and Family (Ethington et al., 2001). Students are presented with a list of questions and asked to choose among responses to each one. Items that address the following background characteristics are contained in this section:

- Age;
- gender;
- ethnicity;
- native language;
- time spent working on a job;
- the effect of job responsibilities on college work;
- the effect of family responsibilities on college work;

- currently in a work-study program.

The College Program section contains items related to the student's program at the college (Ethington et al., 2001). The topics include:

- number of credits taken during current term;
- total number of credits taken at the present college;
- meeting times of classes;
- grades at the college;
- number of hours spent studying;
- number of hours spent on campus (not in class);
- most important reason for attending college.

College Activities

Ethington et al., (2001) stated: "This section contains 107 items grouped into 13 topics. Nine groups of items produce not only information about individual activities, but also form nine Quality of Effort scales which give an indication of the amount of effort students put into each of those areas of their college experience" (p. 8). As shown in Table 2, Cronbach's alpha shows estimates of reliability that indicate each of the nine Quality of Effort scales measure a specific Quality of Effort construct, and that each of the scales should be consistent each time the CCSEQ is used in a study (Ethington et al., 2001). Based on the scope of the present study, topics numbered 1 through 9 form the nine Quality of Effort scales used in the study. Topics 10 through 13 are not used in the present study.

The titles of the 13 activity topics are:

1. Course Activities;

2. Library Activities;
3. Faculty;
4. Student Acquaintances;
5. Art, Music, and Theater Activities;
6. Writing Activities;
7. Science Activities;
8. Career/Occupational Skills;
9. Computer Technology;
10. Clubs and Organizations;
11. Athletic Activities;
12. Counseling and Career Planning;
13. Learning and Study Skills.

Topics 1 through 9 consist of items used in this study. Each item represents a specific activity topic and students are asked to report the amount of time engaged in the activity during the school year. Students answer each item by selecting one of the following categories: (1) never; (2) occasionally; (3) often; or (4) very often. (Ethington et al., 2001).

CCSEQ Quality of Effort Scale

Ethington et al. (2001) defined Quality of Effort as

‘the amount, scope, and quality of effort students put into taking advantage of the opportunities offered to them by the college.’ (Pace, 1984) This construct is measured in the *CCSEQ* by determining how often (during the current school year) students engage in a variety of activities related to the use of campus facilities. (p. 12)

The Quality of Effort items are listed in Table 1. Ethington et al. (2001) describe the formation of each scale.

Each scale is formed by adding the separate scores for each item in a group together in the following manner. If a student answers “never” to an item he/she receives one point for that item. An answer of “occasionally” gets two points; “often” three points; and “very often” four points. The points for all items in a group are then added together, and the result is a scale score for that item group. (p. 12)

Table 1

Quality of Effort Scales

Scale	Items	Range ^a
Course Activities	10	10-40
Library Activities	7	7-28
Faculty	9	9-36
Student Acquaintances	6	6-24
Art, Music, and Theater	9	9-36
Writing Activities	8	8-32
Science Activities	11	11-44
Career/Occupational Skills	9	9-36
Computer Technology	8	8-32

Note. From *Community College Student Experiences Questionnaire Test Manual and Comparative Data* (p. 13), by C. A. Ethington, A. M. Guthrie, and P. W. Lehman, 2001, The University of Memphis: Center for the Study of Higher Education. Copyright 2001 by Center for the Study of Higher Education of The University of Memphis.

^aThe scale range is formed by multiplying the number of items in the scale by the possible points received, one to four.

Inter-Item Correlations by Scale

Ethington et al. (2001) stated:

Pearson correlations for items within each scale were calculated....Each matrix of correlations shows that the items within each scale are related to one another in a cohesive manner. All correlations are positive and show that each item in a scale is related to every other item in that scale. This provides evidence that it is fitting and proper to form scales from the sets of items. (p. 17)

Reliability and Validity

Coefficients of reliability are reported in Table 2 for each College Activity scale. Using Cronbach's alpha as a measure of internal consistency, coefficients ranged from .82 to .93. Each set of items appeared to measure a single construct. These coefficients indicate that each measure a specific Quality of Effort construct with a high degree of internal consistency and that scores received on each scale should be stable from one administration of the CCSEQ to another (Ethington et al., 2001).

Table 2

College Activity Scales: Estimates of Reliability

Scale	Alpha
Course Activities	.86
Library Activities	.86
Faculty	.86
Student Acquaintances	.91
Art, Music, and Theater	.82
Writing Activities	.90
Science Activities	.93
Career/Occupational Skills	.93
Computer Technology	.86

Note. From *Community College Student Experiences Questionnaire Test Manual and Comparative Data* (p.18), by C. A. Ethington, A. M. Guthrie, and P. W. Lehman, 2001, The University of Memphis: Center for the Study of Higher Education. Copyright 2001 by Center for the Study of Higher Education of The University of Memphis.

CCSEQ has been used to collect student data over a number of years. Previous administrations were conducted within community college settings similar to MCC. These factors indicated that sufficient reliability and validity have been established within the instrument.

CCSEQ Factor Analysis

Ethington et al. (2001) stated:

Further evidence for the appropriateness of forming Quality of Effort scales was gained by the results of the factor analysis of each item group. For all scales one-, two-, and three-factor solutions were performed. For

each factor analysis, the factors were extracted using maximum likelihood. For the two- and three-factor models, a non-orthogonal rotation was performed since it was likely that the factors would be correlated. For each of the nine scales, the one-factor solution was the most appropriate and interpretable solution. (p. 18)

Through psychometric parameters, the CCSEQ reflects the constructs of student engagement. Descriptive and Comparative statistics are used to represent academic, personal growth, and satisfaction in gains as perceived by students in these areas: College Activities, Quality of Effort, and Estimates of Gains (Ethington et al.). The Community College Student Experience Questionnaire (CCSEQ) is in the Third Edition and has been administered to students in 40 community colleges in the United States since its inception in 1999 (Ethington, Guthrie, and Lehman, 2001).

Estimate of Gains Items

Students are asked to indicate gains or progress they made toward 25 educational goals such as “Developing clear career goals” (Ethington et al., p. 74, 2001) and “Becoming clearer about my own values and ethical standards” (Ethington et al.). For the present study, one of the 25 goals “Developing good health habits and physical fitness” was not used. “The Estimate of Gains items are most often examined and interpreted on an item by item basis. However, there are items which are related to one another” (Ethington et al., p. 20) and may be grouped together to form Estimate of Gains Scales. Ethington et al note that a non-orthogonal rotation, applied to several factor analyses of the remaining 24 Estimate of Gains items, indicates the six factor-solution is the most appropriate and interpretable solution. Within the present study, the 24 gains toward educational goals were grouped to form the six Estimate of Gains item scales (Career Preparation; Arts & Communication; Computers; Personal & Social Development;

Mathematics, Science, & Integrated Learning [Technology]; Perspectives of the World) recommended by Ethington et al. Students were asked to provide their gain or progress from the following: (1) very little, (2) some, (3) quite a bit, or (4) very much (Ethington et al.).

Reliability and Validity

Vogt (1999) stated Cronbach’s Alpha is “a measure of internal reliability....[whose value] ranges from 0 to 1.0. Scores toward the high end of that range (e.g., above .70) suggest that the items in an index are measuring the same thing” (p. 64). Coefficients of reliability for the present study are reported in Table 3 for each Estimate of Gain scale. Using Cronbach’s alpha as a measure of internal consistency, coefficients ranged from .68 to .90. Each set of items appeared to measure a single construct. These coefficients indicate that each scale measures a specific Estimate of Gain construct with a high degree of internal consistency.

Table 3

Estimate of Gain Scales: Estimates of Reliability

Scale	Alpha
Career Preparation	.80
Arts & Communication	.83
Computers	.82
Personal & Social Development	.90
Math, Science, & Integrated Technology	.83
Perspectives of the World	.68

College Environment

The College Environment section consists of eight items. The first question asks students to indicate if they would choose to attend the same college again. Five other questions ask the student to rank their experience in the college environment by selecting (1) all, (2) most, (3) some, or (4) few. The remaining two questions addressed available areas for studying and computer use (Ethington et al., 2001). The following are the five questions about the college environment:

- students are friendly and supportive of each other;
- instructors are approachable, helpful, and supportive;
- counselors, advisors, and support staff are helpful, considerate, and knowledgeable;
- courses are challenging, stimulating, and worthwhile;
- the college is a stimulating and exciting place to be (Ethington et al., p. 11, 2001).

Data Analysis

The goal of this quantitative study was to determine the relationships that exist between independent variables and dependent variables (Hopkins, 2000). Through evaluation, educators seek answers regarding the impact that instructional programs and services in place for student use have on student learning outcomes. Evaluation results are utilized to determine the effectiveness of curriculum, programs, and services to students; and to the extent they influence student outcomes (Patton, 1997).

In order to answer the research questions posed in this study, a variety of statistics were used to analyze the data gathered by the questionnaire. Frequencies, means, standard deviations, and Pearson's correlation coefficient were calculated and presented

to describe (a) Student Demographics, (b) Quality of Effort in nine College Activities areas, (b) Estimate of Gains in Six Outcome Areas, and (d) relationships between the nine effort scales and the six reported gain scales.

To answer research question one, the frequency, mean, and standard deviation of the responses by students were calculated for each of the nine Quality of Effort Scales. To answer research question two, the items in the estimate of gains section were grouped into six categories using scale definitions demonstrated in factor analyses conducted in earlier studies. The frequency, mean, and standard deviation of the six categories were then calculated to answer research question two. To answer research question three, Pearson's correlation coefficient was calculated to examine the relationship between each of the nine areas of collegiate activity and the six categories of reported gains. This produced a total of fifty-four Pearson's correlation coefficients.

Summary

The method for investigating the answers to the research questions in this study included the use of the seven page, 107 items CCSEQ, 1999 version. The first section of the instrument included student demographic background information. Other questionnaire sections included college courses, college programs, college activities, estimate of gains, and additional questions. The questionnaire was administered to students attending Metropolitan Community College in the Fall 2004 semester who had completed 45 credit hours and were enrolled in either Day or Evening college courses (n = 885). Presented here is an overview of research questions and the research design selected for this study. A detailed discussion of the sample and the data collection method was provided. In-depth information about the reliability and the validity of the research

tool selected for this study was also discussed. The data and results used in the present study were based on students attending classes during Fall 2004 and was the most recent data available. Adult students (n = 114) who were 28 years of age or older served as the defined sample. A variety of statistical techniques was employed to analyze the questionnaire data and to answer the research questions posed in this study.

CHAPTER FOUR

ANALYSIS OF DATA

The primary purpose of this study was to investigate the factors that influenced academic success of adult learners, age 28 and older, determine the relationship between the college environment and the learner, assess student quality of effort, and analyze gains achieved in the areas of student development and learning outcomes by adult students. Further, the study examined the relationship between adult students' reported quality of effort in the nine areas of collegiate activities and the students' reported gains in the six outcome areas.

Using the Community College Student Experience Questionnaire (CCSEQ), student demographics data, related college experiences and associated information were collected. In order to aid in the interpretation of the survey results this chapter will report the data analysis in (1) a descriptive profile of the respondents by selected demographic characteristics; (2) the level of college involvement, and the gains achieved as reported by respondents; (3) an examination of the research questions posed for this study.

