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## Identifying Enrollment Factors at New River Community College

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IDENTIFYING ENROLLMENT FACTORS  
AT NEW RIVER COMMUNITY COLLEGE

A RESEARCH PAPER PRESENTED TO THE GRADUATE  
FACULTY OF THE DEPARTMENT OF  
STEM EDUCATIONAL AND PROFESSIONAL STUDIES  
AT  
OLD DOMINION UNIVERSITY

IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR  
THE DEGREE OF  
MASTER OF SCIENCE  
IN STEM EDUCATION AND PROFESSIONAL STUDIES

By  
Keith S. McAllister  
October 2009

## SIGNATURE PAGE

This research paper was prepared by Keith S. McAllister under the direction of Dr. John M. Ritz as part of OTED 636, Problems in Occupational and Technical Studies. It was submitted to the Graduate Program Director as partial fulfillment of the requirements for the Degree of Master of Science in STEM Education and Professional Studies.

APPROVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
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Keith S. McAllister

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## CHAPTER I

### INTRODUCTION

The mission of the Virginia Community College System is to provide comprehensive higher education and workforce training programs and services of superior quality. The goals for projected programs are that they are financially and geographically accessible and they serve to meet individual, business, and community needs (VCCS Mission Statement, 2003). In an effort to meet these educational targets on a regional basis, the leadership of the VCCS and individual community colleges, such as New River Community College, set general college enrollment goals. Various programs and policies have been initiated to target these efforts.

To encourage prospective students to attend the Virginia Community Colleges, community college programs and policies have been initiated and supported at the state level. Other programs and initiatives have been carried out at the local level by the community colleges themselves. In addition to these policies and programs, other factors can significantly influence general college enrollment levels. For example, it is generally acknowledged by administrators and professors at NRCC that when significant layoffs or downsizing occur in the New River Valley, community college attendance experiences a significant increase.

In consideration of these intrinsic economic factors, policies, and programs, community colleges would benefit from knowledge of which factors contribute most to a students' decision to attend New River Community College. Over the past two years there has been a significant increase in student enrollment at NRCC. Researching data relevant to this time frame would facilitate any research to discern the programs or factors that have the greatest and least influence on attendance decisions.

The purpose of this research was to collect and review data through survey and research of unemployment trends that would determine the most significant influences on students' decision to enroll at New River Community College.

### **Statement of the Problem**

The problem of this study was to determine significant factors that facilitated enrollment increases at New River Community College.

### **Research Goals**

To solve this problem, the following research questions were established:

1. Could the downsizing of business and industry workforces in the New River Valley be a precursor to increased student enrollment?
2. Could the opening of the New River Community College site at the New River Valley Mall have influenced the increased student enrollment?
3. Could newly accredited transfer programs at New River Community College contribute to enrollment increases?
4. What percentage of New River Community College students have chosen to attend NRCC because of dual enrollment programs?
5. Was affordable tuition an enrollment factor during economic hardships?
6. Did a history of poor academic performance in high school or four year college contribute to the increase in enrollment at New River Community College?

### **Background and Significance**

New River Community College is dedicated to supporting the Virginia Community College System (VCCS) in providing academic and technological training to

the community it serves. It attracts students from all areas of the New River Valley and Southwest Virginia. Providing this geographic area with affordable education and hands on technological training contributes to the economic stability of Southwest Virginia. It contributes directly by providing skilled labor and preparing students for a continuation of their education through a four year college and beyond. Indirect economic contributions include the reeducating of displaced workers to keep them in viable, sustained employment.

New River Community College is supported with state funds, grants, and endowments, but enrollment is a significant determinant of its financial stability. Student tuition monies serve to sustain the viability of the campus, equipment, staff, and necessary resources. Tracking the trends and influences of student enrollment would be a logical pathway to maintain tuition monies at necessary levels.

In an effort to meet their educational goals and increase attendance at the 23 community colleges across Virginia, several policies, programs, and initiatives have been developed and implemented by the leadership of VCCS. These policies, programs, and initiatives have served to move the Virginia Community College System into the ratings of a world-class educational institution with a tradition of high standards. In 2003, VCCS raised the bar for Virginia's community colleges placing them well on their way to exceeding many of their seven goals:

1. Serve at least 16,000 new students.
2. Provide training each year for 225,000 individuals who choose noncredit training – an increase of nearly 80 percent.

3. Rank the top 10 percent of the nation's community college systems by rates of student graduation, retention, and job placement.
4. Triple the number of graduates who successfully transfer to four-year institutions.
5. Limit tuition to half of the average cost to attend a public four-year institution in the Commonwealth.
6. Triple the number of high school students who take college courses and receive college credits – raising the number from 14,000 to 45,000 (*Dateline 2009*, n.d.).

In an effort to secure private support and accomplish these state level goals and initiatives, New River Community College developed supportive programs. NRCC, under the leadership of President Jack Lewis, expanded the New River Community College campus to nearby Christiansburg, Virginia, at its New River Valley Mall site. In addition, NRCC set goals to increase general enrollment, hire a college recruiter, and increase dual enrollments. Initiatives were in place to accomplish these goals and, by 2007, NRCC had already exceeded their attendance goals.

The question remains as to which of the programs and policies have been most effective at increasing enrollment at NRCC. Variables such as increased unemployment in the New River Valley may also play a significant role in community college enrollment, and this, too, must be researched. “There remains a common assumption that suggests that students who choose two-year colleges do so because they are academically deficient or strictly price conscious” (*Dateline 2009*, n.d., p. 60).

To date, no formal research has been conducted to track the motivations for students to enroll at New River Community College versus no college or a four year college. A formal research study of these incentives would prove valuable in sustaining increased enrollment numbers, and thus improving the financial viability of New River Community College. The study will also serve to provide groundwork from which new incentive programs can be built.

### **Limitations**

The limitations of this study were as follows:

1. The study was limited to surveys from students currently attending New River College.
2. The survey time frame was limited from April 24, 2009, to July 15, 2009.
3. The study was limited to unemployment data obtained from the United States Department of Labor, the Bureau of Labor Statistics, and NRCC student enrollment records.

### **Assumptions**

The following factors guided this study:

1. All participants were treated equally with respect to the number of credit hours they were taking.
2. All professors distributed the surveys according to the survey instructions.
3. All participants were given sufficient time to accurately complete the questionnaire.
4. No assumptions were made about a participant's academic or socioeconomic status

## **Procedures**

Research data collected in this study came from students of NRCC who were willing to participate in the study. Unemployment data were collected from the United States Department of Labor and the Bureau of Labor Statistics. Surveys were used for data collection and included questions relevant to the students' decision to enroll at New River Community College. Students were also asked to rank the level of influence that various programs, policies, employment status, and initiatives had on their decisions to attend. The unemployment data for the New River Valley area was collected from the United States Department of Labor and the Bureau of Labor Statistics and was compared to previous periods of unemployment levels in that area. These data were used to determine the effects of unemployment rates on student enrollment levels.

