

**FACTORS AFFECTING
COMMUNITY COLLEGE INVOLVEMENT
IN CUSTOMIZED TRAINING**

by

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(ABSTRACT)

The purpose of this study was to identify and analyze those factors which facilitated or impeded selected community colleges' involvement with customized training, as determined by key administrative personnel of the Virginia Community College System. Identified factors were analyzed to determine their effect on the nature and scope of the customized training offered.

This was a qualitative study which consisted of interviewing administrators at three community colleges in Virginia. Site selection criteria which provided variation for analysis purposes were the (a) size of the college, (b) location of the college, and (c) type of business and industry in the college's service region. Thirty preliminary interviews were conducted throughout Virginia and 28 administrators were interviewed at the chosen colleges. The following questions were posed to guide, but not constrain the study:

1. What are the factors that facilitate the Virginia Community College System in offering customized training?
2. What are the factors that impede the Virginia Community College System from offering customized training?

3. What is the relationship between the identified factors and the nature and scope of customized training provided?

These 50 minute interviews with the administrators were audio-tape recorded, transcribed using Ami Pro and Wordperfect computer wordprocessor programs, and coded and analyzed using Ethnograph, a qualitative research analysis software program. Factors which emerged as either facilitative or impeditive were (a) leadership, (b) philosophy, (c) policies and procedures, (d) personnel, (e) infrastructure, and (f) resources. Site selection criteria also emerged as factors. These factors were analyzed for each site and across sites.

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My parents believed in education and made it possible for me to go to Virginia Polytechnic Institute and State University [VPI & SU] at a time few high school graduates left the coalfields. They have my love and appreciation. I regret my father did not live to see me escape the coal mines and use the education he helped me acquire.

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TABLE OF CONTENTS

ABSTRACT	ii
ACKNOWLEDGMENTS	iv
CHAPTER I. INTRODUCTION	
Perspective.....	3
Statement of the Problem.....	5
Guiding Questions.....	5
Significance of Study.....	5
Definitions.....	7
Limitations.....	9
Summary.....	9
CHAPTER II. REVIEW OF LITERATURE	
Virginia Community College System.....	11
Demographic Trends.....	15
Changes in Education and Training Needs.....	16
Factors Affecting Involvement in Customized Training.....	17
Summary.....	26
CHAPTER III. RESEARCH METHODOLOGY	
Research Design.....	28
Site Selection.....	29
Sample Selection.....	31
Preparation of Investigator.....	31
Procedures for Data Collection.....	32

Treatment of Data.....	37
Summary.....	39

CHAPTER IV. ANALYSIS OF THE DATA

Purpose.....	40
Summary of the Methodology.....	40
Preliminary Findings.....	41
Case One: Rural Community College.....	42
Case Two: Urban Community College.....	56
Case Three: Suburban Community College.....	71
Analysis of Factors Across Sites.....	96

CHAPTER V. CONCLUSIONS, RECOMMENDATIONS, AND DISCUSSION

Research Methodology.....	110
Conclusions.....	112
Recommendations.....	118
Recommendations for Future Research.....	121
Discussion.....	121

REFERENCES.....	123
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VITA.....	130
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CHAPTER I

Introduction

The educational requirements of the workplace are changing rapidly throughout the world. Technological and managerial changes are forcing many businesses and industries to train or retrain their entire workforce to stay competitive in the global economy (Winter, 1988; Economic Council of Canada, 1992). With the advent of computerization and satellite technology in accessing and disseminating information, all segments of the economy face competition on an international scale (Commission on the University of the 21st Century, 1989; Raizen, 1989). These changes affect postsecondary education profoundly. Eighty percent of the workers on whom American employers will depend as we enter the 21st century are presently on the job (Secretary's Commission on Achieving Necessary Skills [SCANS], 1992). These workers will need to continually upgrade present skills and develop new skills throughout their careers in order to remain current in their occupational specialties (United States Department of Education, National Goals for Education, 1990). The Governor's Advisory Committee Workforce Virginia 2000 (1991) reported that, "The ability to continue learning will be the single most important requirement for future generations of Virginia workers" (p. 10). This training will need to be customized to satisfy the myriad needs of industry, business, government, and labor organizations.

Virginia Community College System

The community colleges of Virginia have the freedom to satisfy local training needs because of their autonomous structure. Virginia's community colleges are becoming more involved in providing customized training for business and industry because of the changing demographics of the state, the rapid technological advances in business and industry, and the changing demands of the workplace (Martin & Tolson, 1985; Winter, 1988). This type of training is linked to economic development (Marsalis, 1991). The

Virginia Community College System [VCCS] Policy Manual (1991) defines a community college as "a comprehensive institution of higher education offering . . . special training programs to meet the economic needs of the region in which the college is located" (p. 2A-1).

The VCCS Workforce Preparation Task Force (1993) stated:

The Virginia Community College System is uniquely positioned to lead workforce training and education efforts. Virginia's community colleges provide:

- a local and regional client base
- financial and geographical accessibility
- a unified administrative system
- coordinated curricula
- lifelong learning opportunities
- programs targeted to meet the challenges of rapid technological, occupational, and demographic change. (p. 1)

Twenty-three community colleges with 35 campuses have been established throughout the Commonwealth of Virginia during the past 27 years. These colleges were created to provide education and training to the community in which the schools were located. They should be responsive to the educational needs and desires of the people living in that region (VCCS Policy Manual, 1991). The VCCS was designed to provide individual colleges with the flexibility and adaptability to respond to varying educational needs.

The geographic, social, and economic makeup of Virginia must be considered when examining the training and educational needs of the people. There is a great diversity in the opportunities available, terrain, occupations, and socioeconomic composition. Northern Virginia Community College has more multi-cultural students than the total enrollment of Mountain Empire Community College, which currently has only one international student. The terrain of Virginia varies from the eastern seashore and the Chesapeake Bay to the rugged mountains of the west. The varied terrain and natural

resources have influenced the choice of occupations of the populace. Coal miners, farmers, technicians, and others from all walks of life are served by the community college system.

The Virginia Community College System has created and established unique methods and styles of training. The latitude provided the colleges has allowed them to experiment and design the best educational systems for their students and the perceived needs of the local businesses, industries, government, and labor organizations. The State Council of Higher Education of Virginia [SCHEV] (1993) noted that, "Virginia higher education has achieved its excellence in part because institutional autonomy has been preserved. There continues to be a need for the varieties of educational experience offered in Virginia's system of public higher education" (p. 4). According to Wirth (1983), this loose coupling provides the framework that can capitalize on a wide range of human uniqueness and creativity.

Because most of Virginia's community colleges have an innovative approach, the diversity of the system could provide the format which can be adapted to the new training needs of the worker of the 21st century. The Commission on the University of the 21st Century (1989) discerned that Virginia's colleges and universities are a wellspring of new ideas, technologies, and human talent. Customized training is rapidly becoming an important method of instruction for business and industry (Carnevale, Gainer, & Villet, 1990; Lynch, Palmer, & Grubb, 1991). There is a need to determine the factors which facilitate and those which impede the development and delivery of customized training by Virginia's community colleges.

Perspective

Virginia's community colleges are extensively involved in providing customized training to industries, businesses, government agencies, and labor organizations in the Commonwealth of Virginia. The VCCS Workforce Preparation Task Force (1993) reported that, "Contractual training arrangements exist with more than 700 businesses,

industries, and governmental agencies. Approximately 700 other special courses for Virginia employers, serving more than 21,000 employees, are provided annually" (p. 8). This task force, appointed by the Chancellor to prepare a report called Virginia Community Colleges: The Commonwealth's Link to a 21st Century Quality Workforce (1993) for the Governor and the General Assembly of Virginia, recommended that, "Virginia's community colleges must not only continue to provide education and training 'on demand' to employers, but must position themselves as active partners in planning for the state's 21st Century workforce" (p. 10).

Challenges Toward the Year 2000, a report of the Chancellor's Task Force on the Role of the Virginia Community College System in Economic Development (1989) indicated, "Of all the innovative things community colleges can do to promote technological advances in economic development, customized training remains the central ingredient. Technological change and continuing education are inseparable" (p.12).

Seventy-five percent of all community colleges provided some customized training for their clients (Carnevale, Gainer, & Villet, 1990). Lynch, Palmer, and Grubb (1991) found that 94% of the responding colleges had offered at least one contract course to a public or private employer during the 1988-1989 academic year. These reports, although reporting different percentages, indicated that the involvement of the community colleges in customized training was extensive.