Description of the Study's Respondents

Eight hundred eighty-five Community College Student Experience Questionnaires, (CCSEQ) were administered during the fall semester of 2004. A total of 114 survey instruments were used in this study. The age of the student was the only criterion for student selection in the present study. The sample of this study contained students who were ages 28-39. The survey was administered to students enrolled in both Day and Evening College courses during Fall 2004. To avoid the possibility of students retaking the survey, the college identified specific course sections for data collection. At

the beginning of each session, instructions for the completion of the survey were read to the class. Each class was allotted 30 minutes to complete the questionnaire. Classroom faculty could either administer the questionnaire or an alternate would be provided. No other criteria or limitations were placed on students or the classroom faculty. The Community College Student Experience Questionnaire contained one hundred thirty-four questions in ten areas of education and student experiences.

Student Demographics Data

The student demographics data was reported as frequencies of responses and the corresponding percentages for each of the 15 demographic categories. The categories include: gender, ethnicity, native language, family responsibilities, number of hours/credits completed, grades received, and the amount of time spent studying. For the purposes of this study, 13 of the 15 demographic categories were used. This section presents a profile of the 114 respondents who were identified as adult undergraduate students enrolled at Metropolitan Community College during the fall of 2004.

Table 4 shows that 58% of respondents were female. Approximately 42% percent of the respondents were male.

Table 4

Gender of Student

	Items	<i>f</i>	Valid %
Valid	Male	47	41.6
	Female	66	58.4
	Total	113	100.0
Missing	System	1	
Total		114	

As depicted in Table 5, a majority, 64.0%, of the sample of students' age 28-39 who took the CCSEQ in Fall 2004 were white. About 25% of the sample were Black African American and 4.4% were Hispanic or Latino. Three and one-half percent were Asian-Pacific Islander. Approximately 3.5% accounted for all other groups who took the CCSEQ in fall 2004.

Table 5

Ethnicity

	Demographic Sample	<i>f</i>	Valid %
Valid	Native American	1	.9
	Asian-Pacific Islander	4	3.5
	Black, African American	28	24.6
	Hispanic, Latino	5	4.4
	White	73	64.0
	Other	3	2.6
	Total	114	100.0

As shown in Table 6, 92% of respondents listed English as their native language and 8% of respondents indicated that English was not their first language.

Table 6

Native Language is English

	Response	<i>f</i>	Valid %
Valid	Yes	104	92.0
	No	9	8.0
	Total	113	100.0
Missing	System	1	
Total		114	

Approximately 32% of respondents worked 31-40 hours per week, 22.8% of respondents worked more than 40 hours per week, while 25.4% of respondents reported having no job. (See Table 7).

Table 7

Time Spent Working on Job

	Time Spent	<i>f</i>	Valid %
Valid	None, no job	29	25.4
	1-10 hours	5	4.4
	11-20 hours	10	8.8
	21-30 hours	8	7.0
	31-40 hours	36	31.6
	More than 40 hours	26	22.8
	Total	114	100.0

Table 8 indicates 36.4% of respondents reported that college took some time away from work and 14.5% of respondents reported that college took a lot time away from work. Twenty-four and one-half percent of respondents reported that college did not interfere with work and 24.5% of respondents reported having no job.

Table 8

Affect of Job on School Work

Affect of Job		<i>f</i>	Valid %
Valid	No job	27	24.5
	Does not interfere	27	24.5
	Takes some time	40	36.4
	Takes a lot of time	16	14.5
	Total	110	100.0
Missing	System	4	
Total		114	

As shown in Table 9, 92.1% of respondents reported not using the college Work-Study Program and 7.9% of respondents used the college Work-Study Program.

Table 9

In Work-Study Program

Response		<i>f</i>	Valid %
Valid	Yes	9	7.9
	No	105	92.1
	Total	114	100.0

Slightly over twenty-eight percent of respondents reported taking 12-15 credits during the Fall 2004 term while 9.6% of respondents reported taking more than 15 credits during the Fall 2004 term. Twenty-one percent of respondents reported taking 9-11 credits during Fall 2004. A significant number of respondents reported taking less than 6 credits. (See Table 10).

Table 10

Total Credits Taken This Term

	Total Credits	<i>f</i>	Valid %
Valid	Less than 6	16	14.0
	6 to 8	31	27.2
	9 to 11	24	21.1
	12 to 15	32	28.1
	More than 15	11	9.6
	Total	114	100.0

As shown in Table 11, 20.2% of respondents reported taking more than 46 credits at the college, 15.8% of respondents reported taking between 31-45 credits at the college, and 32.5% of respondents reported taking between 16-30 credits at the college. About 32% of respondents reported taking 1-15 credits at the college.

Table 11

Total Credits Taken at This College

	Total Credits	<i>f</i>	Valid %
Valid	1-15 credits	36	31.6
	16-30 credits	37	32.5
	31-45 credits	18	15.8
	46 or more credits	23	20.2
	Total	114	100.0

Table 12 indicates that 49% of respondents reported attending only Day classes, while 26.3% of respondents reported attending only Evening classes. Fewer than 25% of respondents reported attending both Day and Evening classes.

Table 12

When Classes Meet

	Class Meeting	<i>f</i>	Valid %
Valid	Day only	56	49.1
	Evening only	30	26.3
	Some day & evening	28	24.6
	Total	114	100.0

Over 23% of respondents reported receiving the grade A and 35.1 % of respondents reported receiving the grade A-,B+ while attending this college. Fewer than

21% of respondents reported receiving the grade of B while attending this college. More than 15% of respondents reported receiving a grade of B- to C+. (See Table 13.)

Table 13

Most Grades at This College

	Grades Reported	<i>f</i>	Valid %
Valid	A	26	23.4
	A-,B+	39	35.1
	B	23	20.7
	B-,C+	17	15.3
	C,C-	3	2.7
	No grades	3	2.7
	Total	111	100.0
Missing	System	3	
Total		114	

As illustrated in Table 14, over 37% of respondents reported spending 1-5 hours per week studying and 31.9% of respondents reported spending 6-10 hours per week studying. Fewer than 6 % of respondents reported spending more than 20 hours per week studying.

Table 14

Time Spent Studying

	Time Spent	<i>f</i>	Valid %
Valid	1 to 5 hours	42	37.2
	6 to 10 hours	36	31.9
	11 to 15 hours	24	21.2
	16 to 20 hours	5	4.4
	More than 20 hours	6	5.3
	Total	113	100.0
Missing	System	1	
Total		114	

Over 35% of respondents reported spending no time on campus in addition to class time. Almost 32% of respondents reported spending 1-3 hours on campus when not in class, while 16.8% reported spending 4-6 hours on campus when not in class. Eight percent of respondents reported spending 7-9 hours on campus when not in class. A small percentage of respondents (2.7%) reported spending 10-12 hours on campus when not in class. (See Table 15.)

Table 15

Time On Campus Not In Class

	Time Reported	<i>f</i>	Valid %
Valid	None	40	35.4
	1-3 hours	36	31.9
	4-6 hours	19	16.8
	7-9 hours	9	8.0
	10-12 hours	3	2.7
	More than 12 hours	6	5.3
	Total	113	100.0
Missing	System	1	
Total		114	

As revealed in Table 16, 33.3% of respondents reported the most important reason for attending college was to prepare to transfer to a four-year college, while 47.4% of respondents reported the most important reason for attending college was to develop skills for new job.

Table 16

Most Important Reason for Attending

	Reason Attended Reported	<i>f</i>	Valid %
Valid	Prepare to transfer	38	33.3
	Skills for new job	54	47.4
	Stay current-advance	18	15.8
	Personal interest	3	2.6
	Improve basic skills	1	.9
	Total	114	100.0

Examination of Research Questions

The following section is an analysis of the data related to the research questions posed for this study. The statistical test applied to analyze the data and the corresponding results are presented for each question.

Reported Quality of Effort of Adult Undergraduate Students

Research Question #1. What are adult students' reported quality of effort in nine areas of collegiate activities (Course Activities; Library Activities; Faculty; Student Acquaintances; Art, Music, and Theater; Writing Activities; Science Activities; Career/Occupational Skills; and Computer Technology) as measured by the CCSEQ for adult students at MCC who took the CCSEQ in Fall 2004?

To answer the question, the mean and standard deviation were calculated for each of the nine Quality of Effort Scales. Donaldson (1991), Graham and Donaldson (1999) Graham and Long (1998), and Kasworm and Blower (1994) agree that adult students

attribute their academic success to course related learning experiences and relationships they developed with faculty members and students. The responses of students to the CCSEQ items used to form the Quality of Effort Scales indicate that the greatest effort occurred for the “Course Activities” scale. The “Course Activities” scale mean value of 25.5 (Table 17), within the scale range 10 to 40 (Table 1), indicates the students’ average response is between “Occasionally” (a scale value of 20) and “Often” (a scale value of 30). The least effort was made in the items of the “Art, Music, and Theater” scale. The mean of this scale, 10.6 (Table 17), is slightly above the minimum possible scale value of 9 indicating most students responded with “Never” for the items of this scale. Similar evaluations of the remaining seven Quality of Effort Scales in Table 17 indicate the students’ average response was near “Occasionally.”

Table 17

Quality of Effort Scales

Scale	<i>n</i>	Scale Values		Scale Mean	<i>SD</i>
		Low	High		
Course Activities	108	10	40	25.5	6.0
Library Activities	113	7	28	11.8	5.1
Faculty	112	9	36	16.8	5.5
Student Acquaintances	114	6	24	12.2	4.8
Art, Music and Theater	110	9	36	10.6	3.1
Writing Activities	111	8	32	20.3	7.1
Science Activities	112	11	44	19.2	8.1
Career/Occupational Skills	79	9	36	20.1	8.0
Computer Technology	107	8	32	16.4	6.3

Outcomes Gains as Reported by Adult Undergraduate Students

Research Question # 2. What are adult students' reported gains in six outcome areas (Career Preparation; Arts & Communication; Computers; Personal and Social Development; Mathematics, Science, and Integrated Technology; and Perspectives of the World) as measured by the CCSEQ for adult students at MCC who took the CCSEQ in Fall 2004?

To answer Research Question 2, the frequency and valid percent are considered for each item forming each of the six outcome scales of reported gains. Also used are the

calculated mean and standard deviation for each item. To determine the estimate of gain for each gain scale, the mean and standard deviation is calculated for each of the six Estimate of Gains Scales.

Statistics for the four items forming the “Career Preparation Estimate of Gains” scale are presented in Tables 18 and 19. For items #1, “Acquiring knowledge and skills,” #3, “Developing clearer career goals,” and #4, “Becoming acquainted,” more than 85% of the students ranked their gain as “Some,” “Quite a bit,” or “Very much.” Table 18 shows all four items forming the scale have a mean score between 2.3 and 2.7 with a standard deviation of 1.0 indicating responses of “Some” to “Quite a bit.”

Table 18

Items of Career Preparation Estimate of Gains Scale

		Item #1 ^a		Item #2 ^a		Item #3 ^a		Item #4 ^a	
		<i>f</i>	Valid%	<i>f</i>	Valid%	<i>f</i>	Valid%	<i>f</i>	Valid%
Valid	Very little	14	12.6	25	22.5	15	13.5	14	12.6
	Some	39	35.1	47	42.3	41	36.9	36	32.4
	Quite a bit	25	22.5	21	18.9	30	27.0	38	34.2
	Very much	33	29.7	18	16.2	25	22.5	23	20.7
	Total	111	100.0	111	100.0	111	100.0	111	100.0
Missing	System	3		3		3		3	
Total		114		114		114		114	

^aSee Table 19 for item description.