## **Definition of Terms**

The following terms have been defined in order to provide clarification to the study:

1. Dual enrollment – High school students who take college courses and receive college credits.
2. FTE – Full-time equivalent student – A full-time student count derived from full and part-time student enrollment numbers.
3. NRV Mall Site – The location of NRCC off campus satellite in Christiansburg, Virginia.
4. NRV – New River Valley – Areas encompassing Montgomery, Pulaski, Giles, Floyd, and Dublin counties and the cities of Radford and Christiansburg.

## **Overview of Chapters**

This research study consists of five chapters. Background information referencing the development of the current culture of educational services comprised a part of Chapter I. Chapter I also addressed the means to accomplish this service and how it could be extended throughout the Virginia Community College System. Chapter I also included a discussion of how this particular drive to provide educational services through related programs was a part of the culture of NRCC. Examples of programs and initiatives pursued by NRCC to meet educational goals were outlined. The basis for the study was outlined in Chapter I, as well as the research to solve this problem and the limitations to this research. Assumptions made by the researcher were stated and means for data collection were described. Terms used were defined for clarity.

Chapter II will include a review of literature. Pertinent information with respect to New River Community College educational programs, policies, and incentives will be presented. Chapter III will describe the protocol designed to gather the research data. It will clarify methodology for data collection.

Chapter IV will present the data and significant findings of the research. The conclusions and subsequent recommendations will be presented in Chapter V. Chapter V will also include a concise summary of the research findings. The conclusions drawn from the data regarding effects of unemployment, programs, policies and incentives on student enrollment at NRCC will be offered. The most effective measure or combination of measures to secure enrollment at New River Community College will be recommended.

## CHAPTER II

### REVIEW OF LITERATURE

The purpose of this chapter is to summarize a review of the literature relevant to the study of enrollment factors at NRCC. New River Community College has supported goals of the VCCS and initiated their own goals that should facilitate the enrollment of students to NRCC. This review will cover factors that influence enrollment at community colleges and factors that are unique to the NRCC service region. This review will also cover motivations for enrollment such as accredited transfer programs and the NRCC dual enrollment program. It will review how affordable tuition may affect enrollment decisions.

#### **Enrollment Factors for New River Community College**

In an effort to conduct this research, several enrollment factors were reviewed. The impact of higher unemployment rates in the New River Valley region and the opening of the New River Community College extension site at the Christiansburg Mall were significant factors considered. Community college enrollment has been impacted by the influence of two-year transfer programs to major four-year universities within Virginia, along with the NRCC dual enrollment programs affiliated with area high schools, thus playing an integral role in this study. Other contributing factors include affordable tuition and the students' academic performance in high school. NRCC would benefit from knowledge of programs, policies, and conditions that have impacted its student enrollment. Its administration could then augment studies conducted by other VCCS institutions.



Vocational and technical courses at New River Community College became available to residents of the New River Valley in 1959. NRCC was one of the five Virginia colleges that evolved from vocational or technical schools to community college status. Under the 1966 General Assembly, legislation formed the Virginia Community College System (WSLS News, 2008). Most of the original technical programs offered at the time of this inception continue to be offered today (WSLS News, 2008). Some of these programs, such as Electrical Technology, have been expanded to Associate Degree programs, and several new Associate Degree programs have been launched. In accordance with its devotion to the Virginia Community College System mission statement, NRCC provides comprehensive higher education, workforce training programs, and competitive services that are financially and geographically accessible to NRV residents (WSLS News, 2008).

Enrollment at New River Community College for the academic year 2007-2008 increased at a greater rate than any of the state's 23 community colleges, according to data released by the Virginia College System (WSLS News, 2008). This increase has put NRCC closer to its enrollment goals for projected trends throughout the VCCS. Dr. Jack Lewis, President of New River Community College, said, "While a number of factors typically affect enrollment trends, significant developments contributing to this increase included continued growth in distance learning enrollment, the popularity of dual enrollment classes offered to area high school students, and the success of the college's site in the New River Valley Mall in Christiansburg, which opened last August" (WSLS News, 2008, p. 2).

Enrollment factors for NRCC have been partially influenced by *Dateline 2009*, a body of strategic goals jointly developed by the State Board for Community Colleges, chancellors, and college presidents. These goals were designed to meet the critical educational needs of the Commonwealth of Virginia. The 2009 enrollment statistics outlined for Virginia's community colleges, indicate that enrollments continue to increase steadily. *Dateline 2009* indicated that, "...the VCCS increased by 44%, the number of individuals served through Workforce Development initiatives" (*Dateline 2009*, n.d., p. 2). It stated, "...the VCCS has publicly and operationally maintained its objective to keep VCCS tuition and fees at less than half the cost of tuition and fees at the commonwealth's public senior institutions" (p. 2).

In addition to enrollment, workforce training, and tuition goals, *Dateline 2009* has addressed the outcome of the goals with respect to dual credit enrollments and transfer to four-year colleges. It concluded that, "While VCCS colleges compared favorably to national peer colleges, VCCS still needs to improve its retention rates to reach top ten status [amongst national community colleges]" (*Dateline 2009*, n.d., p. 4).

This research will examine unemployment levels and their impact on New River Community College enrollment. The NRCC service region contains a variety of businesses and industries that have experienced significant downsizing as a result of the recent economic recession. College administrators widely accept the belief that as unemployment rates rise, the number of persons seeking college enrollment rises proportionally. It is unlikely that prosperous economic times and job stability will motivate employees to enhance their workforce skills. Economic downturns, however,

necessitate enrollment in community colleges to enhance employment opportunities when jobs are scarce.

Economic downturns in Salt Lake City, Utah, have created an increase in community college enrollment by 12.5% in just one year. This surge in enrollment represents a gain consistent with other Utah community colleges. "Community colleges in Utah are at the uneasy intersection of two trend lines as the economic recession enters its fifteenth month," says Alex Johnson, reporter for msnbc.com (Johnson, 2009, pp. 1, 2). The state's community colleges have been inundated with more applications than they are able to reasonably accommodate. Economic downturns in Utah are fueling an eagerness among workers who have lost jobs to upgrade their skills.

One of the primary goals of this research was to determine the effect of the current economic recession and rising unemployment levels in the New River Valley on the rise of New River Community College student full-time equivalent enrollments. A comparison of research by the Nevada Community College System was used to facilitate this goal. James E. Rogers, Chancellor of the Nevada Community College System, campaigned against system budget reductions proposed by his state governor. These budget cuts would have resulted in faculty layoffs, crowded classes, and fewer course selections. "When the economy goes to hell, students go back to school," the chancellor says, "but as our student population grows, and the demands for classes have grown, our ability to provide them has suffered" (Mangan, 2008, pp. 1, 2).

A 1995 study found a significant link between community college enrollment and the unemployment rate. It noted that community college enrollment fluctuated proportionately with the rates of local unemployment. Researchers noted that economic

recessions lead to revenue decreases as well as enrollment increases for community colleges (Betts & McFarland, 1995). The community college enrollment for one year was compared to economic variables for the previous year. This was done to allow time for the national community college enrollment figure to react to the economic condition of the nation (Betts & McFarland, 1995). Definitive relationships were found between the variables.