Borton (1991), Bragg and Jacobs (1991), Grubb (1989), Grubb and Stern (1989b), Ekpo (1991), Irvin (1990), Lynch, Palmer, and Grubb (1991), McCormick (1990), and Winter (1988) researched various aspects of the customized training that community colleges provide. None of these researchers examined customized training from the community college perspective. Cote & Cote (1993) researched the economic development activity among land-grant institutions, but the generalizability of those findings to community colleges was suspect because of the colleges' different cultures. Although there was extensive involvement in customized training by the community

colleges, only one research project (Warford, 1989) was found that examined the factors that might affect community college involvement in customized training.

Statement of Problem

The purpose of this study was to identify and analyze the factors which key community college personnel feel influence Virginia's community colleges' involvement in customized training. A multiple-site case study examined the background, current status, and environmental interactions of the community colleges' involvement in customized training to determine these factors (Isaac & Michael, 1981). The identified factors were examined to better understand how they affected the nature and scope of the customized training that the community colleges of Virginia were providing for businesses, industries, government agencies, and labor organizations.

Guiding Questions

The following questions were posed to guide, but not constrain the study:

1. What are the factors that facilitate the Virginia Community College System's offering customized training?
2. What are the factors that impede the Virginia Community College System from offering customized training?
3. What is the relationship between the identified factors and the nature and scope of customized training provided?

Significance of Study

The educational requirements of the workplace in the United States and the world have changed drastically over the last ten years. According to the Governor's Advisory Committee Workforce Virginia 2000 (1991):

Modern technology and global competition require workers who can learn, think, understand complex instructions, communicate effectively and solve problems. They

must be able to read and apply complex written materials, including graphs and charts, understand basic scientific and mathematical concepts, and learn and apply special technical knowledge. In short, all students need to master more of the skills heretofore reserved for the college bound. (p. 13)

This report indicated that in the next decade jobs will require higher skills than the average job of today--13.5 years of education compared to the current 12.8 years. Companies are faced with a situation in which levels of needed skills are increasing, but an estimated 92% of Virginia's (80% nationwide) existing workforce will be on the job in the year 2000. The situation in Virginia becomes critical when it is considered that one quarter of the students in high school will drop out before completion (Governor's Advisory Committee Workforce Virginia 2000, 1991).

The Chancellor's Task Force on the Role of the Virginia Community College System in Economic Development (1989) declared that, "Virginia's entire work force, at all levels, needs periodic retraining to keep up with the increased amount of information and the changing workplace technologies" (p.23). This task force reported that 90% of the world's scientific knowledge has been generated in the last 30 years and this body of knowledge will double by the year 2000. If this knowledge is transferred to and utilized by business and industry, then the workforce will have to be educated continuously to remain state-of-the-art. According to the task force study, the workforce in this country is also mobile, with the average worker changing jobs 6.8 times and occupations three times in a lifetime. At a time when Virginia's community colleges have experienced a 28.7% increase in the number of students during the last five years (VCCS Workforce Preparation Task Force, 1993), and minimal increases in appropriations and faculty positions, they are being asked to do more.

The Joint Legislative Audit and Review Commission [JLARC] (1991) study recommended:

Therefore, if enrollments continue to increase without a sufficient increase in State resources, the State Board should prioritize the mission's program areas--college

transfer, occupational-technical, developmental, continuing education (both credit and non-credit), and community service. The system would have to choose which programs and activities are essential, and which are of lesser importance. (p. 40)

The Chancellor's Task Force on the Role of the VCCS in Economic Development (1989) recommended more involvement of the community colleges in customized training and partnerships with business and industry, while JLARC (1991) recommended that priorities must be established. These studies indicated a need for exploratory research to determine the factors that might influence community college involvement in customized training. Information is needed for the VCCS to make knowledgeable decisions when establishing priorities concerning short-and long-range planning.

Definitions

Customized Training

Training, associated products, or services which were developed or modified under a contract or other agreement with a specific client to meet the training, retraining, or upgrading needs of identified participants.

Comprehensive Community College

The VCCS Policy Manual (1991) defined a community college as:

A comprehensive institution of higher education offering programs of instruction generally extending not more than two years beyond the high school level, which shall include, but not limited to, courses in occupational/technical fields, the liberal arts and sciences, general education, continuing adult education, pre-college and pre-technical preparatory programs, special training programs to meet the economic needs of the region in which the college is located, and other services to meet the cultural and educational needs of the region. (p. 2a-1)

Continuing Education

The VCCS Policy Manual (1988) defined continuing education as, "A purposeful and systematic process of lifelong learning for individuals who are not enrolled in a formally structured curriculum" (p. 5-1).

Case Study

Yin (1981b) defined a case study as an empirical inquiry that:

- investigates a contemporary phenomenon within its real life context:
- when the boundaries between phenomenon and context are not clearly evident:
- and in which multiple sources of evidence are used. (p. 23)

Categories

Characteristics of the field setting, types of activities that take place there, and kinds of participants in the setting (Vierra & Pollack, 1988, p. 213).

Full-time Equivalent [FTE]

FTE is a statistic derived from the student credit hour productivity of an institution. The equivalent number of students is derived by dividing the total annual (3 semesters) number of student semester credit hours by 30 (VCCS Financial Statements, 1992, p. 3).

Incident

An occurrence of a word, action, or event.

Theme

An assertion about some subject (Guba & Lincoln, 1981, p. 246).

Limitations

1. The results of this study will not be generalizable to the rest of the community colleges in Virginia in a statistical sense, because the selection of colleges was not based on probability sampling. The extent to which the results will generalize to other colleges depends on how comparable their conditions are to those of the colleges studied.

2. There is no consensus on a definition of customized training within Virginia's community colleges. The definition provided in this study was developed in order to provide consistency in communicating with respondents.

3. The reporting procedures of each college and the divisions in those colleges might be different. This has created limitations in other studies on customized training. Although much information is in the system, it is not in a standardized or easily retrievable format.

4. This study was delimited to three diverse community colleges in Virginia.

5. The operational definition of customized training delimits the scope of the study to the constraints listed by the researcher.

Summary

The nature of work in the world is changing rapidly. The worker as a lifelong learner has become a reality. If Virginia's workforce is to remain current, then convenient and affordable education must be available. If education and training is not available to Virginia's workers, then the Commonwealth's businesses and industries cannot successfully compete in the world market or at home.

The Virginia Community College System is in a unique position to offer customized training to the people of the Commonwealth. There are colleges located within 30 minutes of the majority of the people in the Commonwealth. These colleges are not only affordable, but should be responsive to local needs. There are vast differences in the amount of customized training being offered by the different community colleges. This

study will attempt to determine and analyze those factors that might influence selected community colleges' involvement in customized training.

CHAPTER II

Review of Literature

The Virginia Community College System

"The Virginia Community College System [VCCS] plays a unique role in Virginia's higher education. The VCCS was specifically structured to be geographically and financially accessible to Virginians desiring further education and skill development" (Joint Legislative Audit and Review Commission [JLARC], 1991, p. 1). The VCCS was designed as an alternative type of education. During the early sixties, eight of thirteen of Virginia's public colleges and universities were segregated by sex (all were racially segregated). The academic requirements were stringent and tuition costs and location made these colleges inaccessible to many people in the state. Eleven branch colleges sponsored by three senior institutions offered two-year degrees, but these programs were designed to serve as feeders to baccalaureate programs. "Only four percent of all collegiate students were enrolled in two-year colleges" (JLARC, 1975, p. 1).

The idea of and structure for the nation's community colleges were conceived by the 1947 President's Commission on Higher Education for American Democracy [Truman Commission]. As discussed in Vaughan (1985, p. 8), this commission was concerned that "If America were to fulfill its role successfully as the world's leading advocate for democracy, the nation must break down the barriers to educational opportunity at the post-secondary level." The Truman Commission recommended establishing a system of community colleges throughout the nation thereby placing higher educational opportunities within reach of a greater number of people.

The Truman Commission stated that 49% of the nation's youth could benefit from two years of education beyond high school. The Truman Commission Report influenced the postwar debates as the nation strove to define democracy in the area of education. Vaughan (1985), discussing the commission's recommendations, reported that:

community colleges charge no tuition, serve as cultural centers for the community, offer continuing education for adults, emphasize civic responsibilities, be comprehensive, offer technical and general education, be locally controlled, and blend into statewide systems of higher education, while at the same time coordinating their efforts with the high schools. (p. 8)

Although the concept and framework for the community colleges were established at this time, their growth was slow until the 1960s.