Table 19

Career Preparation Estimate of Gains Scale

Item Numbers Forming the Scale	<i>n</i>	Mean	<i>SD</i>
#1. Acquiring knowledge and skills	111	2.7	1.0
#2. Gaining information	111	2.3	1.0
#3. Developing clearer career goals	111	2.6	1.0
#4. Becoming acquainted	111	2.6	1.0

Tables 20 and 21 show statistics for the four items forming the “Arts and Communication Estimate of Gains” scale. More than 80% of students ranked their gains for items #7, “Writing clearly and effectively,” and #8, “Presenting ideas and information,” as “Some,” “Quite a bit,” or “Very much” (Table 20). Table 21 shows item #5 with a mean score of 1.7 representing responses of “Very little” to “Some.” Items #6, #7, and #8 have a mean score from 2.0 to 2.5 which correlates to responses of “Some” to “Quite a bit.”

Table 20

Items of Arts & Communication Estimate of Gains Scale

		Item #5 ^a		Item #6 ^a		Item #7 ^a		Item #8 ^a	
		<i>f</i>	Valid%	<i>f</i>	Valid%	<i>f</i>	Valid%	<i>f</i>	Valid%
Valid	Very little	69	62.2	53	48.2	22	20.4	21	18.9
	Some	21	18.9	23	20.9	38	35.2	43	38.7
	Quite a bit	10	9.0	21	19.1	27	25.0	22	19.8
	Very much	11	9.9	13	11.8	21	19.4	25	22.5
	Total	111	100.0	110	100.0	108	100.0	111	100.0
Missing	System	3		4		6		3	
Total		114		114		114		114	

^aSee Table 21 for item description.

Table 21

Arts & Communication Estimate of Gains Scale

Item Numbers Forming the Scale	<i>n</i>	Mean	<i>SD</i>
#5. Understanding of arts, music, and theater	111	1.7	1.0
#6. Understanding of literature	110	2.0	1.1
#7. Writing clearly and effectively	108	2.4	1.0
#8. Presenting ideas and information	111	2.5	1.0

Tables 22 and 23 illustrate students gained some skills using computers to access library information, write reports, and analyze data. For both items #9, “skills to access library information,” and #10, “skills to produce papers and reports,” nearly 70% of students reported gains of “Some,” “Quite a bit,” or “Very much” (Table 22). Both items have a mean score of 2.3 and a standard deviation of 1.1 indicating gains of “Some” to “Quite a bit.”

Table 22

Items of Computers Estimate of Gains Scale

		Item #9 ^a		Item #10 ^a	
		<i>f</i>	Valid%	<i>f</i>	Valid%
Valid	Very little	34	30.6	35	31.5
	Some	30	27.0	30	27.0
	Quite a bit	28	25.2	26	23.4
	Very much	19	17.1	20	18.0
	Total	111	100.0	111	100.0
Missing	System	3		3	
Total		114		114	

^aSee Table 23 for item description.

Table 23

Computers Estimate of Gains Scale

Item Numbers Forming the Scale	<i>n</i>	Mean	<i>SD</i>
#9. Skills to access library info	111	2.3	1.1
#10. Skills to produce papers and reports	111	2.3	1.1

Of the five items forming the “Personal and Social Development” gains scale, nearly two-thirds of the students reported gains of “Some,” “Quite a bit,” or “Very much” for item #11, “Awareness of philosophies and cultures,” (Table 24). The remaining four items of this scale have the same reported gains for over 70% of the students. All five items of this scale have a mean value between 2.2 and 2.7 with standard deviations of either 1.0 or 1.1 (Table 25) which shows an average student response of “Some” to “Quite a bit.”

Table 24

Items of Personal and Social Development Estimate of Gains Scale

	Item #11 ^a		Item #12 ^a		Item #13 ^a		Item #23 ^a		Item #25 ^a	
	<i>f</i>	Valid%								
Valid										
Very little	38	34.2	29	26.4	29	26.4	26	23.4	29	26.1
Some	28	25.2	35	31.8	35	31.8	38	34.2	33	29.7
Quite a bit	26	23.4	25	22.7	25	22.7	32	28.8	31	27.9
Very much	19	17.1	21	19.1	21	19.1	15	13.5	18	16.2
Total	111	100.0	110	100.0	110	100.0	111	100.0	111	100.0
Missing System	3		4		4		3		3	
Total	114		114		114		114		114	

^aSee Table 25 for item description.

Table 25

Personal and Social Development Estimate of Gains Scale

Item Numbers Forming the Scale	<i>n</i>	Mean	<i>SD</i>
#11. Aware of philosophies, cultures	111	2.2	1.1
#12. Clearer about own values	110	2.4	1.1
#13. Understanding abilities	111	2.7	1.1
#23. Understanding other people	111	2.3	1.0
#25. Developing ability to get along	111	2.3	1.0

Table 26, “Math, Science, and Integrated Technology Estimate of Gain Scale,” shows students’ responses for the five items forming this scale. The reported gains of “Some,” “Quite a bit,” or “Very much” vary from a total of 85% for item #17, “Developing ability to learn on own” to a total of 60% for item #19, “Interpreting graphs and charts.” Item #17 had the highest mean, 2.7, while Item #19 had the lowest mean, 2.0, of the five items forming this scale (Table 27).

Table 26

Items of Math, Science, and Integrated Technology Estimate of Gains Scale

	Item #14 ^a		Item #15 ^a		Item #16 ^a		Item #17 ^a		Item #19 ^a	
	<i>f</i>	Valid%								
Valid										
Very little	29	26.1	30	27.0	24	21.6	16	14.4	41	36.9
Some	39	35.1	40	36.0	33	29.7	30	27.0	38	34.2
Quite a bit	30	27.0	26	23.4	34	30.6	38	34.2	21	18.9
Very much	13	11.7	15	13.5	20	18.0	27	24.3	11	9.9
Total	111	100.0	111	100.0	111	100.0	111	100.0	111	100.0
Missing System	3		3		3		3		3	
Total	114		114		114		114		114	

^aSee Table 27 for item description.

Table 27

Math, Science, and Integrated Technology Estimate of Gains Scale

Item Numbers Forming the Scale	<i>no.</i>	Mean	<i>SD</i>
#14. Understanding math concepts	111	2.2	1.0
#15. Understanding role of science	111	2.2	1.0
#16. Putting ideas together	111	2.5	1.0
#17. Developing ability to learn on own	111	2.7	1.0
#19. Interpreting graphs and charts	111	2.0	1.0

Student responses for the items forming the “Perspectives of the World Estimate of Gains Scale” are shown in Table 28. Students ranked gains of “Some,” “Quite a bit,” or “Very much” of nearly 68% for item #21, “Seeing importance of history” to about 34% for item #18, “Ability to speak a foreign language.” Table 29 shows item #18 has the lowest mean value, 1.6, of the four items forming this scale and item #21 has the highest mean value, 2.2.

Table 28

Items of Perspectives of the World Estimate of Gains Scale

		Item #18 ^a		Item #20 ^a		Item #21 ^a		Item #22 ^a	
		<i>f</i>	Valid%	<i>f</i>	Valid%	<i>f</i>	Valid%	<i>f</i>	Valid%
Valid	Very little	73	65.8	40	36.7	36	32.4	56	50.5
	Some	15	13.5	34	31.2	35	31.5	25	22.5
	Quite a bit	15	13.5	18	16.5	24	21.6	18	16.2
	Very much	8	7.2	17	15.6	16	14.4	12	10.8
	Total	111	100.0	109	100.0	111	100.0	111	100.0
Missing	System	3		5		3		3	
Total		114		114		114		114	

^aSee Table 29 for item description.

Table 29

Perspectives of the World Estimate of Gains Scale

Item Numbers Forming the Scale	<i>n</i>	Mean	<i>SD</i>
#18. Ability to speak a foreign language	111	1.6	1.0
#20. Developing interest in politics	109	2.1	1.1
#21. Seeing importance of history	111	2.2	1.0
#22. Learning more about others	111	1.9	1.0

Table 30 provides the mean and standard deviation for each of the six Estimate of Gains Scales. The three scales “Career Preparation,” “Arts and Communication,” and “Perspectives of the World” have values from 4 to 16. The possible values of the Personal and Social Development scale and the Math, Science, and Integrated Technology scale are 5 to 20. The remaining scale of Computers has possible values of 2 to 8. Considering these possible values, the largest mean compared to the highest possible value is 10.2 for the Career Preparation scale. This is 64% of the maximum possible value of 16. The lowest mean is 7.8 for the Perspectives of the World scale. This is 49% of the maximum possible value of 16. The remaining four means are between 53% and 60% of their maximum possible values.

Table 30

Estimate of Gains Scales

Scale	<i>n</i>	Scale Values		Scale Mean	<i>SD</i>
		Low	High		
Career Preparation	111	4	16	10.2	3.1
Arts & Communication	107	4	16	8.5	3.4
Computers	111	2	8	4.6	2.0
Personal and Social Development	110	5	20	11.9	4.5
Math, Science, and Integrated Technology	111	5	20	11.6	3.8
Perspectives of the World	109	4	16	7.8	3.0

Relationships between Adult's Reported Quality of Effort and Gains Reported in College Activities

Research Question #3: What is the relationship between adult students' reported quality of effort in the nine areas of collegiate activities (Course Activities; Library Activities; Faculty; Student Acquaintances; Art, Music, and Theater; Writing Activities; Science Activities; Career/Occupational Skills; and Computer Technology) and students' reported gains in the six outcome areas (Career Preparation; Arts & Communication; Computers; Personal and Social Development; Mathematics, Science, and Integrated Technology; and Perspectives of the World) as measured by the CCSEQ for adult students at MCC who took the CCSEQ in fall 2004?

Vogt (1999) presents a definition for a correlation coefficient.

A number showing the degree to which two variables are related. Correlation coefficients range from -1.0 to $+1.0$. If there is a perfect negative correlation (-1.0) between A and B, then whenever A is high, B is low, and vice versa. If there is a perfect positive correlation ($+1.0$) between A and B, then whenever one is high or low, so is the other. A correlation coefficient of 0 means that there is no relationship between the variables. (p. 58)

The correlation coefficients in Table 31 show the degree or strength of the relationship that exists between each Quality of Effort Scale and each Estimate of Gains Scale. All of the correlations found in Table 31 are positive. Fraenkel and Wallen (2003) stated "The closer the coefficient is to $+1.00$ or -1.00 , the stronger the relationship" (p. 346). The strongest correlation, 0.57, is between the Quality of Effort Scale of "Computer Technology" and the Estimate of Gains Scale of "Computers." Other strong correlations occur between "Writing Activities" and "Arts and Communication" (0.54), "Course Activities" and "Arts and Communication" (0.51), and "Writing Activities" and

“Personal and Social Development” (0.51). Similarly, moderately strong correlations are found between “Course Activities” and “Personal and Social Development” (0.48), “Library Activities” and “Personal and Social Development” (0.47), “Computer Technology” and “Arts and Communication” (0.47), and “Course Activities” and “Perspectives of the World” (0.46).