### **NRCC Extension Site at NRV Mall**

The successful development and expansion of services from New River Community College campus has culminated in the establishment of a satellite extension site. The new site provides a state-of-the-art instructional facility at the New River Valley Mall in Christiansburg. This site is in close proximity to the Virginia Tech community and is home to 30 percent of current NRCC students (Roboteau, 2007). The mall site is centrally located and accessible by the major public transit system of Montgomery County. See Figure 2.1. The site includes a distant learning classroom from which instructors can broadcast their lectures. In a classroom setting, the students can gather to watch a lecture on a large screen. Two classrooms comprise a modified auditorium with a state-of-the-art digital projection system. Core curricula offered at the NRCC Mall Site include Game Technology, Computer Aided Drafting and Design, Workforce Development, middle college classes, and transfer courses.

NRCC has provided a valuable service to the community by providing access to the college. The mall site has been credited with increasing NRCC total enrollment since fall semester of 2007. VCCS spokesman, Jeff Kraus, touted the success of the campus by

saying, “It’s not really about being in shopping malls; it’s about finding where the need is for higher education access and being a good community partner” (Roboteau, 2007, p. 2).



*Figure 2.1* New River Community College Christiansburg Mall Site (Roboteau, 2007)

### **Accredited Transfer Programs**

Enrollment at New River Community College has benefited greatly from Virginia Community College System’s state-wide negotiated agreements for students who wish to continue their education beyond the community college level. Graduates with an Associate’s Degree from any Virginia community college, and an established minimum grade point average, are guaranteed admission to more than twenty of the commonwealth’s colleges and universities. “These agreements provide uniform access to Virginia’s four-year academic partners to all students enrolled in the Commonwealth’s 23 community colleges” according to a recruiting brochure published by Virginia’s Community College System (Virginia Community College System, 2007). These transfer partnerships facilitate a smooth transition for the student by standardizing and maximizing the application of community college credits. NRCC offers six associate

degree transfer programs, and on a local level, has formalized transfer programs with Radford University, Virginia Tech, and the University of Virginia.

This program of reciprocity had proven to be attractive to students enrolling at Virginia's community colleges. The number of the Commonwealth's two-year transfers to four-year programs had steadily increased from 1993 to 2006. The sharpest increase in associate degree transfers occurred during the most recent years. During the period from 2002 to 2006, the transfer of associate's degree students rose by 27% (Virginia Community College System, 2007). The statistics reported in this brochure support the positive influence of VCCS's guaranteed transfer program on community college enrollments in Virginia.

### **NRCC Dual Enrollment Program**

In addition to the guaranteed transfer program, NRCC offered a dual enrollment program to its students. This program engaged students at the high school level and allowed them to integrate high school credits with college credits. The dual enrollment programs allowed academically sound students a jump start on their future college degree. These programs had been a successful element of Virginia's education system for two decades. The Commonwealth's support for this program has positively affected community college enrollment. "Since 1992, the number of high school students enrolled in the college dual enrollment courses have raised steadily, increasing 539.9%. By 2006, 20,582 more high school students were taking dual enrollment classes than in 1992" (Moschos & Massa, 2003, p. 47). See Figure 2.2.

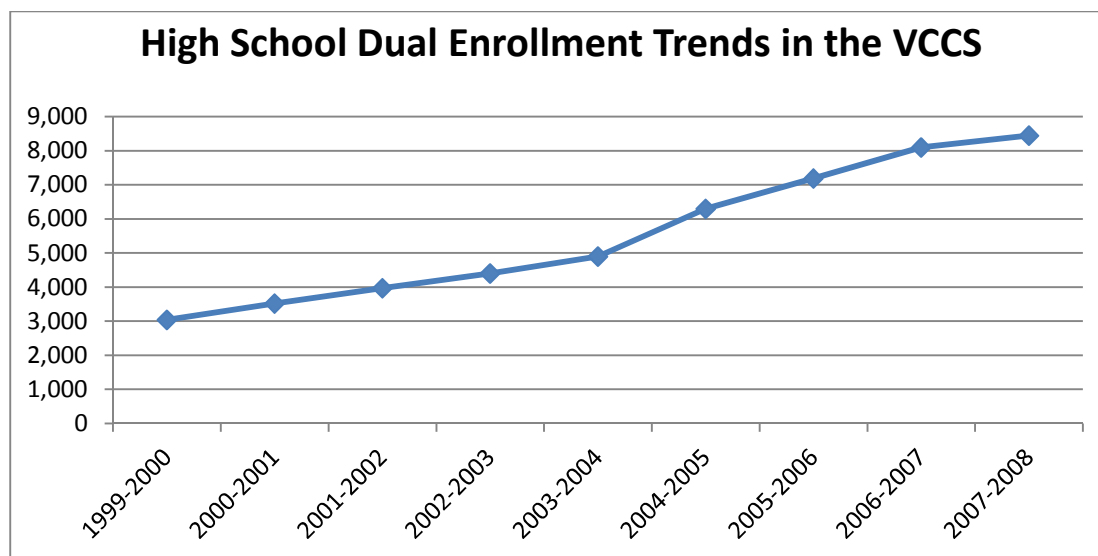


Figure 2.2 High School Dual Fall Headcount Enrollment Trends in the VCCS from 1999 to 2008 (Virginia Community College System, 2007)

### Affordable Tuition at NRCC

Community colleges can ease the financial burdens of tuition expenses. “A lot of families out there will be looking at their most recent 5-2-9 [college savings] statements and scaling back their expectations of where they’re going to send their sons and daughters,” says Daniel J. Hurley, Director of State Relations and Policy Analysis at the American Association of State Colleges and Universities (Mangan, 2008, p. 2). Many students who have set their sights on public or private four-year schools may look to the less expensive community colleges. “A national survey bears out the trend [towards community college enrollment]. Fifty-seven percent of the 2,500 high school seniors surveyed this fall by a scholarship-search group called MeritAid said they were considering less expensive, less selective colleges...14% of students had shifted their attention from four-year to two-year colleges” (Mangan, 2008, p. 2).

Virginia’s community colleges are positioned to become even more financially attractive as economic downturns pervade. The Virginia Community College System,

according to Chancellor Glenn DuBois, has proposed a 2009 goal to limit tuition to half of the average cost to attend a public, four-year institution in the Commonwealth (*Dateline 2009*, n.d.). To date, the VCCS has successfully achieved and maintained this objective.

### **NRCC's Role in Academic Performance**

Some Virginia high school students were academically immature or had poor academic performance, thus limiting their university or college options. The community college offered these students an opportunity to develop academic maturity and become more accountable for their performance.

Ethnicity played a role in the students' academic achievements, and the community college offered a similar opportunity for these students to build on their academic skills. "Community colleges are in the forefront in providing accessible and affordable quality education to a growing population of students, many of whom are ethnic minorities. Up to 46% of all new students entering higher education do so at the community college level, and that percentage breakdown is even more significant when considering race and ethnicity" (Goodall, 2009, p. 1).