Virginia's economy was changing from an agricultural to an industrial base during the early sixties (JLARC, 1975; Martin & Tolson, 1985). Eager to attract new industry and provide job opportunities, the General Assembly created a Commission on Vocational Education [Slaughter Commission] in 1962. According to Vaughan (1985), this commission examined the educational programs and needs of the state and made recommendations to the legislature on possible solutions. The Slaughter Commission determined that there was an increasing need to provide skill training and retraining for a substantial portion of the adult working population. This was necessary if Virginia was to make the transition from an agricultural based economy to an industrial, manufacturing economy (Martin & Tolson, 1985). Based on this commission's recommendations, technical colleges were created throughout the state to provide this training. The commission also recommended that further study be done on consolidating the branch colleges offering transfer courses, the high school vocational adult courses, and the technical schools that had just been established.

Based on these recommendations, a Higher Education Study Commission [Bird Commission] was created and reported to the Governor and General Assembly in 1965. The Bird Commission recommended that all aspects of higher education be expanded. Its highest priority was the creation of a comprehensive community college system that would provide vocational training and college transfer education (JLARC, 1991). This system would: (a) provide an alternative for students not able to attend four year universities

because of academic standards, costs, or location; (b) prepare individuals for work; and (c) retrain and upgrade the skills of individuals already part of the workforce.

The newly created Board of Technical Education, created by the Slaughter Commission to govern the Technical Colleges, was changed to the State Board of Community Colleges in 1966 and the State Board was given responsibility to establish, control, and govern all public post high school institutions (JLARC, 1975). JLARC (1991) reported that the State Board expanded the mission of the community college beyond that stated by the **Code of Virginia** and adopted national themes similar to those proposed by the Truman Commission. The only departure from those original recommendations was that Virginia's Community Colleges charge tuition, although for years it has been kept to a minimum. Student tuition was "27.5%" (VCCS Financial Statement, 1992, p. 4) of the cost of the education in 1992.

The goal of the VCCS was to create a democratic mode of education and provide all citizens of the Commonwealth an equal opportunity to obtain the training and education they desire. To accomplish this, the state was divided into 22 regions and colleges were located within 35 miles or 45 minutes of the majority of the potential students. There are now 23 colleges with a total of 35 campuses (JLARC, 1991).

The legislation did not mandate the mission or role of the community colleges. The enabling legislation left the establishment, control, and administration of the VCCS to a State Board for Community Colleges. The State Board was given the flexibility needed to meet the changing educational needs of the Commonwealth. The State Board adopted its own definition of a comprehensive community college and adopted a mission statement that expanded the role of the VCCS. They added (a) community services, (b) developmental education, (c) geographic accessibility, and (d) financial affordability.

Of major concern to this project, and the viability of customized training, is that "The State Board specifically emphasized meeting State and local economic development needs" (JLARC, 1991, p. 19). Emphasizing in the mission statement that, "The Virginia Community College System, through comprehensive community colleges, provides

leadership in determining and addressing both the needs of individuals and the economic needs of the college's service areas" (p. 19) confirmed the VCCS's commitment to economic development and the educational needs of the individual.

A commitment to fulfilling the training needs of Virginians has been established by the recommendations of several reports. The Chancellor's Task Force on the Role of the VCCS in Economic Development (1989) recommended that "Virginia's community colleges should be involved in providing customized job and apprenticeship training for area commerce and industry" (p. 22). The Report of the Chancellor and the VCCS on Virginia Community Colleges: The Commonwealth's Link to a 21st Century Quality Workforce (1993) recommended that:

Virginia's community colleges must not only provide training and education, but must also position themselves as active partners with business, industry and economic development in the areas of workforce policy, workforce restructuring, technology delivery, and adult delivery. (p. 2)

The VCCS offers training or education in five areas: (a) college transfer, (b) occupational-technical, (c) pre-collegiate, (d) continuing education, and (e) community service. These colleges have open admission policies and any individuals wanting to continue their education may take continuing education courses without being admitted into a program. Continuing education courses can be taken for credit or non-credit. There is a difference in the cost of the courses because non-credit courses must be self-supporting. In addition, 30% of the cost must be added to cover overhead expenses (JLARC, 1975). The mission and goals of the VCCS from the earliest years were to be involved in training, retraining, and upgrading the skills and knowledge of the existing workforce and to provide job opportunities through involvement in economic development.

Demographics Trends

Statistics indicate that between 80% to 92% of the existing workforce will still be on the job in the year 2000 (Chancellor and the VCCS, 1993; Governor's Advisory Committee, 1991). The demographics of the worksite are changing. The report of the Chancellor and the VCCS (1993) estimated that 80% of the net growth in the labor force will come from (a) women, (b) minorities, and (c) immigrants. Denying these groups access to continuing education may create a barrier to their social and economic integration into the workforce (Bengtsson & Wurzburg, 1992). Many companies do not require employees to have college degrees, but only need them to perform specific tasks. This has created a need for training and retraining people on the job site in knowledge and skills that were not being fulfilled by the associate or certificate programs (Grasso, 1991). Many times these classes will be specific to an individual company or job process and the training must be custom designed.

Warford (1989) expressed that community colleges should carve out a niche because there is a definite need for customized training and someone will provide it. The companies of the United States were spending 210 billion dollars each year to train and/or retrain their employees (American Society for Training and Development, 1990). Motorola Corporation and General Motors have invested millions of dollars providing in-house training (Wiggenhorn, 1990). The involvement of the community colleges in providing customized training has steadily increased. Seventy percent of the community colleges in the United States were providing customized training in 1985 (Carnevale & Johnston, 1986). Lynch, Palmer, and Grubb (1991) found that in the academic year 1988-1989, 94% of the colleges responding to their survey indicated they offered at least one course to a public or private employer.

Changes in Education and Training

The types of training conducted by the community colleges are changing because the requirements of the workplace have changed drastically in the last ten years. Brown & Pavlidis (1992) expressed that students must be prepared for "a very challenging and demanding job and career scenario with nothing certain but change" (p. iv). Technological advances, managerial changes, and an increased emphasis on quality have changed employers' expectations of the workforce (Ekpo, 1991). MDC, Inc. and Its Advisory Panel on Southern Workforce Developments (1992) analyzed (a) demographic trends, (b) characteristics of the workforce, (c) characteristics of industry and projected job opportunities, and (d) public and private sector programs and resources for training, retraining, and upgrading. According to this report, "The pattern of job growth in the South has shown a striking link between education and economic prosperity" (p. 20). Bavarian Motor Works credited Spartanburg, South Carolina's quality labor force, flexible public education, and training system as reasons for its site selection (Radcliffe & Zirkin, 1986).

Although the involvement of community colleges in customized training has increased drastically over the last few years, information on the scope and nature of the training is difficult to collect in Virginia. Non-credit courses do not have the same reporting requirements as credit courses (VCCS Policy Manual, 1991). Since the computer data bases are not standardized or linked throughout the System, access to information on non-credit courses was limited to paper files. Lynch, Palmer, and Grubb (1991), attempting a study similar to this investigation, requested information from community colleges on customized training. Four of the ten colleges completed the questionnaire and the time required varied from six to forty-three hours.

Information on the factors that influence community college involvement in customized training is needed because, in a time of minimal budget increases, decisions must be made on which programs will be continued or discontinued. JLARC (1991) and the VCCS concurred that priorities must be established if the quality of instruction is to be

maintained. A prioritized list might be created with (a) college transfer, (b) technology degrees, (c) continuing education credit courses, (d) continuing education non-credit, and (e) community service ranked in that order. If this occurs, decisions might be made to relegate customized training for industry to a low priority (JLARC, 1991). The aforementioned reports offered conclusive evidence that there was a definite need for an exploratory multiple-site case study to determine and analyze the factors affecting the nature and scope of the customized training being provided to business and industry by Virginia's community colleges.

Factors Affecting Virginia's Community Colleges' Involvement in Customized Training

The process of reviewing the literature, preliminary interviews with "experts" and "elites," and personal experience in the Virginia Community College System provided the basis for choosing tentative factors that might influence community college involvement in customized training. These factors were chosen as prompts for the researcher's initial guidance. The nature of the research meant that these factors could prove to be irrelevant and be changed throughout the project. These factors have repeated themselves throughout this process. They are (a) leadership, (b) philosophy, (c) policies and procedures, (d) personnel, (e) infrastructure, and (f) resources.

Leadership

Virginia's community colleges were given autonomy to enable them to be responsive to the educational and economic needs of their service regions. The structure of the system gives the college president discretion in determining the direction of the college.

Attributes that workforce development leaders should possess to be successful are vision and insight, and good planning and communication skills (Finch and Faulkner, 1990). These researchers indicated that possession of these skills by the president is important and can enable the leader to determine the direction followed by the college in

fulfilling its mission. The leadership of the president and higher administration may also determine the goals, both short-and long-term, of the college.

According to The Continuous Improvement Handbook of Mountain Empire Community College (1992), the role of a leader is:

- creating purpose--mission
- establishing vision
- providing means (a process) to achieve improvement
- removing barriers
- providing recognition and awards
- creating systematic learning (p. 16).