Many correlations among the variables in the present study were found to be significant at either the 0.01 or 0.05 level (see * or ** correlation coefficients in Table 31). These significant relationships show that the more engaged a student is in a specific college activity the more progress towards the corresponding gains they have made. There is a tendency for students who are more engaged in “Course Activities” to indicate more progress in all six Estimate of Gains areas. The same pattern can be seen for engagement in the following areas; “Library Activities,” “Faculty,” “Writing Activities,” and “Computer Technology.” For these college activities, students who are engaged more showed more progress in all six of the gains outcomes. Moderate correlations are shown in Table 31 to exist between “Library Activities” and “Computers” (0.45), “Library Activities” and “Perspectives of the World” (0.45), “Science Activities” and “Mathematics, Science and Integrated Technology” (0.45), “Writing Activities” and “Computers” (0.44), “Course Activities” and “Mathematics, Science and Integrated Technology” (0.43), “Library Activities” and “Arts and Communication” (0.43), and “Writing Activities” and “Perspectives of the World” (0.41). Table 31 illustrates all fifty-six correlations between the six Estimate of Gains Scales and the nine Quality of Effort Scales.

Table 31

Quality of Effort Scales & Estimates of Gains Scales: Correlations

Scale (items)	Course Activities	Library Activities	Faculty	Student Acquaintances	Art, Music, Theatre Activities	Writing Activities	Science Activities	Career/ Occupational Skills	Computer Technology
<u>Career Preparation</u>									
(1-4)	0.35**	0.32**	0.36**	0.25**	0.06	0.25*	0.17	0.35**	0.30**
<u>Arts & Communication</u>									
(5-8)	0.51**	0.43**	0.39**	0.20*	0.32**	0.54**	0.11	0.19	0.47**
<u>Computers</u>									
(9 & 10)	0.34**	0.45**	0.32**	0.05	0.22*	0.44**	0.14	0.14	0.57**
<u>Personal & Social Development</u>									
(11-13, 23, 25)	0.48**	0.47**	0.37**	0.25**	0.18	0.51**	0.24*	0.02	0.35**
<u>Mathematics, Science & Integrated Technology</u>									
(14-17, 19)	0.43**	0.31**	0.29**	0.19*	0.23*	0.35**	0.45**	0.20	0.25**
<u>Perspectives of the World</u>									
(18,20-22)	0.46**	0.45**	0.35**	0.08	0.32**	0.41**	0.34**	0.14	0.35**

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

Table 31 shows that 42 of the 54 correlation coefficients are statistically significant. However, some statistically significant correlations are not strong correlations. Fraenkel and Wallen (2003) state “Correlation coefficients below .35 show only a slight relationship between variables....Correlations between .40 and .60 are often found in educational research and may have theoretical or practical value” (p. 347). Table 32 shows the twenty-four correlation coefficients that are .35 or greater. In addition to the strong, moderately strong, and moderate correlations (between 0.40 and 0.60) discussed above in Table 31, nine of the correlations found in Table 32 are between 0.35 and 0.39 indicating correlations having more than a slight relationship between variables. The “Faculty” Quality of Effort Scale has the most correlations in this range with the Estimate of Gains Scales of “Career Preparation,” “Arts and Communication,” “Personal and Social Development,” and “Perspectives of the World.”

Table 32

Quality of Effort Scales & Estimates of Gains Scales: Stronger Correlations

Scale (items)	Course Activities	Library Activities	Faculty	Student Acquaintances	Art, Music, Theatre Activities	Writing Activities	Science Activities	Career/ Occupational Skills	Computer Technology
<u>Career Preparation</u>									
(1-4)	0.35		0.36					0.35	
<u>Arts & Communication</u>									
(5-8)	0.51	0.43	0.39			0.54			0.47
<u>Computers</u>									
(9 & 10)		0.45				0.44			0.57
<u>Personal & Social Development</u>									
(11-13, 23, 25)	0.48	0.47	0.37			0.51			0.35
<u>Mathematics, Science & Integrated Technology</u>									
(14-17, 19)	0.43					0.35	0.45		
<u>Perspectives of the World</u>									
(18, 20-22)	0.46	0.45	0.35			0.41			0.35

Summary

Three research questions were examined in this study. The questions addressed the quality of effort of adult students age 28 to 39 and the estimate of gains perceived by the students. Also, the correlations between the quality of effort and the estimate of gains were addressed. The CCSEQ groups College Activities items together according to topic to form nine Quality of Effort Scales. These are the categories of questions such as “course activities,” “library,” etc. listed in the questionnaire itself.

The majority of the respondents were female, white, day students making mainly A and B grades and taking more than 8 credits during the Fall 2004 term. Most work more than 30 hours per week and indicated that their job interfered at least some with their studies.

The Quality of Effort Scale responses suggest students provided the most effort in the items forming the “Course Activities” scale with the least effort being made in the items of the “Art, Music, and Theater” scale. Responses to items forming the Estimate of Gains Scales indicate the greatest gains were made for the items forming the “Career Preparation” Estimate of Gains Scale while the lowest gains were made for the items forming the “Perspectives of the World” scale.

To answer the question of what relationships exist between the nine areas of Quality of Effort Scales and the six areas of Estimate of Gains Scales, Pearson's correlation was used. This resulted in fifty-four correlation coefficients. The correlation coefficients show the degree or strength of relationship between each Quality of Effort Scale and each Estimate of Gains Scale. The correlation coefficients were examined at the .05 level of significance. Forty-two of the fifty-four calculated correlation coefficients

showed either a .01 or .05 level of significance. From a practical perspective however, only 24 of these correlations ($r \geq 0.35$) were meaningful. As shown in Table 31, two of the nine Quality of Effort Scales show meaningful correlation with five Estimate of Gain Scales. These were the “Course Activities” and “Writing Activities.” “Library Activities,” “Faculty,” and “Computer Technology” Quality of Effort Scales show meaningful correlation with four Estimate of Gain Scales. Two Quality of Effort Scales, “Science Activities” and “Career/Occupational Skills” show meaningful correlation with one Estimate of Gain Scale. The “Student Acquaintances” and “Art, Music, Theatre Activities” Quality of Effort Scales show no meaningful correlation with any of the six Estimate of Gains Scales. Findings suggest that the more engaged a student is in a specific college activity the more progress made towards the corresponding gain.

CHAPTER FIVE

SUMMARY, CONCLUSIONS, RECOMMENDATIONS, AND IMPLICATIONS

Summary of Research

Problem and Purpose

The major purpose of this study was to examine the perceptions of adult undergraduate student, aged 28 years and older attending Metropolitan Community College, regarding the relationship between the student, the college environment, and student's academic achievement. Historically, adult undergraduate students attending community college have received little public attention. As a new student majority, adult undergraduate students maintain an enormous presence on community college campuses around the country (Sissel et al., 2001). However, most adult students face a number of personal barriers that impact their academic success. Many require services and support in multiple areas to become successful. As a result, community college administrators continue to be challenged by increased needs among adult students, many of whom are less prepared, frequently first generation college students, and/or require education remediation (Grimes & David, 1999).

Adult learners who attend community college typically enter college to improve the economic conditions of themselves and their families. Choosing community college as their first college experience, adult students face obstacles that affect their academic success. Adults often juggle work, family, and other commitments while attending college. Given the additional factors that adult learners must address in attending the community college, it is important to examine students' perceptions of their experiences and the learning gains they have made as college students. Their perceptions are

important for college administrators, faculty, counselors and student affairs professionals to understand.

Research Sample

The Metropolitan Community College (MCC) located in Kansas City, Missouri serves urban, suburban, and rural communities spread over five counties in Eastern Jackson, Clay, Cass, Platte, and Ray counties in Missouri. The student population of Metropolitan Community College is 43,000. The assessment of students' achievement and institutional effectiveness is a continuing process at MCC. The principal goal for the assessment of student academic achievement is to improve teaching and learning (Office of REA, MCC 2003). With this goal in mind, students attending Metropolitan Community College were surveyed in 2004 to ascertain their perceptions and their educational experiences as community college students. Additionally, the survey explored the perceived value, interest in existing instructional, and student support services offered by the college.

Research Method

The Community College Student Experience Questionnaire (CCSEQ) was selected for use for student assessment for the following reasons: the information desired about students could be obtained by using the survey design; and the survey had an added value in that it is self-administered. Survey questions and statements were well thought out, written clearly, and provided the opportunity to collect the desired student data/information. Appropriate reliability and validity tests had been administered on the instrument and data results can be used to compare local MCC students with students from institutions across the county (The Office of Research, Evaluation, and Assessment,

MCC, 2003). Johnson and Christensen (2000) concluded survey research in the form of questionnaires or interviews is commonly used when the goal is to understand characteristics of a population. These data are useful when identifying program needs and levels of student participation. Such data can provide a great deal of information of use to educational decision makers (Fujita & Oromaner, 1992).

Instrumentation

“The CCSEQ is comprised of several sections: Background, Work, and Family; College Program; College Courses; College Activities; Estimate of Gains; College environment; and Additional Questions” (Ethington, Guthrie, and Lehman, 2001, p. 6). The Community College Student Experience Questionnaire (CCSEQ) instrument was selected for its ease of use with students and its potential to collect specific information about students’ experiences in an educational setting. CCSEQ has a number of useful themes and scales. Also of benefit is the reasonably short timeframe in which CCSEQ assessment can be administered.

Questions concerning the demographic characteristics of students were incorporated at the beginning of the survey. Gaining specific demographic information (i.e., academic status, gender, age, number of courses taken, types of courses completed, and student’s perceived academic gains) provided a clearer perspective of the sample being studied. Johnson and Christensen (2000) stated, “Researchers use questionnaires so that they can obtain information about the thoughts, feelings, attitudes, beliefs, values, perceptions, personality, and the behavioral intentions of research participants” (p. 127). Katz (1993) stated the advantage of self-administered surveys is that they “can be done by mail, via group administration” (p. 18). Inoue (2003) asserted, “Survey questionnaires

provide an efficient way to collect data. Questionnaires can reach large numbers of people at relatively low cost; ensure anonymity; and be written for specific purposes” (p. 3). Through the use the CCESQ survey components, Metropolitan Community College could develop a better understanding of the adult students attending the college.

Data Collection

The goal of quantitative research is often to determine the relationships that exist between independent and dependent variables (Hopkins, 2000). To gain understanding about students’ experiences enrolled at Metropolitan Community College; the Community College Student Experience Questionnaire was administered to a total of 885 students enrolled at Metropolitan Community College in Day or Evening college courses during Fall 2004. Only adult students, defined as those age 28 or older (N = 114), were included in the present study (i.e., the defined sample). To avoid the possibility of students retaking the survey, the college identified specific course sections for data collection.

One additional page containing sixteen supplemental questions developed by college personnel was also administered during each administration session. However, those results were not used in the present study. Either classroom faculty could administer the questionnaire or an alternate test proctor would be provided. Questionnaires were self-administered during regular class sessions. Each class was allotted 30 minutes to complete the questionnaire. No other criteria or limitations were placed on students or classroom faculty.

This study examined the relationship, if any, that student quality of effort had with student outcome gains and academic achievement. The extent of relationship which

student involvement within the college environment, student participation in both in and out of class activities, and student interaction with college faculty members, mentors, and peers had with learning process were examined.

Research Questions

The following research questions were posed to guide the study.