Many students, regardless of race or ethnicity would take the opportunity to enter higher education at the community college level. It was at the community college level that they had the opportunity to prove academic excellence. Their successful performance at this level could ensure future educational success in the four-year college or university.

### **Summary**

This chapter reviewed the policies and programs initiated by the Virginia Community College System and New River Community College to encourage students to



enroll at NRCC. It outlined the various programs initiated to attract students to NRCC. These programs included the building of a campus extension at New River Valley Mall, accredited transfer programs, and dual enrollment. Affordable tuition and the effects of poor academic performance on community college enrollment were also addressed. The effects of current recessionary trends and higher unemployment levels in the NRCC were also reviewed. These factors were discussed relative to their effects on student enrollment at NRCC. Chapter III will review the methods and procedures used to collect pertinent data for the survey.

## CHAPTER III

### METHODS AND PROCEDURES

The purpose of this chapter was to describe the population used in this study and the instrument used to collect the data for the study. It also described the statistical analysis used to tabulate the results of the data collected. Chapter III presents information that will provide a basis for understanding of the methodology used for data collection and the process used to analyze the data. The chapter concludes with a summary.

#### **Population**

The population of this study consisted of a group of students representative of the NRCC service region. The NRCC 2009 spring semester population was 4,803 students or 2,687 FTE's, while the 2009 summer semester population was 2,188 students or 675 FTE's. Spring and summer semester class enrollment reports were used to select equal numbers of classes that represented community college career students and university transfer students. The student sample population of this study represented a random student population and included participants enrolled in dual enrollment courses, guaranteed transfer programs, and students experiencing economic hardships. It also included students with a history of poor academic performance. The sample student population of NRCC consisted of 603 students.

A varied sample of students from the NRCC service region provided a reasonable representation of NRCC students throughout the regional area. Of the sample population, approximately 30% were attendees at the NRV mall site and approximately 70% attended classes at the main NRCC Dublin, Virginia, campus. This representation was proportionate to the entire NRCC student population. The diversity and sample population size of students ensured accuracy in the research study resulting in a more

comprehensive understanding of the significant factors that influence enrollment at NRCC.

### **Instrument Design**

The Survey of Factors that Influence Enrollment at NRCC was a self-administered eight-item instrument designed to elicit subjective responses from the participants. The survey was designed with closed-ended questions in a Likert scale format. The questions were congruent with the specific factors and conditions affecting prospective students' decision to enroll at NRCC. The NRCC student survey questioned students' enrollment factors in the following areas:

1. Effect of layoff, company downsizing, or poor employment opportunities.
2. Influence of the NRCC New River Valley Mall site.
3. Effect of poor high school grades and attendance at NRCC.
4. Influence of educational cost.
5. NRCC attendance because of dual enrollment.
6. NRCC attendance NRCC because of guaranteed admissions to Virginia universities.
7. Influence of career programs at NRCC and enrollment.

Regional unemployment data for the NRCC service area was collected from the United States Department of Labor and the Bureau of Labor Statistics. NRCC student head count and FTEs were collected from NRCC administrative records.

Questions were designed to be clear and concise to assure accurate data reflecting the most significant factors that facilitate the enrollment of NRCC students. The survey is

included in Appendix A. A sample of the facility survey instructions can be found in Appendix B.

### **Methods of Data Collection**

Permission was obtained for student participation protection from the appropriate review committees. Selected class professors received a brief email to encourage their participation in the survey. Attached to the email was a document detailing the participants' rights, the purpose of the study, and the study benefits. The email also encouraged professor cooperation in distributing the surveys. See Appendix C. The professors received a survey packet through the NRCC mail system. Instructions for administration of the survey were included in the packet. These instructions also detailed the importance of maintaining student anonymity when collecting the surveys. See Appendix B. The surveys were administered to the students by professors of representative classes across the NRCC campus. All participating professors were thanked for their efforts. Follow-up emails were sent in three day intervals to remind professors who had not completed their class surveys.

### **Statistical Analysis**

Survey responses from the participants were tabulated and separated according to the enrollment factors that influenced the students' decision to attend NRCC. Responses to the closed-ended statements were ranked on a Likert scale according to the enrollment factors that were most influential on the students' decision to enroll at NRCC. The survey data were reported in terms of mean, and the survey questions analyzed in terms of frequency of response as a percentile. Unemployment data from the Federal Bureau of Labor for the NRCC service region were collected. These data were correlated with the

NRCC enrollment data to determine a relationship between college enrollment trends and regional unemployment levels over a corresponding period of time. The NRCC regional unemployment population and NRCC student population were checked for correlation by Pearson's  $r$ . Data collected with respect to unemployment levels in the New River Community College service area will reflect the current and past recessionary periods. These data will be compared with student enrollment trends, matched against previous unemployment periods, and will then be assessed for a correlation with student enrollment levels.

### **Summary**

The methodology used to gather data for this research study has been summarized in this chapter. The population was identified and a description of the various factors influencing enrollment of participants at NRCC were outlined. The contents and purpose of the cover letter were discussed.

Chapter III describes the methods used for data collection and how the data was categorized according to individual factors that influenced student enrollment. It concludes with a discussion of how the data were analyzed and explained how the data will be applied to this study. Chapter IV will present the significance of the findings generated by the participants' surveys.

## CHAPTER IV

### FINDINGS

The problem of this study was to determine significant factors that facilitated enrollment increases at New River Community College. This chapter reports the statistical results of the survey administered during this research study. It also reports the correlation results of NRCC regional unemployment population with NRCC student population over a period of time. A student survey was given to determine factors that influence their decision to enroll at NRCC. The correlation between these factors and NRCC regional unemployment population was conducted over a nineteen year period of available data. The survey data are reported in terms of mean, and the eight-question survey is analyzed in terms of frequency of response as a percentile. The NRCC regional unemployment population and NRCC student population was checked for correlation by Pearson's  $r$ . The findings of the open-ended questions and population correlation are presented.

#### **Background Information**

Seven hundred-fifty NRCC student surveys were distributed to professors of a broad range of classes at NRCC. A total of 603 surveys were collected. This indicated an 80% return rate on the surveys administered to NRCC students by classroom professors and instructors. Of the total surveys collected, 398 were from students attending the spring semester of 2009 and 205 were from the summer semester of 2009. To ensure appropriate representation of the NRCC New River Valley Mall site, approximately one-third of the surveys were taken from students attending classes at that location. The survey population included an equal number of classes representative of NRCC students

in career programs and those in university transfer programs. These participants were selected from the spring and summer class enrollment reports. See Table 4.1.

Table 4.1 Survey Results

SURVEY RESULTS	
Surveys Distributed	750.00
Surveys Completed	603.00
Percent Response Rate	80.4

### Survey Results

Each survey question is discussed in this section. The participants had one response for each closed-ended question.