The impact of a strong leader cannot be overstated (Caro & Morris, 1993; Moriarty, 1992). Because community colleges are governed by a local advisory board (JLARC, 1991), a leader who is visionary and pragmatic can change the mission and goals of a college (Salisbury, 1993). The president can do this by influencing the local advisory board. A leader can change the direction of the college in any of the areas in which the college provides education and services, whether it is college transfer or customized training. This can be accomplished through long-range facility plans, faculty development and hiring, and equipment purchases. Only when a high ranking official sanctions redesign and dedicates staff and resources to that effort does the effort become legitimate (Salisbury, 1993). Wirth (1983) observed that employees will not attempt new or different methods of instruction without the support of top administrators. Cote and Cote (1993) found that the most important factor in turning an institution's attention to more direct involvement in economic development was the point of view of the institution's president.

Philosophy

There are concerns that customized training might help the individual in a specific job, but that the skills and knowledge are not transferable to other jobs (Grubb & Stern, 1989).

Lynch, Palmer, and Grubb (1991) found that 93% of the colleges they surveyed offered job-specific skills training, but 60% of those colleges also provided courses in basic reading, writing, or math skills.

It is a common concern whether an individual needs to be trained in one specific skill, or be educated to become a full member of society (Carnevale, Gainer, & Villet, 1990); Brown & Comola, 1991). Dewey (1950, p. 147) asserted that the true test of the value of social institutions is "the extent to which they educate every individual into full stature of his possibility" (cited in Wirth, 1983, p. 79). Wirth (1983) stated that the entire nature of society is moving toward a change in which there will be little difference in "the educational level and status of those who work in industrial, educational, research, and service organizations" (p. 30).

Consequences of the transformation in the United States' economy imply that job requirements are changing throughout the system (JLARC, 1991). The pace of change can be expected to increase as the rate of technological advances increases. This makes labor market forecasts tenuous and might lead to obsolescence of educational programs designed around specific job skills. Many analysts argued that programs should emphasize generalizable skills rather than training for a specific occupation (Raizen, 1989). An integrated coherent general education curriculum prepares a student to be a lifelong learner. This adaptability has been critical in an ever changing workplace since it has provided the invaluable capacity for lifelong learning (O'Banion, 1989; Shaw, 1989). Ekpo (1991) maintained that job-specific education makes the technician vulnerable in high-tech occupations, especially with constant changes in equipment, software, and production processes.

Academic freedom has concerned some people who felt that college personnel should decide what is to be taught. Their philosophy was that curricula should not be dictated by industry for economic reasons and that community colleges should educate the student as a whole person and not solely as a worker (Shaw, 1989; Brown & Comola, 1991).

Policies and Procedures

Policies and procedures may affect the involvement of a community college in customized training (Bragg & Jacobs, 1991). Making non-credit courses be self-supporting plus 30% was an example of how policies can influence the type of training offered (JLARC, 1975). The increased cost has created situations where it was advantageous to offer courses for credit. There was confusion in the System concerning these courses.

Comments from the VCCS to Philip A. Leone, Director of the Joint Legislative Audit and Review Commission (1991) stated that:

The transfer of the Division of Industrial Training for the Department of Economic Development determined who would make decisions about providing training as part of a package to attract new industry to Virginia or to encourage the expansion of existing plants. It did not resolve the policy questions related to ongoing training and who should pay for it. This issue is a central part of the discussions about both fractional credit hours and the distinction between credit and non-credit offerings. VCCS's role in providing in-service training to private and public employers should be clarified, as should the state policy on funding such activities. (p. 3)

In this same document it was recommended that the SCHEV and the VCCS should evaluate the fractional credit policy of the VCCS and determine whether those courses met the training needs of business, industry, and government. "If not, then alternative funding policies for funding short training courses for business, industry, and government should be examined" (JLARC, 1991, p. 12).

Interpretation of policies and procedures did vary from college to college in the system. The interpretation of these policies does drastically change job positions and the training that colleges offer. If courses were changed to non-credit, then companies paid full costs plus 30%. In a competitive market this policy may decrease the opportunity of the college to offer those courses. Customized training courses for credit have provided many side benefits to the college that must be considered by the administration when

interpreting policy (Warford, 1989). An obvious benefit to the college was that it received \$2,903 for each FTE (JLARC, 1991).

An aggressive Continuing Education Department offering quality non-credit courses, pricing them to the market, and making a profit can benefit the college and the Continuing Education Department. The policy of requiring continuing education departments to turn excess monies over to the college discretionary fund was a potential issue. This policy does not reward the department nor does it allow it access to money for investment in needed teaching aids (software, computers, and teaching materials). K. Haverkamp, Director of Continuing Education at Northern Virginia Community College, (telephone communication, April 1, 1993) conducted a telephone questionnaire on issues concerning the VCCS's Continuing Education Departments. She found that few continuing education departments received any money back after it was given to the college discretionary fund. Some directors felt the loss of control over potential profits was not motivational. To other directors, this was not an issue.

The majority of these departments were self supporting. From Haverkamp's questionnaire and conversations with other directors of continuing education departments, it became evident there were diversities in these departments throughout Virginia. Northern Virginia Community College, Annandale Campus, taught 4,300 Continuing Education Units [CEU] while Southside Community College reported 100 CEUs. Northern Virginia Community College offered 67% of all System sponsored non-credit activities in the 1988-1989 academic year, while two colleges--Piedmont Virginia and Southwest Virginia--did not offer any non-credit continuing education courses during this period (JLARC, 1991).

Certain factions contend that training needs of industry are being subsidized by the Commonwealth. According to Bragg and Jacobs (1991), often customized training programs are developed in response to the economic development strategies of state-policy makers. Other factors might influence whether classes are offered for credit or non-credit. Most students in customized classes taught by this researcher were

concerned with whether or not the classes would be documented and apply toward a degree. These students wanted a "paper trail" of their training and documentation of the rigor of the course. Non-credit courses do not count toward degrees and documentation of non-credit courses is difficult (i.e., content and rigor). Although 62% of the colleges surveyed by Lynch, Palmer, and Grubb (1991) indicated that college credit was available for contract courses, only 31% of the contract classes were for credit. Documentation and transfer of courses within the community colleges were considered necessary if the workforce was to have mobility in the pursuit of job opportunities within a global society (Chancellor & VCCS, 1993).

McCormick (1990) studied the factors influencing selected business, industry, and government organizations when contracting for education-based management and executive development. His survey question, "College credit may be offered as an option if the training program meets academic requirements?" (p. 42) was rated 28th out of 30 questions in importance to plant managers. This indicated that managers and technicians had different priorities in training, and these differences could affect the college's decision whether to offer classes for credit or non-credit.

The National Association of State Development Agencies (1991) reported that customized training was the most common nontax incentive used by 44 states to attract new industry and to meet a wide range of the businesses' training needs. Since 1981 the state of New York has allowed colleges to contract with businesses, unions, and nonprofit organizations to design and deliver contract classes and receive state aid based on FTEs. Winter (1988) analyzed the effectiveness of the State University of New York's [SUNY] Community Colleges' involvement in customized training and found that this approach made "a positive and significant impact on the economic vitality of New York State" (p. 17). J. McKinney (telephone communication, March 22, 1993) of SUNY asserted that the program was in danger of being cut even though it was very successful. South Carolina (R. Sandel, personal communication, April 22, 1993), Florida (S. Scott, personal communication, March 4, 1993) and Oregon (D. Oatman, telephone communication, April

1, 1993) involved the community colleges in upgrading workers' skills and knowledge and subsidize training as an aspect of economic development.

Customized training can be an enticement for industry to locate in an area. An example of this being effective as a recruiting incentive was the Saturn plant in South Carolina. Approaches to economic development have changed in ways that will affect states and companies in the 1990s (National Association of State Development Agencies, 1991). States viewed themselves as partners with existing firms in their development process. Many states were concentrating resources on retention and expansion of existing business and industry rather than attempting to recruit new industry.