1. What are adult students' reported quality of effort in nine areas of collegiate activities (Course Activities; Library Activities; Faculty; Student Acquaintances; Art, Music, and Theater; Writing Activities; Science Activities; Career/Occupational Skills; and Computer Technology) as measured by the CCSEQ for adult students at MCC who took the CCSEQ in Fall 2004?
2. What are adult students' reported gains in six outcome areas (Career Preparation; Arts & Communication; Computers; Personal and Social Development; Mathematics, Science, and Integrated Technology; and Mathematics, Science, and Integrated Technology; and Perspectives of the World) as measured by the CCSEQ for adult students at MCC who took the CCSEQ in Fall 2004?
3. What is the relationship between adult students' reported quality of effort in the nine areas of collegiate activities (Course Activities; Library Activities; Faculty; Student Acquaintances; Art, Music, and Theater; Writing Activities; Science Activities; Career/Occupational Skills; and Computer Technology) and students' reported gains in the six outcome areas (Career Preparation; Arts & Communication; Computers; Personal and Social Development; Mathematics, Science, and Integrated Technology; and Mathematics, Science, and Integrated

Technology; and Perspectives of the World) as measured by the CCSEQ for adult students at MCC who took the CCSEQ in fall 2004?

Summary of the Student Demographics Data

Community colleges today serve more diverse students with a broader range of reasons for enrollment than any other time in their history (Ethington, Guthrie, and Lehman, 2001). The student demographics data were reported as frequencies of responses and the corresponding percentages for each of the demographic categories. The categories include: gender, ethnicity, native language, family responsibilities, number of hours/credits completed, grades received and the amount of time spent studying. Additionally, frequencies of responses and the corresponding percentages are reported for the levels of student participation in college programs. For the purposes of the present study, each CCSEQ demographic category was used. This section presents a profile of the study's sample aged 28-39 years old (N = 114) that were identified as adult undergraduate students enrolled at Metropolitan Community College during the fall of 2004.

The student population at MCC is ethnically and culturally diverse. At the time of the administration of this questionnaire, the student population included 58.2% female, and 41.8% male. The racial and ethnic make-up of the student population of MCC at the time of study was; Native American 0.6%, Asian-Pacific Islander 3.1%, Black African American 16.5%, Hispanic Latino 3.6%, White 73.3%, Other 2.7%. Ninety-two percent of students listed English as their native language and 8% of students indicated that English was not their first language. Approximately 31.6 % of students reported working 31-40 hour per week. One fourth of students reported working more than 40 hours per

week, while 25% of students reported having no job. Thirty-six percent of students reported that college took some time away from work and 14.5% of students reported that college took a lot time away from work. Twenty-four percent of students reported that college did not interfere with work and just over a quarter, 25.5%, of students reported having no job. Most students (92.1%) reported not using the college work-study program, while approximately 7.9% of students indicated having used the college work-study program.

Twenty-eight percent of students reported being enrolled in 12-15 credits during the fall of 2004, while 9.6% of students reported being enrolled in more than 15 credits during the same period. Fewer than 21% of students reported enrollment in 9-11 credits during fall 2004. A small number of respondents, 14%, reported taking less than 6 credits during the fall 2004 term. Almost half, 49%, of respondents reported attending only day classes, while 26.3% reported attending only evening classes. One-fourth of respondents reported attending both day and evening classes. A little over 20% of respondents reported completing more than 46 credits at the college, 15.8% of respondents reported having completed between 31-45 credits at the college, while 32.5% of respondents completed between 16-30 credits at the college and 31.6% of respondents completed 1-15 credits at the college.

Almost 24% of respondents reported receiving the grade A and 35.1 % of respondents reported receiving the grade A/B+ in courses while attending this college. Twenty-one percent of respondents reported receiving the grade of B. Ten percent of respondents reported receiving a grade of B- to C+ and less than 3% of respondents reported earning a C-. Over a third of respondents (37.2%) reported spending 1-5 hours

per week studying while 31.9% of respondents reported spending 6-10 hours per week studying. Fewer than 6 % of respondents reported spending more than 20 hours per week studying. Just over 35.4% of respondents, reported spending no time on the campus when not in class while 16.8% of respondents reported spending 4-6 hours on campus when not in class. Eight percent of respondents reported spending 7-9 hours on campus when not in class. A small percentage of respondents, 2.7%, reported spending 10-12 hours on campus when not in class. Over 47% of respondents reported the most important reason for attending college was to develop skills for new a job, while one-third of respondents reported the most important reason for attending college was to prepare to transfer to a four-year college.

Data Analysis

Through evaluation, educators seek answers regarding the impact that instructional programs and services in place for student use have on student learning outcomes. Evaluation results are utilized to determine the effectiveness of curriculum, programs, and services to students and the extent they influence student outcomes (Patton, 1997). To answer research question one, the frequency, mean, and standard deviation of the responses by students were calculated for each of the nine Quality of Effort Scales. To answer research question two, the items in the Estimate of Gains section were grouped into six categories using scale definitions demonstrated in factor analyses conducted in earlier studies. The frequency, mean, and standard deviation of the six categories were then calculated to answer research question two. To answer research question three, Pearson's correlation coefficient was calculated to examine the relationship between each of the nine areas of collegiate activity and each of the six

categories of reported gains. This produced a total of fifty-four Pearson's correlation coefficients.

Research Questions

Reported Quality of Effort of Adult Undergraduate Students

Research Question #1. To answer question one, adults' reported personal motivation and self-engagement with 'Course Activities' were explored. Means were calculated for each of the nine Quality of Effort Scales. An analysis of the calculated means and standard deviations determined that the greatest effort occurred for "Course Activities." The mean value for "Course Activities" is 25.5 as depicted in Table 17. One would expect students to make the greatest effort in areas directly related to their course work. Smith (1999) agreed that as adults mature, their readiness to learn increases. They are more oriented to learning and have an increased motivation to learn (Smith, 1996; 1999). The other areas in which adults reported significant effort included "Writing Activities," with a mean value of 20.3, and "Science Activities" with a mean value of 19.2. Personal motivation, commitment, and learning preferences are reflected in the effort adult learners place in assuming responsibility for their learning (Ross-Gordon, 2003).

The mean value of 20.1 was reported for "Career/Occupational Skills" as reported in Table 17. One would expect students to report significant effort in areas of career and occupational skills development. Slightly more than 47% (47.4%) of students reported the reason for attending college was to improve job skills (Table 16). As shown in Table 17, a mean value of 16.8 indicates the level of effort students reported on interaction with "College Faculty" outside of class. The same table shows "Student Acquaintances" with

a mean value of 12.2 and “Library” with a mean value of 11.8 reported student effort. As indicated by a mean value of 10.6, students reported little if any effort in the items forming the “Art, Music, and Theater” scale. While one might expect to observe more participation by learners in arts, music and theater, many adult learners have personal and work responsibilities outside of their college attendance that limit participation in such activities.

Outcomes Gains as Reported by Adult Undergraduate Students

Research Question # 2. To answer Research Question Two, the frequency and percentage were calculated for items forming each of the six outcome areas of reported gains. Also computed were the mean and standard deviation for each item. With a mean of 10.2, adult students reported the greatest gains in “Career Preparation” (Table 30). Tables 17 and 18 present the scale items forming the Career Preparation Estimate of Gains Scale including “Acquiring Knowledge and Skills,” “Gaining Information,” “Developing Clearer Career Goals,” and “Becoming Acquainted.” A majority of students indicated at least some gain in each of the four items forming the scale (Table 19). Table 19 illustrates that the four items forming the Career Preparation Estimate of Gains Scale have a mean score value between 2.3 and 2.7 with a standard deviation of 1.0. This demonstrates that students perceive a significant gain in the area of “Career Preparation.” At the other extreme are the mean score values for the items forming the Perspectives of the World scale. With a mean scale value of 7.8 (Table 30), the Perspectives of the World Scale had the lowest mean value of the six Estimate of Gains Scales. As explained in Table 29, the items forming the scale include “Ability to Speak a Foreign Language,” “Developing Interest in Politics,” “Seeing the Importance of History,” and “Learning

More About Others.” The mean scores for these four items ranged from 1.6 to 2.2. Responses to all four items show the highest percentage response was for either little gain or no perceived gain by students (Table 29).

Table 30 displays the mean value and standard deviation for each of the six Estimate of Gains Scales. Of interest, “Computers” has a mean score value of 4.6 with a standard deviation of 2.0, indicating adult students report substantial gains in the area of knowledge and skills in using computer technology. Considering the maximum possible value of 8 for this scale, this score is the second highest of the six Estimate of Gains Scales. Table 30 reports a mean score of 11.9 with a standard deviation of 4.5 reported for the “Personal and Social Development” scale. This finding also indicates that adults believe they have made substantial gains in their personal and social development through community college attendance.

The “Math, Science, and Integrated Technology” scale is formed from the following five items: “Understanding Math Concepts, “Understanding Role of Science,” “Putting Ideas Together,” “Developing Ability to Learn on Own,” and “Interpreting Graphs and Charts.” Table 27 indicates students perceived at least some gain in all five areas addressed by these items. The five mean values of these items ranged from 2.0 to 2.7, all with a standard deviation of 1.0. The Estimate of Gains Scale for “Arts and Communication” includes four response items. Most students rated their gain in “Understanding of Arts, Music, Theater,” as “Very little” (62.6%), and almost half (48.2%) of respondents rated gains in “Understanding of Literature” as “Very little.” Each of the remaining two items forming this scale shows “Some” as the highest percentage of responses. These responses indicate adult students perceive some gains.

Table 21 reports mean values and standard deviation for the four items forming the Arts and Communication Estimate of Gains Scale. “Understanding of arts, music and theater” had a mean value of 1.7; “Understanding of literature” had a mean value of 2.0. The items, “Writing clearly and effectively” and “Presenting ideas and information,” had mean values of 2.4 and 2.5 respectively. Students perceived somewhat greater gains in the communication aspects of this scale than in the arts related items of the scale.

Relationships between Adult’s Reported Quality of Effort and Gains Reported

Research Question #3: Research question three explored the relationship between quality of effort and the gains made in college activities as reported by adult students. Pearson correlation coefficients were calculated for the relationship between scales, as reported in Table 31. Cronk (1999) stated, “The Pearson correlation coefficient (sometime called the Pearson product –moment correlation coefficient or simply the Pearson r) determines the strengths of the linear relationship between two variables” (p. 39). Correlation coefficients were calculated to determine the degree or strength of the relationship that exists between adult students’ reported quality of effort in all college activities and the outcome gains they perceived. Forty-two of the fifty-four calculated correlation coefficients showed either a $p < .01$ or $p < .05$ level of significance.

As Table 31 indicates, when students become more engaged in “Course Activities,” “Library Activities,” “Faculty,” “Writing Activities,” and “Computer Technology,” they report increased progress in all 6 Estimate of Gains areas. Within the remaining four Quality of Effort areas statistically significant correlations were found with one or more Estimate of Gains scales. As one might expect, adult students, given

their age and motivation, perceive a high degree of relation between effort and gains in areas related to personal self-improvement.