### NRCC Enrollment Factors

Research Goal 1 of this study was to determine whether or not downsizing of business and industry workforces in the New River Valley was a precursor to increased student enrollment at NRCC. To fulfill this goal, Questions 1 and 7 from the survey were created. The response to Question 1, “I enrolled at NRCC because of a layoff or company downsizing,” was seventy-nine percent (474) strongly disagree; three percent (16) somewhat disagree; ten percent (60) neither agree nor disagree; four percent (26) somewhat agree; and four percent (27) strongly agreed to this question. The mean score for this item was 1.53 (Somewhat Disagree). The response to Question 7, “I have enrolled at NRCC because of poor employment opportunities?” was forty-nine percent (295) strongly disagree; six percent (38) somewhat disagree; seventeen percent (101) neither agree nor disagree; seventeen percent (101) somewhat agree; and eleven percent

(68) strongly agreed to the question. The mean score for this item was 2.35 (Somewhat disagree). See Table 4.2.

Research Goal 2 of this study was to determine if the opening of the NRCC site at the New River Valley Mall influenced increase student enrollment at NRCC. To fulfill this goal, Question 2 from the survey was created. The response to Question 2, “I chose to enroll at New River Community College because of the New River Valley Mall site,” was forty-seven percent (283) strongly disagree; eight percent (46) somewhat disagree; sixteen percent (99) neither nor disagree; nineteen percent (114) somewhat agree; and ten percent (61) strongly agreed to the question. The mean score for this item was 2.38 (Somewhat Disagree). See Table 4.2.

Table 4.2 Likert Scale Survey Questions.

Likert Scale Survey Questions ENROLLMENT FACTORS	Strongly Disagree 1	Somewhat Disagree 2	Neither 3	Somewhat Agree 4	Strongly Agree 5	Mean
1. I enrolled at NRCC because of a layoff or company downsizing.	474	16	60	26	27	1.53
Percentage (%) of responses	78.61	2.65	9.95	4.31	4.48	
2. I chose to enroll at New River Community College because of the New River Valley Mall site.	283	46	99	114	61	2.38
Percentage (%) of responses	46.93	7.63	16.42	18.91	10.12	
3. I enrolled at New River Community College because my grades were not good enough for admission to the college or university I wanted to attend.	321	49	77	99	57	2.21
Percentage (%) of responses	53.23	8.13	12.77	16.42	9.45	
4. I chose to enroll at NRCC because it is less expensive than a four year college or university.	51	20	59	202	271	4.03
Percentage (%) of responses	8.46	3.32	9.78	33.50	44.94	



5. I am a high school student attending NRCC because of the opportunity to take college level classes while in high school (dual enrollment).	453	12	102	18	18	1.57
Percentage (%) of responses	75.12	1.99	16.92	2.99	2.99	
6. I chose to enroll at NRCC because of the guarantee admission agreements between Virginia community college and Virginia universities.	137	36	124	173	133	3.21
Percentage (%) of responses	22.72	5.97	20.56	28.69	22.06	
7. I have enrolled at NRCC because of poor employment opportunities?	295	38	101	101	68	2.35
Percentage (%) of responses	48.92	6.30	16.75	16.75	11.28	
8. I have enrolled at NRCC because of a particular program offered at NRCC.	151	27	128	139	158	3.21
Percentage (%) of responses	25.04	4.48	21.23	23.05	26.20	

Research Goal 3 of this study was to determine if newly accredited transfer programs at New River Community College contributed to enrollment increases at NRCC. To fulfill this goal, Questions 6 and 8 from the survey were created. The response to Question 6, “I chose to enroll at NRCC because of the guarantee admission agreements between Virginia community college and Virginia universities,” was twenty-three percent (137) disagree; six percent (36) somewhat disagree; twenty-one percent (124) neither agree nor disagree; twenty-nine percent (173) somewhat agree; and twenty-two percent (133) strongly agree to this question. The mean score for this item was 3.21 (Neither Agree or Disagree). The response to Question 8, “I have enrolled at NRCC because of a particular program offered at NRCC,” was twenty-five percent (151) of the participants strongly disagree; four percent (27) somewhat disagree; twenty-one percent (128) neither agree nor disagree; twenty-three percent (139) somewhat agree; and twenty-

six percent (158) strongly agreed to this question. The mean score for this item was 3.21 (Neither Agree or Disagree). See Table 4.2.

Research Goal 4 of this study was to determine what percentage of students' choose to enroll at NRCC because of dual enrollment opportunities. To fulfill this goal, Question 5 from the survey was created. The response to Question 5, "I am a high school student attending NRCC because of the opportunity to take college level classes while in high school (dual enrollment)," was seventy-five percent (453) disagree; two percent (12) somewhat disagree; seventeen percent (102) neither agree nor disagree; three percent (18) somewhat agree; and three percent (18) strongly agreed to this question. The mean score for this response was 1.57 (Somewhat Disagree). See Table 4.2.

Research Goal 5 of this study was to determine if affordable tuition was a significant enrollment factor for NRCC students. To fulfill this goal, Question 4 from the survey was created. The response to Question 4, "I chose to enroll at NRCC because it is less expensive than a four year college or university," was eight percent (51) strongly disagree; three percent (20) somewhat disagree; ten percent (59) neither agree nor disagree; thirty-four percent (202) somewhat agree; and forty-five percent (271) strongly agreed to this question. The mean score for this item was 4.03 (Somewhat Agree). See Table 4.2.

Research Goal 6 of this study was to determine if poor academic performance in high school or another college contributed to increased student enrollment at NRCC. To validate this goal, Question 3 from the survey was created. The response to Question 3, "I enrolled at New River Community College because my grades were not good enough for admission to the college or university I wanted to attend," was fifty-three percent (321)

strongly disagree; eight percent (49) somewhat disagree; thirteen percent (77) neither agree nor disagree; sixteen percent (99) somewhat agree; and nine percent (57) strongly agreed to this question. The mean score for this item was 2.21 (Somewhat Disagree). See Table 4.2.

#### NRCC Regional Unemployment Data

Unemployment data compiled from the United States Department of Labor and the Bureau of Labor Statistics were collected for counties and cities that comprised the NRCC service region. The sum of the average regional population was then compared with NRCC student populations from 1990 to the current year, 2009. These two groups of data, “Sum of Average” and “NRCC Student”, were plotted and were tested for correlation with Pearson’s  $r$ . See Figure 4.1. The value for Pearson’s  $r$  from these two groups of data was 0.466. The table for Level of Significance indicated that  $p > 0.05 = 0.3783$ . See Table 4.3.