Personnel

All levels of personnel may have an influence on the nature and scope of customized training the college offers. Teaching personnel can influence the nature and scope of customized training offered by a college. The VCCS Policy Manual (1992) mandated that full-time faculty will design curriculum. If this policy was interpreted to mean that full-time faculty must also design the courses, then there were definite limitations to the scope of customized training that can be offered for credit. Faculty positions were tied to programs and programs have productivity quotas that must be met or the program will be canceled by the SCHEV. Because these programs were evaluated regularly, faculty members did not have the discretion or freedom to serve the training needs of individuals or local businesses. If faculty members provided services outside the regular curriculum, they faced the possibility of cancellation of their programs and loss of their jobs. The VCCS was driven by FTEs and faculty members were held accountable for graduates from their programs (VCCS Policy Manual, 1992; JLARC, 1991)

If full-time faculty teach outside of their programs, there are no formal policies or procedures whereby these faculty can be rewarded or compensated for their extra work in designing customized training programs. The same difficulty arises when faculty visit industry, and maintain contact with personnel in the field. Since the VCCS does not

compensate or reward faculty for these activities, it may be perceived that the VCCS has assigned little importance to industry contacts or training. S. Scott (personal communication, March 4, 1993) and Irvin (1990) mentioned that personal contact is a very important factor to consider when involved in customized training. Irvin (1990) sent a questionnaire to 345 providers of customized training to determine the factors important in communicating their programs to the industrial public. Three of the top five factors were (a) personal visits to business and industry, (b) personal calls to business and industry, and (c) personal appearances to explain training programs.

Informal interviews with faculty members in the VCCS indicated that some teachers were foregoing business and industry contacts and concentrating on producing graduates from their programs. The JLARC (1991) recommendation that nonproductive programs be evaluated and canceled for due reasons has caused a shift in priorities at the instructor level. A recurring concern in these conversations has been that full-time faculty who teach outside of their degree programs are jeopardizing their jobs.

Community colleges and industry have been further limited in their efforts at cooperation because, if a full-time faculty member teaches a non-credit course, the funds generated must cover all costs plus 30% (JLARC, 1991). The regular salary rate of the faculty member must be computed in those costs unless they are teaching over-load (R. Sandel, personal communication, April 2, 1993). This policy increased the cost of the class, making it prohibitively expensive for some small companies. This policy also created obstacles to full-time faculty teaching customized short-courses to industry for less than one credit. Warford (1989) found that there were no standard procedures for assigning instructor loads at community colleges in different states.

Production processes and managerial styles have changed in the last ten years. As the service industry became more important, changes in training have become necessary (Carnevale, Gainer, and Villet, 1990). Many company officials and students have complained that faculty are too theoretical and do not understand industry's problems or training needs (Borton, 1991; Useem, 1986). However, Winter (1988) surveyed

employers in New York State and found that 96% of the employers were positive about community college customized programs.

The Chancellor's Professional Development Task Force (1993) found that fewer than half of VCCS colleges (43%) have a professional development program. This task force recommended that faculty members make every effort to stay up-to-date and active in their fields. This task force identified ways in which the VCCS could improve educational programs and services through professional development.

Infrastructure

The infrastructure of the college was a critical factor when determining whether customized training will be offered or not. One problem the Continuing Education Departments had in offering customized training was that they did not have designated laboratory facilities, equipment, software, or computers. Customized training was designed in response to an industrial need and the time frame was usually short. Facility utilization and scheduling became an impediment to involvement in customized training when the scheduling of classrooms and laboratories was done months in advance for courses in degree programs. Providers of customized training might have limited access to facilities and the times they could hold classes.

Continuing Education often utilized the facilities of the company and employed a partnership mode of instruction whereas the classes were team taught and multiple sites might be used for classroom and laboratory work (Grubb, 1989). The Governor's Advisory Committee Workforce Virginia 2000 (1991) found that partnerships benefit both parties. JLARC (1991) mentioned the age of the existing buildings and the repairs needed. The original design of buildings has often been compromised, as was their present use. Strategic planning of facilities was critical (Brown & Comola, 1991) and the leadership and vision of the president was important. Once buildings were designed, constructed, and equipped for specific uses, it was prohibitively expensive to change them for other purposes. Rapid technological advances and the cost of laboratory equipment can limit

the training which the college can offer (Useem, 1986). He indicated that if money was invested in the wrong equipment, building design, or curriculum, then the college was limited to a greater extent. It was critical that the infrastructure of the college be well planned. Long range strategic planning was important to the continued health and vitality of the college and the community it serves (Brown & Comola, 1991).

Resources

Resources were important in determining the nature and scope of customized training that a community college can offer to its clientele. Virginia's community colleges over the last five years have seen an enrollment increase of 28.5% (Chancellor & the VCCS, 1993). Without an proportionate increase in revenues, resources have been limited. JLARC (1991) indicated that due to the increase in enrollment and lack of increased appropriations, priorities might need to be established. Potential questions were which classes to be taught, the direction of the colleges, and whether caps will be required for enrollment.

More efficient usage of resources may enable faculty to become more productive. They need to work smarter, not necessarily harder. They need to use technological advances to increase the number of people they teach. Techniques such as distance learning, interactive video, and multi-media training should be utilized (SCHEV Preliminary Report to the Governor and General Assembly, 1993; Widen & Roth, 1992; Useem, 1986; Chancellor & the VCCS, 1993; Chancellor's Task Force, 1989; State Council of Higher Education, 1993). The implementation of these technologies encompasses infrastructure, resources, and personnel.

Summary

The involvement of Virginia's community colleges in customized training was extensive and projected to increase. The commitment of the Virginia Community College System to providing customized education and training for the businesses, industries,

government agencies, and labor organizations of Virginia has been demonstrated by a review of the studies and their recommendations. Tentative factors that might affect the involvement of the VCCS in customized training were explored.

CHAPTER III

Research Methodology

The purpose of this study was to determine and analyze the factors influencing selected Virginia community colleges' involvement in customized training. Specifically, the study sought to "bring to light the important variables, processes, and interactions" (Isaac & Michael, 1981, p. 48) from the perspective of its participants. This chapter describes the (a) research design, (b) site and sample selection process, (c) preparation of the investigator, (d) data collection procedures, (e) management and recording of data, and (f) the treatment of the data.

Research Design

A multiple-site case study methodology was chosen for the study (Yin, 1989). The naturalistic mode of research was chosen since the factors affecting Virginia's community colleges' involvement in customized training were thought to be numerous and varied. The naturalistic inquiry paradigm allowed the researcher to employ a holistic method of research that examined the setting through multiple sources of information. This type of inquiry allowed the researcher the liberty to change the focus or direction of the questioning as new variables or factors were discovered. Vierra and Pollack (1988) termed this "improvisation and flexibility" (p. 174).

Preliminary interviews and the literature review revealed that questionnaires or surveys might not provide valid information. This was due to (a) the lack of a clear or accepted definition of the concept or term "customized training," (b) the failure of the researcher to find applicable research to build upon, and (c) the autonomy of the community colleges allowing the creation of diverse solutions to the problem of providing customized training to their clients. The lack of standardized or linked computer database systems on non-credit courses throughout Virginia's community colleges created

difficulties in obtaining information (Joint Legislative Audit and Review Commission [JLARC], 1991). Lynch, Palmer, and Grubb (1991) pretested a questionnaire for a national survey in which they asked for all courses offered by the community college on a contract basis during 1988-1989, as well as the funding sources and instructional hours for each course. "The results were dismal, indicating that such detailed information was not readily available" (p. 8). They simplified the questionnaire and asked for data in broad categories without operational definitions.

This study was exploratory and attempted to answer the questions why, how, and what (Yin, 1989). The following questions were posed to guide, but not constrain the study:

1. What are the factors that facilitate the Virginia Community College System's [VCCS] offering customized training?
2. What are the factors that impede the VCCS from offering customized training?
3. What is the relationship between the identified factors and the nature and scope of customized training provided?

Site Selection

The study was delimited to three community colleges in the VCCS. Purposive sampling of sites provided the opportunity to compare and contrast the effects certain factors had on the selected community colleges' involvement in customized training. Since the overall environment in which a college exists affects its culture, not only the physical environment, but the economic, social, religious, political, geographic, industry and business environments should be examined. Bragg and Jacobs (1991) called these categories (a) economic environment, (b) educational institutions and systems, and (c) employee and employer characteristics. Any of these factors may affect a community college's involvement in customized training.

The environmental factors chosen to provide differences in the colleges' for contrast and comparison purposes were the (a) types of business and industry in the community

colleges' service region, (b) geographic location, and (c) size of institution. Rural, Urban, and Suburban Community Colleges (pseudonyms) were selected to provide a cross section of the different types of colleges.

Description of Rural Community College

Rural Community College is located in a rural region of Virginia with few large industries. Farming and light manufacturing (furniture) were the major employers. There were few large manufacturers. There was limited high-tech industry in the region. Machine technology was an important aspect of the training provided by the college for local industry and there were excellent facilities for training at the college. Rural Community College had an enrollment of 1,555 Full Time Equivalent [FTE] students and a headcount of 4,371 students in 1993-94. The service region encompassed five counties.