Cronk (1999) stated, “correlations that are between .3 and .7 are considered moderate” (p. 40). Thirty-four moderate correlations are shown in Table 31. As one example, a correlation of 0.45 shows a moderate relationship between “Mathematics, Science, & Integrated Technology” and “Science Activities.” A moderate relationship with a coefficient of 0.54 also exists between “Writing Activities” and “Arts and Communication.” The strongest correlation is 0.57, between the effort of “Computer Technology” and the gain in “Computers.” As one might expect, students’ who perceive putting forth significant effort in “Computer Technology,” would also perceive gains in the use of computers. These perceptions are understandable given the level of importance that adults place on attaining skills that will enhance personal, career, and work related goals. Gaining skills in Computer Technology involve students learning to use e-mail, accessing the World Wide Web, the Internet, and using the computer to create class projects (Pace, Murrell, Friedlander, and Lehman, 1999).

Fraenkel and Wallen (2003) stated, “Correlations coefficients below .35 show only a slight relationship between variables” (p. 347). However, when drawing conclusions about correlation relationships that are found to exist between variables related to educational research, levels between .40 and .60 may hold theoretical or practical value (Fraenkel and Wallen, 2003). Twenty-four correlation coefficients have a value of 0.35 level or greater between the nine Quality of Effort Scales and the six Estimate of Gains Scales.

Limitations

One two-year community college is utilized in this study. The findings are particular to that institution, and generalization of the findings to students of a different community college may be limited. However, the demographic characteristics described in this study are indicative of many adult students, age 28 years and older, enrolling and attending at the community college level. Therefore, findings may be applicable to adult learners enrolled in similar community college districts.

Discussion

Knight (1994) stated, “The Community College Student Experience Questionnaire (CCSEQ) is designed to provide critical information on student characteristics and college environment as well as on student’s growth and satisfaction” (p. 6). A number of factors can impact adult learners and their ability to become successful learners in the community college environment. Community college services, including student counseling, advising, and financial aid services, provide a foundation for academic achievement and should be made available to adult learners. Developing opportunities for student-peer and student-faculty relationships promotes social and learning interactions while encouraging student involvement and should be initiated whenever possible (Donaldson, 1989; Graham & Gisi, 2000). Adult learners, while not always demonstrating a strong capacity for learning as they enter the community college environment, often find the determination to become successful learners. The present study was conducted to examine the relationship between student quality of effort and student outcome gains and academic achievement. Student interactions with college faculty members, mentors, and peers, among other factors, were examined to determine if

there is a relationship between effort and students' learning. Utilizing multiple statistical methodologies, three research questions were analyzed: (1) The reported quality of effort of adult undergraduate students, (2) Outcomes gains as reported by adult undergraduate students, and (3) The relationships between adult's reported quality of effort and gains reported in college activities. Theoretical concepts relevant to the purposes of this study were examined, synthesized, and used as a foundation for understanding the aspects and conditions that are often associated with the lives of adult learners.

Student Engagement with Faculty

Results found in the present study show that meaningful correlations exist between adult students' quality of effort in their interactions with faculty and their learners perceived moderate to moderately high gains in career preparation, arts and communication, personal and social development, and perspectives of the world. Using the CCSEQ, survey instrument, Douzenis (1996), conducted similar studies on the relationship between of student quality of effort, and the reported estimate of gains as perceived by adult community college students. Douzenis also reported that studies of "educational success have found that the degree and quality of participation in various college activities has a positive influence upon one's collegiate success" (p. 2). In her own research, Douzenis found:

That writing and faculty have the strongest relationships with self reported gains....Of note is the moderately strong relationship between the quality of effort scales for course activities and faculty indicating that students who put a larger degree of effort into classroom related activities also tend to have greater involvement with faculty (p. 4).

Findings in the present study suggested that a moderate relationship exists between students' reported quality of effort in faculty interaction and perceived gains in career preparation. These findings are consistent with results of similar studies. Students

whose educational goals were concentrated in career, vocational, or occupational areas reported gains in career preparation; they also reported quality of effort in both vocational or occupational skills and interacting with faculty members (Glover, 1996). Results of a similar study conducted by Talltree and Hodge (2001) stated that students “reported the most progress in the following areas: increasing their capacity to understand their abilities and interest, learning about different fields of knowledge...developing career goals” (p. 9).

Results reported by learners in the current study suggested that gains in art and communication were found to be strongly related to the quality of effort with faculty. Kim (2002) stated in support of these finding “In addition to serving as an introduction course for the nontraditional {adult} student, communications courses have a critical role because of the importance of oral communication skills for academic success” (p. 81). Findings in the present study indicated that a moderate relationship exists between students’ quality of effort in faculty engagement and their perceived gains in personal and social development. Graham and Donaldson (1999) agreed and stated “through social engagement and instructional activities and outcomes, the classroom influences the learners’ psychosocial and value orientations component...their success in learning likely reinforces their motivations and offers evidence for positive self-evaluation of their role as student” (p. 7). Findings in the present study also suggested that a moderate relationship exists between students’ reported quality of effort with faculty and the gains made in developing an {appreciation for} perspectives of the world. Jarrel (2004) agreed and stated “fostering a sense of community among students is important because students grow and learn collaboratively, together with and separate from, educators” (p. 516). One

re-occurring theme found within the results of this study suggests that faculty-student involvement is a key component for student educational development. In a review of research conducted by National Survey of Student Engagement, Wasley (2006) reported “Students ... who interact with faculty members get better grades, are more satisfied with their education, and are more likely to remain in college” (p. 39).

Course and Writing Activities

Consistent with expectations of the conceptual model, the results of the current study found that student reported quality of effort in course and writing activities are positively related to student outcome gains in arts and communication, personal and social development, mathematics, science, and integrated technology, and perspectives of the world. Knight (1994) conducted a similar study in a similar college environment and found that the “Quality of effort in course and writing activities were principal contributors to communications gains” (p. 11). In research designed to assist learners to increase critical academic and writing skills in community college students, Larson and Wissman (2000) reported, “Community college associate degree holders should be able to demonstrate the ability to clearly communicate thoughts, complex ideas, and questions both orally and in writing” (p. 4). Findings in the current study suggested that gains in arts and communication are significantly related to quality of effort in course and writing activities. Pascarella, Pierson, Wolniak, and Terenzini (2004) found that “one’s involvement in academic/classroom activities tended to have stronger positive effects.... on critical thinking, and number of term papers or written reports had stronger positive effects on writing skills... and learning for self-understanding” (p. 273). Findings in the

current study illustrate that students reported gains in personal and social development are strongly related to course and writing activities.

Talltree and Hodge (2001) suggested that community college adult students gain many experiences as learners: “For credit students, the greatest gains include increased academic competence, enriched intellectual life, and skill development, identification for a current or future job, and more self-confidence” (p. 9). Results of the present study indicated that students’ reported gains in mathematics, science, and integrated technology are correlated moderately to moderately high with course and writing activities. Summers (2003) conducted similar research to the present study and found that when student and faculty interactions were centered around mathematics and science activities learners were more inclined to “display positive attitudes toward science learning and development” (p. 5). Mars and Ginter (2007) stated “technologically enhanced instruction and learning improve the capacities of students to think critically, comprehend and retain knowledge, and discriminately apply information to real-world situations” (p. 327).

Library Activities and Computer Technology

CCSEQ results in the present study indicated that quality of effort in library activities and computer technology is meaningfully correlated with arts and communication, computers, personal and social development, and perspectives of the world. In studies conducted to research students’ academic gains using the CCSEQ survey, education researchers concluded the influence of student participation in computer and library activities has a positive effect on students’ success (Douzenis, 1996). Cohen and Brawer (1988) discussed the importance of library services related to student learning, and stated “The community college library has long been recognized as

an important instructional service” (p. 157). Cohen and Brawer (1988) also pointed out that “Because of their central position in the acquisition of instructional materials in both print and non-print forms, learning resource centers {library} in many colleges had a marked effect on the shape of the entire instructional program” (p. 160). Student learners in the current study reported that library and computer technology are moderately correlated with arts and communication gains. In similar research, Douzenis (1996) discussed skill development in adult students and stated “Measures of student participation in academic activities (writings, faculty, and library) as compared to social activities, proved to be the more important predictors of the amount of progress students felt they had made toward achieving their educational objectives” (p. 4).

Findings also indicated that efforts in library activities and computer technology as reported by learners have a strong correlation to computers. Lau (2003) reported on the importance of students developing skills in technology and stated “Multimedia, computer-based learning can be further strengthened with assignment of appropriate hands-on computer lab activities that are challenging and purposeful” (p. 5). Developing computer skills and utilizing the technology for activities both in and out of the classroom is beneficial to students. Bryant (2001) agreed and reported findings from previous research; “Lords (2000) states that 18% of community college students enroll with the objective of acquiring computer or technical training” (p. 2). Integration of the latest technology often enables the learner to translate learning from the classroom to the workplace (Lau, 2003). Van Wagoner, Bowman, and Spraggs (2005) stated

Community college faculty have seen numerous creative uses for computer technology in the classroom. Faculty have embraced writing classes held in computer labs, computers in science labs to collect data,

and practice opportunities in learning labs to help the under prepared student. (p. 5)

Findings in the current study indicated that adult learners reported moderately high to high correlations between personal and social development and library activities and computer technology. Hansman and Wilson (1998) stated “students learn best when situating their cognition and their making of meaning in a real-world situation that promotes active participation in the learning process” (p. 4). Students made gains in computer skills, improving skills in communications, and personal and social development which enabled the learner to become productive both in and out of the classroom.

Career/Occupational Skills

CCSEQ results found in the present study indicated that career preparation is moderately to moderately low correlated to career/occupational skills. In the present study, adult students reported progress in all four estimates of gains items comprising the career preparation scale, including gains in acquiring knowledge and skills, gaining information, developing clearer career goals, and becoming acquainted. Results of the demographic information collected from the respondents of the study suggested that majority enrolled in community college to enhance or improve job skills and career opportunities. College faculty and administration should ensure that career and vocational programming is state-of-the-art. To do so, partnerships between business and colleges should be facilitated. Currently, work force needs include: skills in integrated technology, computer and information technology, nursing, and health care. Occupational and vocational faculty can provide career bound students with the learning tools to become successful. Vocational and occupational students’ quality of effort in college and

career related activities are the most important variables influencing their gains in career preparation (Polizzi & Ethington, 1998). Glover (1993) found in comparable research that “Students’ assessment of their gains in career preparation, involvement in....quality of effort in both learning vocational or occupational skills and interacting with faculty members were significant” (p. 17).

Implications and Recommendations Practice

The most significant patterns found in this study revolved around student-faculty interaction and course activities. Data from this study suggested that student involvement and engagement in course and related academic activities produced positive direct effects on the reported outcome gains of adult learners. Adult learners in this study demonstrated that high correlation exists between writing activities, faculty, and arts and communication. Significant and meaningful correlations were also found to exist between writing activities and gains in computers, personal and social development, and perspectives of the world. A strong implication for educational practice was found in a correlation between library activities and personal and social development and perspectives of the world. The greatest implications for use of these results will improve classroom practices. An important practice is to provide opportunities for professional development to assist instructors to become better facilitators of adult learning. Also of great importance is the need to infuse more writing and writing instruction across the curriculum. Both of these important practices are ongoing at MCC. Milliron and de los Santos (2004) suggests the role of college leaders is to seek opportunities to promote the concept of “learning first” (p.114). Institutional faculty and administrative leadership should plan, develop, and implement educational curriculums that are effective and

perceived by learners to have relevance to their lives and educational goals (Knowles, 1984; Merriam & Caffarella, 1991). Adult students in this study reported attending community college with the intent of developing skills that will enhance their work and career related employment opportunities. Adult learners, more than traditional aged college students, have higher personal motivations for engaging in learning activities (Benshoff & Lewis, 1992).