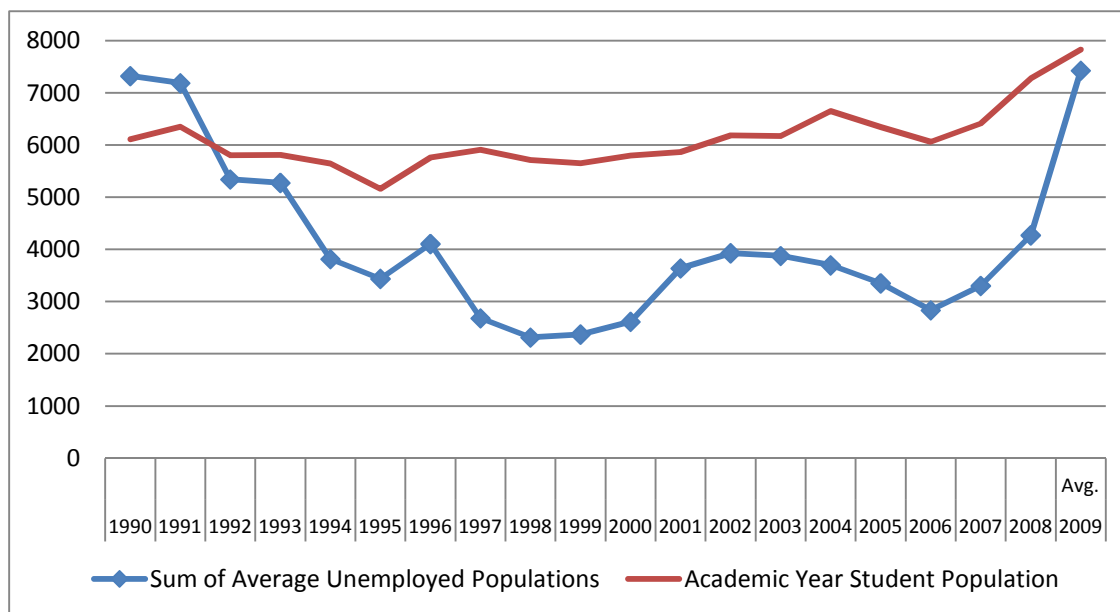


Figure 4.1 NRCC Student and Regional Unemployment Populations (Pearson’s  $r$  0.466)

Table 4.3 NRCC Student and Regional County Unemployment Populations

Year	Average Unemployed Populations					Populations	
	Floyd	Giles	Montg.	Pulaski	Radford	Sum of Avg.	NRCC Student
<b>1990</b>	505	731	2785	2464	837	7322	6107
<b>1991</b>	675	886	2747	2233	645	7186	6348
<b>1992</b>	574	703	1937	1664	465	5343	5802
<b>1993</b>	480	656	1985	1700	455	5276	5811
<b>1994</b>	392	569	1373	1146	336	3816	5646
<b>1995</b>	325	611	1188	1050	265	3439	5157
<b>1996</b>	330	571	1299	1626	281	4107	5761
<b>1997</b>	237	524	872	849	200	2682	5906
<b>1998</b>	187	603	702	653	170	2315	5711
<b>1999</b>	291	502	672	729	179	2373	5650
<b>2000</b>	256	326	1019	777	238	2616	5796
<b>2001</b>	292	446	1346	1249	306	3639	5862
<b>2002</b>	297	483	1654	1111	385	3930	6184
<b>2003</b>	296	446	1636	1112	387	3877	6168
<b>2004</b>	280	413	1563	1064	379	3699	6651
<b>2005</b>	260	425	1536	807	325	3353	6340
<b>2006</b>	226	313	1330	695	272	2836	6061
<b>2007</b>	246	364	1412	970	312	3304	6409
<b>2008</b>	321	461	1863	1200	427	4272	7272
<b>2009</b>	634	823	3194	2103	672	7426	7823

### Summary

Chapter IV reported the results of the survey of factors that facilitated enrollment increases at NRCC. It tested the correlation of populations representing NRCC students and the unemployed population of the service region. The results of the survey reported the frequency of responses to each question on a percentile basis. The mean was then reported, using the Likert Scale. The responses were interpreted. Tables were used to present the collected data for total survey results, unemployment data for the NRCC

region and student enrollment populations. A figure was used to display unemployment data for the NRCC region and student enrollment populations. Conclusions and recommendations for this study will be made in Chapter V.

## CHAPTER V

### SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

The purpose of this chapter is to provide a summary, conclusions, and recommendations for this study. The data collected in this study will serve to provide answers to the research goals.

#### **Summary**

The problem of this study was to determine significant factors that facilitated enrollment increases at New River Community College. The results of the data collected were used to answer and explain conclusions of the following research goals:

1. Could the downsizing of business and industry workforces in the New River Valley be a precursor to increased student enrollment?
2. Could the opening of the New River Community College site at the New River Valley Mall have influenced the increased student enrollment?
3. Could newly accredited transfer programs at New River Community College contribute to enrollment increases?
4. What percentage of New River Community College students have chosen to attend NRCC because of dual enrollment programs?
5. Was affordable tuition an enrollment factor during economic hardships?
6. Did a history of poor academic performance in high school or four year college contribute to the increase in enrollment at New River Community College?

The results of this research study were ascertained by the distribution of a survey to students enrolled in a broad range of classes offered at NRCC. Participants were asked

to complete the survey consisting of eight closed-ended questions in a Likert scale format. The survey questions were congruent with the specific factors and conditions affecting prospective students' decision to enroll at NRCC. From the 750 surveys distributed to NRCC classes, a total of 603 surveys were collected. This indicated an 80 percent return rate. In addition, regional unemployment data for the NRCC service area were collected from the United States Department of Labor and the Bureau of Labor Statistics, for a select period of time. NRCC student contribution to these figures and FTEs were collected from NRCC administrative records and compiled for an equivalent period of time. A Pearson's  $r$  correlation relationship between the student contribution and NRCC service region unemployment level was calculated.

### **Conclusions**

Conclusions were based on the data collected from the surveys, correlation relationship of student enrollments at NRCC, and unemployment levels in the NRCC service region. The following conclusions can be drawn in relation to the research goals of this study.

#### **Research Question 1. Could the downsizing of business and industry workforces in the New River Valley be a precursor to increased student enrollment?**

Survey Questions 1 and 7 are related to downsizing of business and industry workforce reductions and their effects on student enrollment at NRCC. There was a Likert score of 1.53 (Somewhat disagree), for Question 1. This implies that few students have chosen to attend NRCC because of a layoff or company downsizing. There was a mean score of 2.35 (Somewhat Disagree) for Question 7. This response implies that few students, approximately 28 percent, have chosen to attend NRCC because of poor employment

opportunities. Overall, the survey results concluded that the downsizing of business and industry workforces was not a significant precursor to increased student enrollment. Poor employment opportunities in the New River Valley, however, had influenced some students to attend NRCC.

In an effort to substantiate the effects of regional unemployment levels and enrollment levels at NRCC, regional data was analyzed. NRCC student population data were collected from NRCC administrative records. NRCC regional unemployment data for the college's service area was collected from the United States Department of Labor and the Bureau of Labor Statistics. The data for these two entities were collected for corresponding periods of time. The correlation relationship of student enrollments at NRCC and unemployment levels in the NRCC service region for this data yielded a Pearson's  $r$  value of 0.466. From the table for Level of Significance, the hypothesis at  $p > 0.05 = 0.3783$  can be accepted, and from the Table of Magnitude where  $r = + 0.466$ , there is a moderate correlation (0.40 – 0.70) between the NRCC regional unemployment population and NRCC student population. This  $r$  value indicated a moderate relationship. This does not seem to agree with the survey results where relatively low Likert scale averages for Questions 1 and 7 indicated that student enrollment was not significantly influenced by layoffs, unemployment, or poor employment opportunities.