Description of Urban Community College

Urban Community College is located in a large city. The population of the service region was 476,883. The major employers were services, retail trade, manufacturing, and government. The enrollment of the college in 1992-93 was 6,243 FTE students and the annual unduplicated head count was 21,000 students (1993-94 figures were 5,817 and 16,083 respectively). There were three campuses and two Continuing Education Departments with one satellite center.

Description of Suburban Community College

Suburban Community College is located in the suburbs of a large city in Virginia. It is the largest community college complex in Virginia with five campuses. There were 63,000 FTE students and 200,000 non-credit students in 1992-93. The Extended Learning Institute provided extensive distance learning opportunities. The government and military were major employers in this region. Other employers in the region were high tech service industries. There was limited manufacturing in the region.

Sample Selection

The elite interview seeks information from "the person who has a singular view because of his expertise, position, or insight; the respondent with special information; and/or the interviewee who is central to a situation or otherwise holds a unique position" (Guba and Lincoln, 1981, p. 157). Marshall and Rossman (1989) stated that elites should be selected for interviewing not only because they have an overall view of the organization, but also because they are knowledgeable about the organization's policies, past history, and future plans.

Using these criteria, the following community college personnel were tentatively identified prior to the study as potential informants. They were (a) Deans of Instruction and/or Student Development Services, (b) Department Chairpersons, (c) Directors of Continuing Education, (d) full-time and adjunct faculty, (e) Directors of Admissions and Records, and (f) professional staff in planning and research. Since the process of continuous comparative analysis of data and sources of information was used, this list was subject to revision throughout the case study.

Preparation of the Investigator

The investigator conducted a number of interviews with people knowledgeable about the nation's community college system during the five month period prior to the study. These preliminary interviews provided the researcher with practice and increased his skills in this type of data collection. Personal interviews were conducted with a college president, two deans of instruction, five directors of continuing education, four department chairpersons, six faculty members, and two research directors. These interviews provided input from people in the VCCS in addition to the information obtained from the review of literature. These interviews were (a) exploratory in nature, (b) sought information on the feasibility of the research design, and (c) attempted to establish tentative factors for the case study.

Interview skills were developed during a nine-month Southern Appalachian Leadership Training fellowship at the Highlander Center in New Market, Tennessee. Role playing provided experience interviewing people from different cultures and in different settings. Video tapes of these interviews were evaluated by the fellows and professional consultants. Practice interviews were also conducted under the guidance of research professors in graduate classes in research at Virginia Polytechnic Institute and State University. The written results of these interviews were critiqued and graded by the professors.

Experience in the VCCS for ten years as a designer and provider of customized training to the industries in Southwest Virginia benefited the researcher in many ways. A belief in the importance of customized training developed over the years through interaction with the clients and students. Working within the System also provided insights into the culture of a community college and how diverse factors can affect the nature and scope of the training conducted. Document analysis, examination of physical artifacts, and direct observation were areas in which a deep and long-lived familiarity with the culture under study gave the researcher "an exceptional analytic advantage" (McCracken, 1988, p. 32).

Procedures for Data Collection

Multiple methods of data collection were used at multiple sites. This made the evidence more compelling, lent robustness to the research, and made it more trustworthy. Yin (1989) stated that, "The case study's unique strength is its ability to deal with a full variety of evidence--documents, artifacts, interviews, and observations" (p. 20). Castetter and Heisler (1980) included "expert opinion" as an additional source of information. These methods of data collection were used to triangulate the data and increase trustworthiness.

Interviews

Semistructured interviews consisting of open-ended questions were conducted with personnel at Rural Community College, Suburban Community College, and Urban Community College. Interviews were chosen as the primary research procedure. A naturalistic mode of inquiry was utilized because this study sought to determine what factors community college personnel at the case site perceived as barriers or facilitators to customized training. Lincoln and Guba (1985) stated:

What is salient to us is that, first, no manipulation on the part of the inquirer is implied, and, second, the inquirer imposes no a priori units on the outcome.

Naturalistic investigation is what the naturalistic investigator does, and these two tenets are the prime directives. (p. 8)

The researcher went into the field and spent three to four days at each site collecting preliminary data. Conducting the first round of interviews in an unbiased manner and allowing open-ended answers to the questions confirmed, modified or added to the tentative categories. Asking informants a grand tour question about customized training at their college allowed them to educate the researcher (Spradley, 1979). Besides being flexible, Kerlinger (1973) stated that respondents answering open-ended questions sometimes gave unexpected answers that indicated the existence of factors or relations not originally anticipated. A systematic review of first round interviews was done, and additional interviews were conducted for clarification as themes were identified.

Using three levels of control for interviews provided flexibility in data collection and broadened the scope of the case study. Formal interviews were scheduled and taped whenever permitted. These interviews were transcribed. Informal interviews usually occurred during observation visits. Seldom taped, field notes were taken during, or immediately following these interviews. Casual (conversational) interviews provided data but also identified additional key informants to interview. Taking notes immediately after these conversations provided another source of data. Separate codes were attached to each level of control of the interviews. Coding was done because spontaneity or

off-the-record statements increased as the interview became more casual, but the problem of distortion by the interviewer became potentially greater.

Lincoln and Guba (1985) cautioned against the use of audio-tape recorders when interviewing informants. They mentioned that many people will not be candid knowing they are being taped. To compensate for this, periods of time before or after official taping provided an opportunity for candor and possibly uncovered those "hidden" factors that many informants were reluctant to talk about "on the record".

Werner & Schoepfle (1987) stipulated that, "Interviews should always be recorded verbatim with a cassette tape recorder" (p. 381). The discovery of information otherwise missed due to the interviewer's lack of experience, personal bias, or preoccupation with the myriad of tasks associated with interviewing more than compensated for the information not freely offered because of the presence of the recorder (Yin, 1989). McCracken (1988) agreed that interviews must be on tape. He expressed that note taking created an unnecessary and dangerous distraction.

Whenever possible, interviews were audio-taped and transcribed to hard copy and computer files. Ami Pro, WordPerfect 5.1, and Ethnograph computer programs were utilized on IBM compatible computers. A coding procedure was used to mark or tag recurring topics. Examination of the homogeneity and heterogeneity of topics within a college and among the different colleges allowed identification of patterns. Examination of these patterns led to the identification of factors that might be influential in affecting a college's involvement in customized training. Although the focus of this study was based on interviews with personnel in the Virginia Community College System, other sources of evidence were used. Multiple sources of evidence were employed in the "development of converging lines of inquiry, a process of triangulation" (Yin, 1989, p. 97). Since multiple sources of information provided multiple measures of the same phenomenon, construct validity was addressed.

Documents

The following sources of data were identified prior to the study as potential sources of information. Document analysis provided information to supplement the interviews and verify statements. These sources were:

1. Virginia Employer Data Management and Reporting System (VEDMARS)--information on employers in the geographic region
2. Productivity Analysis System (PAS)--faculty productivity report
3. Student Information System (SIS)
4. Management Information System (MIS)
5. Division of Continuing Education Annual Report
6. VCCS Financial Statements
7. Virginia Employment Commission Reports

Because community colleges in the VCCS have approached the need for providing customized training differently, data collection from documents and records was difficult. There was no consensus on a definition of customized training. Often different departments in the same college were offering customized training to industry and each group was unaware of the efforts and accomplishments of others on the same campus.

The reporting procedures of each college and the divisions in those colleges were different. This diversity created limitations because the lack of standardized computer databases allowed only the use of paper records. Although much information was in the system, it was not in a standardized or uniform format. Information on the amount and types of training was limited by the information included in the Productivity Analysis System (PAS) reports and the annual productivity reports of the academic and continuing education divisions. Demographic information on students was available on the Student Information System. The Management Information System, when available, provided a synopsis of the above reports.

Unless customized classes were coded 9x, 19x, or 29x, student records could not track them. These codes signified credit classes developed and taught for periods not

exceeding one year. Some companies required their employees to pay tuition costs and reimbursed them if they made a "C" or better. These classes were customized but were not identifiable in the available data base. P. Carroll, (personal communication, April 15, 1993) indicated that without proper coding the classes could not be tracked.

The Virginia Employer Data Management and Reporting System [VEDMARS] contained information on the (a) type of business, (b) the number of employees, (c) total wages, (d) ownership, and (e) location. The colleges used account codes to identify companies and the VEDMARS system used the name of the business as the identifier. The incompatibility of these systems imposed definite limitations on the accessibility of the extant data that was requested from the colleges when doing this research. Information on the type of business or industry and the number of employees was deemed important to this study. B. Hutchinson (telephone communication, April 15, 1993) told the researcher one of the databases would have to be re-coded to be able to manipulate the data.

Direct Observation

Direct observation consisted of walkabouts on the selected campuses. The conditions of buildings and laboratories were observed and recorded. This technique was used to obtain a "feel" for the importance accorded different departments by their space allotment, furnishings, and equipment.