A second important implication for practice includes the adoption of policies and practices that ensure learning-centered strategies are in place and are used to connect, improve, and expand learning outcomes for adult learners (Milliron & de los Santos, 2004). Lundberg (2003) stated that “Adult students are likely the most time-limited group of the college population; nearly all adults commute, most work, and many enroll part-time, leaving them less time available for on-campus involvement” (p. 665). Perin (2001) suggested “Linked courses gave students a sense of community: they interacted more with each other and supported each other’s learning” (p. 323). Additionally, an important implication for educational practice suggests that adult students benefit from being involved in peer-peer and or student-peer interaction. Encouraging adult learners to work in teams and to become involved in cooperative learning situations can positively affect their educational achievements. Developing course related opportunities for student-faculty and student-peer relationships has the affect of promoting learning interactions and should be initiated whenever possible (Donaldson, 1989; Graham & Gisi, 2000).

The reported effort in computer technology and gains in computers and arts and communication all have important implications for community college program curricula. The study results indicated adult students reported substantial gains in the area of

computers. A strong implication for educational practice includes recognition by educational professionals that adult students utilize computers and related technology both for personal communication and educational assignments. Educational leaders should ensure there are ample opportunities for students to utilize computers in educational activities. A strong and important implication for educational leaders is to recognize that adult students view their community college experiences as an opportunity or a means toward personal self-improvement. Adult students perceived a high degree of gains in personal and social development. Kasworm (2005) stated, "For these adults, their sense of self and future were highly invested in being successful as academic students" (p. 18). Student perceived gains in perspectives of the world was noticeably less than the gains in the other five gain scales. Educational leaders should ensure that adult students are provided ample opportunities to engage in activities and events that increase opportunity for development in perspectives of the world.

Recommendations for Future Research

CCSEQ research results provided important insights into the efforts and gains made by adult students involved in the academic learning process. Community college faculty, administration, and leaders in the institution agree that an essential goal of higher education is to identify educational methods and learning curricula that provide opportunities to increase student academic achievement. The results of the current study is useful and informs the faculty, administrators, and others in the college about how, why, and under what conditions adults learn. To further understand the nature of adult learning, additional research should be conducted. Further research should focus on the

nature of college environment, classroom, and learning activities that promote academic achievement in adult learners.

Adult students in this study reported a lack of assistance between effort in art, music and theatre activities to any of the six gains scales. Further research should be conducted in an effort to create practical methods that encourage engagement in art, music, and theatre activities among adult learners. The current study showed little correlation between the computer technology, faculty, and library activities and gains in mathematics, science, and integrated technology. Further research should be conducted to identify educational methods that would improve student engagement in these areas. Adult students in this study reported little or no correlation between either effort or gain for student acquaintances. Research should be conducted to identify methods that encourage more students/learner teams and more student collaboration interaction among adult learners (Lundberg, 2003). Although student academic motivations were not specifically addressed in this research, further research should be conducted to examine the factors that influence adults learners to participate in higher education.

Conclusions

Findings in the current research mirror findings in similar studies. For this sample of community college students, the findings from the CCSEQ provided clarification of students' reported quality of efforts and reported gains. Results of the present study revealed that community college adult learners can become academically successful. The ability of learners to become academically successful is enhanced by being involved, engaged, and taking personal responsibility for their own learning. Donaldson (1999) stated "the classroom is seen as the fulcrum of the collegiate experience for adults,

mediating the psychosocial and value orientations, life world environment, the adult cognition, and the outcomes components involved in the collegiate experiences” (p. 5). Adult students in this study reported that effort in writing and faculty interactions had the strongest influence on their reported gains. CCSEQ results indicated that students’ reported effort in faculty and course and writing activities influenced gains in arts and communications. Students indicated that efforts in library and faculty produced educational gains in academic college assignments and course related projects. Library and computer technology were also viewed by learners to be important to their development in career, occupational, and academic gains. In similar research, Douzenis (1996) discussed skill development in adult students and stated “Measures of student participation in academic activities (writing, faculty, and library) as compared to social activities, proved to be the more important predictors of the amount of progress students felt they had made toward achieving their educational objectives” (p. 4). Findings in previous research support the viewpoint of the current study that faculty involvement is a key component for adult student educational development. Adult students credit the relationships they developed with faculty members, students, and course related learning experiences with the success they experience as learners (Donaldson, 1991; Graham & Donaldson, 1999; Graham & Long, 1998; Kasworm & Blower, 1994).

APPENDIX

CCSEQ SURVEY QUESTIONNAIRE

**COMMUNITY COLLEGE
STUDENT EXPERIENCES
QUESTIONNAIRE**

The main purpose of asking you to complete this questionnaire is to learn more about how community college students spend their time. The information obtained from you and from other community college students from all over the country will help administrators and faculty members provide programs which will benefit student learning and development within the college experience.

At first glance, you may think it will take a long time to fill out this questionnaire, but you can actually complete it in 20 to 30 minutes. You will find when you have finished it, that your answers provide a kind of self-portrait of what you have been giving and getting in your college experience.

The ultimate benefit from this or any other survey depends on the thoughtful responses and willing participation of those who are asked to help. Your willingness to participate is important and very much appreciated.

We do not ask you to write your name on the questionnaire. On the last page there is space for a student identification number if it is requested by your college.

The responses will be read by an electronic scanning device. Please use a #2 soft black lead pencil and mark your answers clearly in the spaces provided. Erase cleanly any response you wish to change.



This questionnaire is available through:

CCSEQ
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Center for the Study of Higher Education
The University of Memphis
Memphis, TN 38152
Phone: (901) 678-2775
Fax: (901) 678-4291
email: cseqlib@cc.memphis.edu

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Jack Friedlander and Penny W. Lehman

(revised March, 1999)



DIRECTIONS: Indicate your responses by filling in the appropriate space under each question.

BACKGROUND, WORK, FAMILY

Age

- 18-19 or younger
- 20-22
- 23-27
- 28-39
- 40-55
- Over 55

Sex

- Male
- Female

What is your racial or ethnic identification?

- Native American
- Asian or Pacific Islander
- Black, African-American
- Hispanic, Latino
- White
- Other: What? _____

Is English your native language?

- Yes
- No

During the time college is in session, about how many hours a week do you usually spend working on a job for pay?

- none, I don't have a job
- 1-10 hours
- 11-20 hours
- 21-30 hours
- 31-40 hours
- more than 40 hours

If you have a job, how does it affect your college work?

- I don't have a job
- my job does not interfere with my school work
- my job takes some time from my school work
- my job takes a lot of time from my school work

If you have family responsibilities, how does this affect your college work?

- I don't have family responsibilities
- those responsibilities do not interfere with my school work
- those responsibilities take some time from my school work
- those responsibilities take a lot of time from my school work

Are you in a work-study program?

- Yes
- No

COLLEGE PROGRAM

How many credits are you taking THIS term?

- Less than 6
- 6 to 8
- 9 to 11
- 12 to 15
- More than 15

Including the credits you are now taking, what is the total number of course credits you have taken at this college?

- 1-15 credits
- 16-30 credits
- 31-45 credits
- 46 or more credits

When do the classes you are now taking meet?

- day only
- evening only
- some day and some evening

Up to now, what have most of your grades been at this college?

- A
- A-, B+
- B
- B-, C+
- C, C-
- lower than C-
- No grades, this is my first term.

About how many hours a week do you usually spend studying or preparing for your classes?

- 1 to 5 hours
- 6 to 10 hours
- 11 to 15 hours
- 16 to 20 hours
- more than 20 hours

About how many hours a week do you usually spend on the college campus, not counting time attending classes?

- none
- 1 to 3 hours
- 4 to 6 hours
- 7 to 9 hours
- 10 to 12 hours
- more than 12 hours

What is the most important reason you are attending THIS COLLEGE at this time? (Mark ONLY ONE answer.)

- To prepare for transfer to a four-year college or university
- To gain skills necessary to enter a new job or occupation.
- To gain skills necessary to retrain, remain current, or advance in a current job or occupation.
- To satisfy a personal interest (cultural, social).
- To improve my English, reading, or math skills.

COLLEGE COURSES

DIRECTIONS: Indicate whether you have taken (or are now taking) any courses in the following areas:

	None	One	More than 1
College Math (not remedial math)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Computer Literacy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
English Class or classes (to prepare you to take a college level English composition course.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
English Composition (not remedial English)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fine Arts (such as music, theater, dance)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Foreign Languages	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Humanities (such as history, literature, philosophy, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Math class or classes (to prepare you to take a college level math course.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Physical or Health Education	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sciences (such as astronomy, biology, physics, chemistry, geology, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Social Sciences (such as psychology, political science, sociology, economics, ethnic studies, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Speech, Communications	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

DIRECTIONS: Answer each of the following questions.

	Yes	No
Are you working for an AA degree?	<input type="radio"/>	<input type="radio"/>
Are you working for an AS degree?	<input type="radio"/>	<input type="radio"/>
Are you working for a diploma?	<input type="radio"/>	<input type="radio"/>
Are you working for a certificate?	<input type="radio"/>	<input type="radio"/>
Do you plan to transfer to a four year college or university?	<input type="radio"/>	<input type="radio"/>
Are you currently enrolled in an occupational/vocational program?	<input type="radio"/>	<input type="radio"/>

If you are enrolled in a vocational program, which of the following categories best describes your occupational/technical program? (MARK ONE):

- I am not enrolled in an occupational/technical program.
- Agriculture (such as agricultural business, management, mechanics, or production; animal science; horticulture; landscaping; conservation; etc.)
- Business (such as accounting; bookkeeping; data processing; office supervision; personnel and training; secretarial programs; etc.)
- Management and Distribution (such as real estate; fashion merchandising; small business management; financial services marketing; food marketing; marketing management; institutional management; etc.)
- Health (such as dental services; diagnostic and treatment services; medical laboratory technologies; mental health and human services; nursing services; rehabilitation services; etc.)
- Home Economics (such as interior design; clothing and textiles; food and nutrition; food production; child care; etc.)
- Technical and Communications (such as computer programming; educational media technology; radio and television technology; architectural technology; civil technology; electrical and electronic technology; environmental control technology; industrial technology; engineering technology and robotics; etc.)
- Trade and Industrial (such as cosmetology; law enforcement; construction trades; heating and air conditioning; industrial equipment maintenance; aircraft mechanics; auto body repair; automotive mechanics; architectural, civil, or mechanical drafting; commercial art; commercial photography; truck and bus driving; tool and dye making; welding; etc.)
- Other occupational/technical programs not listed above.

LEARNING AND STUDY SKILLS

How much OUT-OF-CLASS instruction have you received at the college in each of the following learning and study skills areas?

	None	Some	A Lot
Memory skills	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Note taking skills	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Listening skills	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Speaking skills	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Writing skills	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Reading skills	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Test taking skills	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Time management skills	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Problem solving skills	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

COLLEGE ACTIVITIES

DIRECTIONS: In your experience at this college DURING THE CURRENT SCHOOL YEAR, about how often have you done each of the following? Indicate your responses by filling in one of the circles to the right of each activity.