**Research Question 2. Could the opening of the New River Community College site at the New River Valley Mall have influenced the increased student enrollment?** Survey Question 2 related to the influence of the New River Valley Mall site on student enrollment at NRCC. As indicated by a mean Likert score of 2.38, some students have chosen to attend NRCC because of the New River Valley Mall site.



Approximately 29 percent of the respondents somewhat agreed or strongly agreed, while 47 percent strongly disagreed that the NRV mall was an enrollment factor. The researcher can conclude that the New River Valley Mall site had influenced 29 percent or nearly one-third, of the students toward enrollment at NRCC.

**Research Question 3. Could newly accredited transfer programs at New River Community College contribute to enrollment increases?** Survey Question 6 and Question 8 related to the effect of accredited transfer programs and career programs on student enrollment at NRCC. The average Likert score of 3.21 for both of these factors indicated that participants Neither Agree or Disagree that these programs, accredited transfer programs and career programs, influenced their enrollment choices. Question 6 and Question 8 indicated that NRCC student enrollment was influenced equally by the guarantee admissions between NRCC and Virginia universities and particular career programs at NRCC. Fifty percent of students somewhat to strongly agree that guarantee admissions between NRCC and Virginia universities and particular career programs at NRCC were significant enrollment influences at NRCC. From the survey results, career programs and newly accredited transfer programs at New River Community College were equally effective at attracting significant student enrollment.

**Research Question 4. What percentage of New River Community College students have chosen to attend NRCC because of dual enrollment program?** From the survey, Question 5 related to the influence on attendance at NRCC due to dual enrollment programs. The mean Likert score of 1.57 indicated few students had chosen to attend NRCC because of dual enrollment programs. Approximately 75 percent of respondents strongly disagreed that dual enrollment programs were an influencing

enrollment factor. Only six percent of the respondents indicated that they somewhat agreed or strongly agreed that dual enrollment programs influenced their decision to enroll at NRCC. After survey data were collected for the spring semester, it became evident that the sub-population for dual enrolled students was underrepresented. A significant number of students in dual enrollment had taken these classes at their local high schools, a population that these surveys did not reach.

**Research Question 5. Was affordable tuition an enrollment factor during economic hardships?** From the survey, Question 4 related to affordable tuition costs as an influencing enrollment factor at NRCC. The mean score of 4.03 indicated most students had chosen to attend NRCC because it was less expensive than a four year college or university. Approximately 78.5 percent of students somewhat to strongly agreed that lower tuition costs were an incentive to enroll at NRCC instead of a four-year college or university. From the survey results the researcher could conclude that affordable tuition was a significant factor for enrollment at NRCC. This was the most significant enrollment indicator found from the survey. It was likely a strong indication of economic hardships facing students and families in the NRCC service region.

**Research Question 6. Did a history of poor academic performance in high school or four year college contributes to the increase in enrollment at New River Community College?** From the survey, Question 3 related to poor grades as an enrollment factor at NRCC. The mean score of 2.21 indicated few students had chosen to attend NRCC because of poor grades or grades that did not meet standards for admission to a university they wanted to attend. Sixty-one percent of respondents somewhat to strongly disagree that poor grades were an influencing factor in their choice to enroll at

NRCC. From the survey results, 26 percent of respondents had chosen to attend NRCC because their grades did not meet requirements for admission to a university. This factor indicated that approximately 25 percent of students chose to attend NRCC because of poor grades.

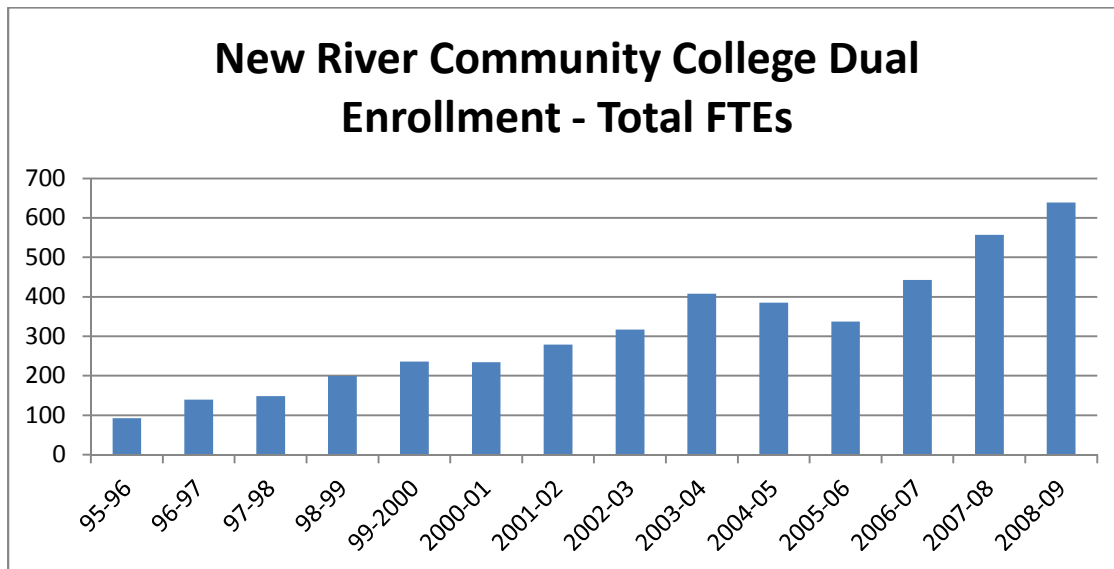
The most significant influence on student enrollment factors from the survey was that of economics. Respondents indicated 78.5 percent of NRCC students agreed that they enrolled at NRCC because it was less expensive than a four year college or university. The consequences of economic downturns were employee layoffs and downsizing and, in a deep recession, plants and factories may close entirely. This led to poor or absent employment opportunities for Virginia communities and families. Some students may not have readily identified the impact the current recession had on their families and communities. The current recession had forced families to tighten the budgets and reduce discretionary spending. Students' perception of why they were taking advantage of tuition savings at NRCC may have been distorted. They may not have been sensitive to their parents' experiences with a company layoff, downsizing, or poor employment opportunities. With area unemployment rates near 10 percent and NRCC student enrollment up 10 percent in 2009, NRCC and other Virginia community colleges played a critical role in supporting academic opportunities for Virginia families. The pay off would be a better prepared student when the economy recovers.