Physical Artifacts

The availability of required equipment and physical facilities needed to conduct customized training appropriate to the industry base in the area was examined. The types of potential training needs of the businesses and industries in the colleges' service regions were compared with the colleges' laboratories and laboratory equipment. The availability or lack of required equipment had the potential to affect the nature and extent of customized training offered by the college. Partnerships with companies and sharing of

resources and on-site training were noted as important factors that might alleviate any possible limitation (Grubb, 1989).

Treatment of the Data

Constant comparative analysis was used to guide the research. "In qualitative studies, data collection and analysis go hand in hand" (Marshall and Rossman, 1989, p.113). Immediately after interviews were conducted, the tapes were transcribed to hard copy and computer files. Incidents or words were identified and code mapped using the Ethnograph computer program. These incidents were then organized in categories as their occurrence became more prevalent. Throughout this process, memos were written on prevalent and "fresh" ideas to uncover the properties of the category. This was important because, as Lincoln and Guba (1985) stated, "Knowledge of properties makes it possible to write a rule for the assignment of incidents to categories" (p. 342). In this research, an incident was defined as an occurrence of a word, action, or event.

As this process was repeated, the categories became "saturated," in terms of incidents becoming repetitive. As categories developed and were analyzed, some categories were revised. Leadership, policies and procedures, philosophy, personnel, infrastructure, and resources were initially identified through personal experience, the literature review, and interviews as potential categories. Patterns or relationships started to emerge (Vierra & Pollack, 1988). As the process of interviewing, data collection, and comparative analysis continued, these relationships or patterns became more evident. The emergent design of the study required the interviews to become structured as patterns emerged or influential factors were identified. Descriptive, structural, and contrast questions were asked to verify patterns (Spradley, 1979). Patterns or repeated occurrences led to the formation of themes. These themes became the basis for the development of formal hypothesis of the influential factors affecting community college involvement in customized training.

Interview Analysis

A step-by-step description of the process is included to enable replication of the research.

1. Interview the informant.
2. Transcribe each interview as a separate file using a word processor (WordPerfect 5.1).
3. Convert to ASCII and copy to Ethnograph.
4. Type contextual comments in file for identification purposes.
5. Type speaker and section identifiers.
6. Enter text information beside interview data as desired.
7. Code map potential investigative words, phrases, or sentences and attach code words.
8. Search and reflect.
9. Develop categories.
10. Utilize descriptors (and, or, nor, and not) to place words within categories together and/or separate.
11. Develop themes.
12. Using Ethnograph, query each record about theme and note context of use.
13. Repeat process and look for patterns.
14. Themes emerge and formed the basis for the identification of influential factors through repeated analysis.

The process of collecting data, integrating information from the review of literature, and utilizing the knowledge and experience of the researcher was integrated. These multiple methods of analysis were used to establish the trustworthiness of the research. Yin (1989) recommended creating a case study data base and maintaining a chain of evidence to increase the reliability of the case study.

The case study data base included the investigator's notes from interviews, observations, and document analysis. This data was divided into major subjects and filed

so that an outside party could examine them. A chain of evidence was also maintained to increase the reliability of the information in the case study (Yin, 1989). Citations were used to enable location of sources. The data base contained the actual evidence with a description of where and how it was collected--for example, the time and place of an interview.

Summary

The research methodology was a multiple-site case study that investigated the factors that facilitate or impede selected community colleges' involvement in customized training. The relationship of these factors to the nature and scope of customized training offered by these colleges was examined.

Sites were purposively selected to provide differences in (a) types of business and industry, (b) geographic location, and (c) size of institution. The people initially chosen for interviews were elites, or people thought to have inside information on the problem area.

The investigator's preparation for conducting interviews in a case study methodology was discussed since the investigator is the research instrument (Lincoln & Guba, 1985). This established credibility in the ability of the investigator to conduct this type of research.

Procedures for data collection and treatment of data were explained in depth. Qualitative researchers utilize methods different from quantitative researchers to establish reliability and validity. Methodology was explained in detail to show how the reliability and validity of the research was established.

CHAPTER IV

Analysis of the Data

Purpose

This study identified and analyzed factors which key Virginia community college personnel felt affected their college's involvement in customized training. The purpose was to understand how these factors affected the nature and scope of customized training. A multiple-site case study was used to obtain maximum variation when examining the factors affecting Virginia Community Colleges' involvement in customized training. Customized training was defined as training, associated products, or services which were developed or modified under a contract or other agreement with a specific client to meet the training, retraining, or upgrading needs of identified participants.

Summary of the Methodology

The three sites for the case studies were chosen to provide maximum variation according to geographic location, size of the college, and the business and industrial base of the college's service region. The sites were rural, urban, and suburban. College size varied from 1,500 to 63,000 Full Time Equivalent students and from 4,300 to 200,000 headcount. The types of businesses and industries were different at each site.

Administrative personnel at each college were selected for interviews. These interviewees were chosen based on their involvement with and knowledge about customized training. The interviews were approximately 50 minutes long and were tape recorded. The audio tapes were transcribed using a word processor. The word processor files were coded and analyzed with the assistance of the computer software program Ethnograph.

The three questions that were posed to guide this research were:

1. What are the factors which facilitate selected community colleges' involvement in customized training?
2. What are the factors which impede selected community colleges' involvement in customized training?
3. What is the relationship between the factors that impede or facilitate involvement in customized training and the nature and scope of the training offered by selected community colleges?

Findings from each of the case studies are described individually in this chapter followed by a cross-site analysis. Within each of the three cases, findings related to the proposed factors are presented first, followed by findings which were at variance with the proposed factors or which were outside those factors. Chapter Four concludes with a presentation of major themes which crossed over individual sites, both within the proposed factors and those which arose unanticipated from the data.

Preliminary Findings

Ongoing data collection revealed that the original factors proposed, based on literature and personal experience, were indeed the factors that emerged from the data. The factors that were tentatively identified from the literature and preliminary interviews were (a) philosophy, (b) leadership, (c) policies and procedures, (d) personnel, (e) infrastructure, and (f) resources. Geographic location, college size, and the industry and business base of the selected colleges were additional factors that emerged through preliminary interviews. These factors became the selection criteria for sites.

The examination of the homogeneity and heterogeneity of responses within colleges and across different colleges allowed identification of patterns. Examination of those patterns lead to the verification of factors that were influential in affecting the colleges' involvement in customized training. It was found that factors tended to serve as both

facilitators and impediments, depending on related variables. Instead of analyzing the factors separately, they were analyzed for each site and then across sites.

This was a qualitative study and it was difficult to anticipate the kinds of problems and challenges the researcher would encounter in the field. Changes from the original proposal are described.

1. While it was originally thought and proposed that certain documents available through the VCCS and the Department of Labor [DOL] would be useful in revealing the nature and scope of the involvement of the colleges in customized training, examination of those documents did not prove productive. Analysis of those documents was not included in the study. Other documents were analyzed when appropriate.

2. A direct accounting of the scope of customized training was difficult. The true scope of customized training was difficult to assess because colleges used different reporting systems and had different levels and types of involvement. Varying reporting procedures and record keeping had caused difficulties in other research but it was hoped that fieldwork would alleviate those problems. This proved not to be the case.

3. The interview schedule was modified to include presidents and provosts of the selected colleges. They were an excellent source of information on the factors that had an impact on the colleges' involvement in offering customized training to business, industry, and labor. Faculty were eliminated from the interview schedule since preliminary interviews indicated that faculty were not involved in policy and decision making.

Case One: Rural Community College

Description of the Case

Rural Community College is located in a rural region of Virginia with few large industries. Farming and light manufacturing (furniture) were the major employers. There were few large manufacturers. There was limited high-tech industry in the region. Machine technology was an important aspect of the training provided by the college for

local industry and there were excellent facilities for training at the college. Rural Community College had an enrollment of 1,555 FTE students and a headcount of 4,371 students in 1993-94. The service region encompassed five counties.

The researcher interviewed the: President, Dean of Instruction and Student Services, Director and Assistant Director of Continuing Education, Coordinator of Apprenticeship Related Instruction, and Chairpersons of the Departments of Business, Humanities and Social Science, Engineering Technologies and Mathematics, and Allied Health and Science. These interviews were audio-tape recorded.

Findings Related to Following Factors

Leadership. The leadership of the administrators at Rural Community College facilitated the college's involvement in customized training. There was an atmosphere of responsiveness to the community in an effort to improve the lives of the people in the college's service region. The situation at Rural Community College exemplified what can be accomplished through cooperation and sharing of resources. This environment was indicative of the leadership and philosophy of the President and other administrators at the college.