COURSE ACTIVITIES	Never Occasionally Often Very Often	FACULTY	Never Occasionally Often Very Often
Participated in class discussions.	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	Asked an instructor for information about grades, make-up work, assignments, etc.	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
Worked on a paper or project which combined ideas from different sources of information.	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	Talked briefly with an instructor after class about course content.	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
Summarized major points and information from readings or notes.	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	Made an appointment to meet with an instructor in his/her office.	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
Tried to explain the material to another student.	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	Discussed ideas for a term paper or other class project with an instructor.	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
Did additional readings on topics that were introduced and discussed in class.	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	Discussed your career and/or educational plans, interests, and ambitions with an instructor.	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
Asked questions about points made in class discussions or readings.	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	Discussed comments an instructor made on a test or paper you wrote.	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
Studied course materials with other students.	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	Talked informally with an instructor about current events, campus activities, or other common interests.	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
Applied principles and concepts learned in class to understand other problems or situations.	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	Discussed your school performance, difficulties or personal problems with an instructor.	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
Compared and contrasted different points of view presented in a course.	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	Used electronic mail (E-mail) to communicate with your instructor.	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
Considered the accuracy and credibility of information from different sources.	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>		
LIBRARY ACTIVITIES		STUDENT ACQUAINTANCES	
Used the library as a quiet place to read or study material you brought with you.	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	Had serious discussions with students who were much older or much younger than you.	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
Read newspapers, magazines, or journals located in the library or on-line.	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	Had serious discussions with students whose ethnic or cultural background was different from yours.	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
Checked out books and other materials to read at home.	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	Had serious discussions with students whose philosophy of life or personal values were very different from yours.	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
Used the card catalogue or computer to find materials the library had on a topic.	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	Had serious discussions with students whose political opinions were very different from yours.	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
Prepared a bibliography or set of references for a term paper or report.	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	Had serious discussions with students whose religious beliefs were very different from yours.	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
Asked the librarian for help in finding materials on some topic.	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	Had serious discussions with students from a country different from yours.	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
Found some interesting material to read just by browsing in the stacks.	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>		

DO NOT MARK IN THIS AREA



193335

COLLEGE ACTIVITIES

DIRECTIONS: In your experience at this college DURING THE CURRENT SCHOOL YEAR, about how often have you done each of the following? Indicate your responses by filling in one of the circles to the right of each activity.

ART, MUSIC, THEATRE ACTIVITIES	Never	Occasionally	Often	Very Often
Talked about art (painting, sculpture, architecture, artists, etc.) with other students at the college.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Talked about music (classical, popular, musicians, etc.) with other students at the college.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Talked about theater (plays, musicals, dance, etc.) with other students at the college.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Attended an art exhibit on the campus.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Attended a concert or other musical event at the college.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Attended a play, dance, concert, or other theater performance at the college.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Participated in an art exhibit, musical event, or theatre performance at the college.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Attended an OFF-CAMPUS art exhibit, musical event, or theatre performance <u>for course credit</u> .	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Participated in an OFF-CAMPUS art exhibit, musical event, or theatre performance <u>for course credit</u> .	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

WRITING ACTIVITIES	Never	Occasionally	Often	Very Often
Used a dictionary [or computer (word processor) spell-check/thesaurus] to look up the proper meaning, definition, and/or spelling of words.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Prepared an outline to organize the sequence of ideas and points in a paper you were writing.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Thought about grammar, sentence structure, paragraphs and word choice as you were writing.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Wrote a rough draft of a paper or essay and revised it before handing it in.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Used a computer (word processor) to write or type a paper.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Asked other people to read something you wrote to see if it was clear to them.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Spent at least 5 hours or more writing a paper.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Asked an instructor for advice and help to improve your writing or about a comment he/she made on a paper you wrote.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

SCIENCE ACTIVITIES	Never	Occasionally	Often	Very Often
Memorized formulas, definitions, technical terms.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Practiced to improve your skills in using laboratory equipment.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Showed a classmate how to use a piece of scientific equipment.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Attempted to explain an experimental procedure to a classmate.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tested your understanding of some scientific principle by seeing if you could explain it to another student.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Completed an experiment/project using scientific methods.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Talked about social and ethical issues related to science and technology such as energy, pollution, chemicals, genetics, etc.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Used information you learned in a science class to understand some aspect of the world around you.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tried to explain to someone the scientific basis for environmental concerns about pollution, recycling, alternative forms of energy, etc.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Did paid or volunteer work OFF-CAMPUS to help the environment after learning about environmental issues in class.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Applied information or skills you learned in a science class to work (either volunteer or paid) outside of class.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

ATHLETIC ACTIVITIES	Never	Occasionally	Often	Very Often
Followed a regular exercise program on campus.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sought athletic instruction.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Attended an athletic event on campus.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Coached or assisted with youth athletic programs on campus.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Coached or assisted with OFF-CAMPUS youth athletic programs <u>for course credit</u> .	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Participated in a sport on campus.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



COLLEGE ACTIVITIES

DIRECTIONS: In your experience at this college DURING THE CURRENT SCHOOL YEAR, about how often have you done each of the following? Indicate your responses by filling in one of the circles to the right of each activity.

CAREER/OCCUPATIONAL SKILLS

DIRECTIONS: If you are enrolled in a career/occupational program or a course in which you learn occupational skills, answer the following items.

- | | | | | |
|---------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| | Never | Occasionally | Often | Very Often |
| Read about how to perform a procedure (occupational task, vocational skill). | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Listened to an instructor explain how to do a procedure. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Watched an instructor demonstrate how to do a procedure. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Practiced a procedure while being monitored by an instructor or other student. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Practiced a procedure without supervision. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Identified that there was a problem and located information from an instructor or other resource about what to do. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Diagnosed a problem and carried out the appropriate procedure without having to consult any resource. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Applied occupational skills learned in class to a job situation outside of class. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Participated in an internship, cooperative, practicum, etc. with a local business, facility, or organization for course credit. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

COMPUTER TECHNOLOGY

- | | | | | |
|------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Used E-mail to communicate with an instructor or other students about a course. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Used the World Wide WEB or INTERNET [or other computer network] to get information for a class project or paper. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Used a computer tutorial to learn material for a course or remedial program. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Used computers in a group (cooperative) learning situation in class. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Used a computer for some type of database management. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Used a computer to analyze data for a class project. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Used a computer to create graphs or charts for a class paper or project. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Wrote an application using existing software or programming languages. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

CLUBS AND ORGANIZATIONS

- | | | | | |
|----------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| | Never | Occasionally | Often | Very Often |
| Looked for notices about campus events and student organizations. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Read or asked about a student club or organization. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Attended a meeting of a student club or organization. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Assumed a leadership role (held an office, headed a committee, etc.) in a student organization or club. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Participated in a campus project or event sponsored by a student organization or club. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Participated in a project or event OFF-CAMPUS which was sponsored by a student organization or club. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Participated in a project or event OFF-CAMPUS which was not sponsored by a student organization or club. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

COUNSELING AND CAREER PLANNING

- | | | | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Talked with a counselor/advisor about courses to take, requirements, educational plans. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Discussed your vocational interests, abilities and ambitions with a counselor/advisor. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Read information about a particular 4-year college or university that you were interested in attending. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Read materials about career opportunities. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Made an appointment with a counselor or an advisor to discuss your plans for transferring to a 4-year college or university. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Identified courses needed to meet the general education requirements of a 4-year college or university you are interested in attending. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Talked with a counselor/advisor about personal matters related to your college performance. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Have taken interest inventories or surveys (e.g. Strong-Campbell Interest Inventory, Kuder Occupational Interest Survey, etc.) to help you direct your career goals. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

ESTIMATE OF GAINS

DIRECTIONS: In thinking over your experiences in this college up to now, to what extent do you think you have gained or made progress in each of the following areas? (Please mark one response for each item.)

<i>I have gained or made progress in:</i>	Very Little Some Quite a bit Very Much
Acquiring knowledge and skills applicable to a specific job or type of work.	○ ○ ○ ○ ○
Gaining information about career opportunities.	○ ○ ○ ○ ○
Developing clearer career goals.	○ ○ ○ ○ ○
Becoming acquainted with different fields of knowledge.	○ ○ ○ ○ ○
Developing an understanding and enjoyment of art, music, and theater.	○ ○ ○ ○ ○
Developing an understanding and enjoyment of literature (novels, stories, essays, poetry, etc.).	○ ○ ○ ○ ○
Writing clearly and effectively.	○ ○ ○ ○ ○
Presenting ideas and information effectively in speaking to others.	○ ○ ○ ○ ○
Acquiring skills needed to use computers to access information from the library, the INTERNET, the World Wide WEB, or other computer networks.	○ ○ ○ ○ ○
Acquiring skills needed to use computers to produce papers, reports, graphs, charts, tables, or data analysis.	○ ○ ○ ○ ○
Becoming aware of different philosophies, cultures, and ways of life.	○ ○ ○ ○ ○
Becoming clearer about my own values and ethical standards.	○ ○ ○ ○ ○
Understanding myself-my abilities and interests.	○ ○ ○ ○ ○

<i>I have gained or made progress in:</i>	Very Little Some Quite a bit Very Much
Understanding mathematical concepts such as probabilities, proportions, etc.	○ ○ ○ ○ ○
Understanding the role of science and technology in society.	○ ○ ○ ○ ○
Putting ideas together to see relationships, similarities, and differences between ideas.	○ ○ ○ ○ ○
Developing the ability to learn on my own, pursue ideas, and find information I need.	○ ○ ○ ○ ○
Developing the ability to speak and understand another language.	○ ○ ○ ○ ○
Interpreting information in graphs and charts I see in newspapers, textbooks, and on TV.	○ ○ ○ ○ ○
Developing an interest in political and economic events.	○ ○ ○ ○ ○
Seeing the importance of history for understanding the present as well as the past.	○ ○ ○ ○ ○
Learning more about other parts of the world and other people (Asia, Africa, South America, etc.).	○ ○ ○ ○ ○
Understanding other people and the ability to get along with different kinds of people.	○ ○ ○ ○ ○
Developing good health habits and physical fitness.	○ ○ ○ ○ ○
Developing the ability to get along with others in different kinds of situations.	○ ○ ○ ○ ○

COLLEGE ENVIRONMENT

If you could start over again would you go to this college?

- yes
- maybe
- no

How many of the students you know are friendly and supportive of one another?

- all
- most
- some
- few or none

How many of your instructors at this college do you feel are approachable, helpful, and supportive?

- all
- most
- some
- few or none

How many of the college counselors, advisors, and department secretaries you have had contact with would you describe as helpful, considerate, knowledgeable?

- all
- most
- some
- few or none

How many of your courses at this college would you describe as challenging, stimulating, and worthwhile?

- all
- most
- some
- few or none

Do you feel that this college is a stimulating and often exciting place to be?

- all of the time
- most of the time
- some of the time
- rarely or never

Are there places on the campus for you to meet and study with other students?

- yes, ample places
- yes, a few places
- no

Are there places on the campus for you to use computers and technology?

- yes, ample places
- yes, a few places
- no

DO NOT MARK IN THIS AREA

ADDITIONAL QUESTIONS

DIRECTIONS: If your college asks you to reply to additional questions, provide your answers in the spaces below.

	A	B	C	D
1.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
14.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
15.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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Student Identification Number									
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THANK YOU FOR YOUR PARTICIPATION

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Page 8

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