### **Recommendations**

Based on the data collected for this study, the recommendations for New River Community College and other similar institutions are as follows:

- **Realize the economic value of education at NRCC and all community colleges in Virginia.** From this research the most significant enrollment factor was the cost savings for students at NRCC. Tuition costs influenced the enrollment decisions of students who were enrolled in guaranteed admission agreement programs between NRCC and Virginia universities. These students could significantly reduce the overall cost of a four year degree through the transfer program. Students were also attracted to technical career programs that offered valued education. Graduates of low cost community college career programs could yield secure and often lucrative employment opportunities. These programs, and the VCCS goal to maintain community college tuitions at one-half the cost of the state universities, were significant contributors to the students' decision to enroll at NRCC.
- **There is considerable interest in enrollment at the NRCC New River Valley Mall site.** Most notably, this site carried recognition for the college, was centrally located for the highest population served by NRCC, and was accessible to students by public transportation. Research data indicated that approximately 29 percent of students agreed that the New River Valley Mall site of NRCC was a factor for their enrollment decision. Currently about one-third of total enrollment of NRCC students attended at the mall site. It would be beneficial to continue additional studies on the value of the mall site to NRCC students and the NRCC service region.
- **Additional surveys should be conducted to accurately assess the dual enrollment sub-population that was missed during the past spring semester.** This information was not available in the summer semester. Data from NRCC indicated a nearly six fold

increase in dual enrollment FTEs at NRCC from 1996 to 2009. Dual enrollment FTEs accounted for 11 percent of 2008-2009 regular session total FTEs. See Figure 5.1.



*Figure 5.1.* Trend of Students in Dual Enrollment

- **Survey questions should be added or modified to obtain financial information regarding the situation of the student and family or family support system.**

Information concerning the status of parents affected by company or industry downsizing, layoffs, or poor employment opportunities would serve to enhance this study.

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## APPENDICES

Appendix A - Survey of Factors that Influence Enrollment at NRCC

Appendix B – Survey Instructions to Faculty

Appendix C – Sample of Survey Letter to Participants



## APPENDIX A

## SURVEY OF FACTORS THAT INFLUENCE ENROLLMENT AT NRCC

**INSTRUCTIONS:**

1. Do not put your name on the survey form.
2. Please answer all questions.
3. Please rate how strongly you agree or disagree with each of the following statements by placing an X mark in the appropriate box.
4. This is a voluntary survey and do not repeat survey if you have already done this one.

Strongly Disagree	Somewhat Disagree	Neither Agree or Disagree	Somewhat Agree	Strongly Agree	Example. Today is a beautiful day.
Strongly Disagree	Somewhat Disagree	Neither Agree or Disagree	Somewhat Agree	Strongly Agree	1. I enrolled at NRCC because of a layoff or company downsizing.
Strongly Disagree	Somewhat Disagree	Neither Agree or Disagree	Somewhat Agree	Strongly Agree	2. I chose to enroll at New River Community College because of the New River Valley Mall site.
Strongly Disagree	Somewhat Disagree	Neither Agree or Disagree	Somewhat Agree	Strongly Agree	3. I enrolled at New River Community College because my grades were not good enough for admission to the college or university I wanted to attend.
Strongly Disagree	Somewhat Disagree	Neither Agree or Disagree	Somewhat Agree	Strongly Agree	4. I chose to enroll at NRCC because it is less expensive than a four year college or university.
Strongly Disagree	Somewhat Disagree	Neither Agree or Disagree	Somewhat Agree	Strongly Agree	5. I am a high school student attending NRCC because of the opportunity to take college level classes while in high school (dual enrollment).

Strongly Disagree	Somewhat Disagree	Neither Agree or Disagree	Somewhat Agree	Strongly Agree	6. I chose to enroll at NRCC because of the guarantee admission agreements between Virginia community college and Virginia universities.
Strongly Disagree	Somewhat Disagree	Neither Agree or Disagree	Somewhat Agree	Strongly Agree	7. I have enrolled at NRCC because of poor employment opportunities?
Strongly Disagree	Somewhat Disagree	Neither Agree or Disagree	Somewhat Agree	Strongly Agree	8. I have enrolled at NRCC because of a particular program offered at NRCC.

APPENDIX B  
SURVEY INSTRUCTIONS TO FACULTY

**NRCC Survey:** Identifying Enrollment Factors at New River Community College

1. Allow approximately 5 to 8 minutes for students to complete the survey.
2. Distribute the white survey sheet to each student. Retain all unused copies and place them in the manila envelope.
3. Read the following aloud to the students:

The purpose of the study is to identify and better understand enrollment factors that influence student enrollment at NRCC. This research will help the research investigator and NRCC to better understand the influence that programs, NRCC and VCCS initiatives, and regional conditions have on students' decision to enroll at NRCC.

This is an anonymous survey. Please do not put your name on the survey form to insure protection of all survey participants. The survey forms will be handled in strict confidence. Your participation in this survey is voluntary and you may discontinue the survey at anytime.

There are eight questions to be answered on the one page survey. Please indicate your choice for each question with an X in the appropriate box, (see example on the survey). Please answer all questions accurately. Do not repeat this survey if you have already completed the survey in a previous class.

The researcher appreciates your participation in this survey.

4. When students have completed the survey, collect the completed surveys, place them in original manila envelope and return to Keith McAllister by college mail.

Your assistance with this study is greatly appreciated.

## APPENDIX C

### NRCC SURVEY: IDENTIFYING ENROLLMENT FACTORS AT NEW RIVER COMMUNITY

#### COLLEGE

**Purpose of the study:**

This study is being conducted by Keith McAllister, Assistant Professor of Electrical Engineering Technology of NRCC, for completion of Master of Science research project, of the Department of Occupational and Technical Studies, Darden College of Education at the Old Dominion University Norfolk Virginia. The purpose of the study is to identify and better understand enrollment factors that influence student enrollment at NRCC. This research will help NRCC to better understand the influence that programs, NRCC and VCCS initiatives, and regional conditions have on students' decision to enroll at NRCC.

**Description of the survey procedures and approximate duration of the study:**

I greatly appreciate your cooperation in distributing this brief survey to your students. Please have them complete the enclosed survey, collect completed surveys and return them to me via NRCC mail. Since the validity of the results depend on obtaining a high response rate, your participation is crucial to the success of this study. The survey results, focus on NRCC enrollment factors, and will be compiled and analyzed by Keith McAllister over the summer and will be complete by fall 2009.

**Description of how confidentiality will be assured and the limits to these assurances, if any:**

These anonymous surveys will be held in the strictest confidence and stored in a locked office file cabinet. As soon as I receive the completed surveys, data will be logged into pass word protected excel spreadsheets files. The surveys will then be destroyed as soon as the data is extracted from them. If the results of this study were to be written for publication, no identifying information will be used.

**Anticipated benefits resulting from this study:**

The potential benefit to you from participating in the study is greater understanding of enrollment factors that influence students' decision to enroll at NRCC. The study may be helpful to increase your understanding of enrollment factors at New River Community College.

**Contact information.**

If you have any questions about this study, you can contact the person(s) below:

Keith McAllister, Investigator  
Department of Business and Technologies  
New River Community College  
5251 College Drive, Dublin Virginia 24084  
540-674-4368 fax 540-674-3642  
kmcallister@nr.edu

This study has been reviewed and approved by NRCC administration and the Old Dominion University Human Subjects Review Committee (HSRC). The HSRC committee has determined that this study meets the ethical obligations required by federal law and University policies. If you have questions or concerns regarding this study please contact the Investigator or Responsible Project Investigator. If you have any questions regarding your rights as a research subject, please see the following site for contacts and information:

<http://www.odu.edu/ao/research/compliance/humans.shtml>

I hope that you will be able to participate in this study.

Sincerely,