A commitment to fulfilling the mission of the college was stated by many interviewees. The college does provide training to the local industry and this training can be directly tied to economic development, according to the mission statement of the college. This was stressed in the Rural Community College Handbook:

The Rural Community College functions within the total community to assure that all the individuals in the college's service region are given a continuing opportunity to develop and extend their skills and knowledge through quality programs and services that are financially and geographically accessible.

The college offers services in occupational technical education, transfer education, Developmental Studies, continuing education, and community service programs in fulfillment of the mission of the Virginia Community College System.

The college meets community and individual needs by providing the opportunity for educational and training experiences through cooperative efforts with industry, business, professions, government, and other educational institutions, and through support of the economic development of the area (Rural Community College Catalog and Student Handbook, 1992-94).

Cote and Cote (1993) reported that the leadership of the president is the most important factor in turning an institution's attention to more direct involvement in economic development. This commitment was exemplified when the President talked about providing leadership for the institution and remarked, "Yes, we're committed to the whole mission and to fulfilling it to the greatest extent possible, given resources and opportunity."

There was an environment at Rural Community College in which people were cooperatively working toward the common goal of community good. Different departments and people shared resources and worked together as a team. The Dean of Instruction and the Director of Continuing Education felt this "culture" was due to the leadership and philosophy of upper management. This sharing made it easier for the personnel of the college to be responsive to the training needs of the industries and individuals in the community. Different departments not only shared resources, but they shared leads and contacts. This cooperative spirit made it possible for the college to offer more customized classes in various subjects.

Many instances of cooperation between the personnel of Rural Community College and the Apprenticeship Program were discussed in the interview with the Director of the Apprenticeship Program. Courses and entire curricula were designed or customized to fit the training needs of industry and their employees. This cooperation and sharing of

resources was attributed to the leadership and philosophy of the prior Director of Continuing Education.

Philosophy. The philosophy of the interviewed administrators appeared to have influenced the college's involvement in customized training. Many interviewees supported the college's involvement in customized training and stressed that this type of training was important for a number of reasons. The development of the people in the region was a major concern of the administrators at Rural Community College. These administrators stated that customized training was an important method to achieve this development. Many interviewees stated that the best vehicle to accomplish this development was through the credit mode of education. However, a possible impediment to providing customized training was that many interviewees thought curriculum programs provided the student with the best education and possibility for advancement.

The President thought the college's primary focus should be curriculum programs since those programs better prepare the student to be a more productive member of society. He believed that the emphasis on curriculum programs might limit resources for customized training. The overall philosophy of the personnel interviewed at the college was that the curriculum or degree programs take priority in the utilization of laboratories and space. The President also expressed his philosophy concerning the importance of the degree programs by stating that he believed the workforce would be improved if people transferred to a four-year college, got a bachelor's or master's degree and then returned to the community college for customized training if their jobs required it. He was not indicating that he had a negative attitude toward customized training, rather he saw a first priority in having students actively pursue a degree program.

The viewpoint expressed throughout the interviews was that the college should be involved in customized training. The Dean of Instruction and Student Services discussed the importance of customized training. The Dean stated that the college should not only respond to those who request customized training but should aggressively seek them out

and try to identify companies, businesses, agencies, and schools that may have training needs that are not being met by existing resources.

The personnel at Rural Community College were involved in the development of the people in the community in keeping with their philosophy. The President discussed the community college being an integral part of the community and the mission of the college as going beyond providing an education for transfer students. He stated:

The college has a responsibility to improve not only the educational level of the people in their service region but to improve them socially. This social improvement gives the citizens a social mobility that transcends the class structure.

The Chairperson of the Health Sciences Division discussed his perception that people are stereotyped by the manner in which they dress and talk. He felt that postsecondary education could lower barriers and enable people to escape the bondage of their class. It was important to him and others at the college that customized education improve the people of the community not only through improved job skills, but in intangibles such as self esteem, social consciousness, and social mobility. He stated, "It needs to assist the employee in becoming socially mobile; financially, culturally, and educationally."

An apparent "sense of community" influenced the nature and scope of the customized training offered by the Rural Community College. This sense of community was explored to gain an understanding of the priorities attached to customized training. Community meant more than economic development or the success of programs within the college.

The Director of Continuing Education at Rural Community College talked about this sense of community. He felt college personnel and local residents had become friends in developing a community. Community was deemed important, especially in a rural area. According to the Director, the industries and the community college had a mutual concern to develop solid relationships to better improve the community. The Dean of Instruction further illustrated this sense of community by saying that her philosophy concerning the college was that it is part of the community and its role in economic development was central to the mission of the institution.

The personnel at Rural Community College had a strong sense of community that was prevalent throughout the interviews. This identification with the people in the community was enhanced by the fact that faculty and administrators live in and are involved with the functions of the community. Involvement in the community entailed such things as belonging to various clubs or organizations. Community involvement was an important facilitative factor in customized training. Irvin (1990) found personal contact to be important to a college's involvement in customized training. It was important that personnel belong to community organizations, according to the Assistant Director of Continuing Education.

The survival of business and industry was seen as critical for the community and the individual. But a vision of developing the individual was the foundation of customized training within Rural Community College. This sense of community entailed meeting the training needs of industry but it went beyond training or educating a person for a specific job. The sense of community was evident in the consistent and uniform concern with the development of the individual. An accepted precept of this philosophy at Rural Community College was that as an individual became a better educated and competent worker, both the company and the community prospered.

The philosophy of the administration at Rural Community College affected customized training, and the philosophy of company officials influenced the type and amount of training requested by industry. Many companies requested that customized training be offered for college credit because they were making a long-term investment in their employees, according to the Chairperson of Engineering Technologies and Mathematics. Company personnel indicated that credit classes gave the employee an educational foundation on which to build. Company philosophy also influenced their worker's participation in the classes. Some companies supported its employees' educational endeavors with tuition reimbursement, the possibility of promotion, or raises based on accomplishments and grades.

The Chairperson of Engineering Technologies commented on why companies want customized training. He thought it was due to world class businesses competing with foreign markets and losing shares. As the technologies have increased to higher levels, for those companies to successfully compete they must keep their people trained in those newer technologies. He indicated that many companies wanted their employees to be cross-trained so that they could perform multiple tasks.

The need for customized training was discussed by the Dean of Instruction and Student Services. The Dean thought the variables affecting the need for customized training were the changing skills levels that were required to hold down a job, or to move into new job duties that did not even exist when many of these people were in school. Layoffs, cutbacks, and restructuring which resulted in the unemployment of individuals also created a need for ongoing training because those people were returning for additional training.

The Dean of Instruction and Student Services also indicated what the college could do to upgrade the work force and provide lifelong learning. He noted that changes in technology and changing job markets created a continuing and ongoing need for adults, throughout their careers, to learn new skills. "The best format in which to provide this education is to customize it to the needs of the individual."

The philosophy of the personnel at Rural Community College influenced the offering of customized classes as credit or non-credit. Consistent throughout the interviews was the opinion that credit classes were better. Development of the student was very important. Sequences of courses were developed to enable students to earn a career study certificate that was part of a certificate program that led to an associate degree. This was an excellent example of the concern for the development of the individual.

The credit mode of customized training was stressed because:

1. It was felt that students got a better education because of the increased rigor of a credit course and the required grading procedures.

2. Students experienced a change of mindset if this was the first college course they had taken. Many of these students went on to take other courses and some eventually attained degrees.

3. Credit courses could be included in a certificate or degree program and were documented.

4. Credit courses could be transferred to other institutions.

The President discussed his views on credit versus non-credit. He believed that credit courses were in the best interest of the employee. He stated:

I'm convinced that students get a better program and learn more if they are in the credit mode, because of the requirements regarding evaluation and because of the pressure that's put upon the students to actually perform--to show that they have learned these things.

Policies and procedures. Policies and procedures were perceived by the respondents at times to be impediments and at other times to act as facilitators to the college's involvement in customized training. Those policies and procedures which were viewed as important were the number of students required per class, development procedures for credit classes, credit versus non-credit, advisory committees, funding tied to the number of FTE students, and the cost difference between credit and non-credit classes.

The procedures required to develop and obtain approval for credit courses can be lengthy. This can increase the response time of the college to industries' training requests. The Chairperson of the Engineering, Technologies, and Mathematics Division observed, however that the state curriculum guide was so comprehensive and broad that a course fitting most training requests could usually be found.

Advisory committees were responsible for the college conducting customized training. Each occupational technical program was required to have an advisory committee that advised the faculty on training needed by industry. The company

personnel on these committees were the professionals and they knew what types of training were needed in their professions. The input from these committees had a definite affect on the amount and type of customized training that each program area conducted.

The size of the companies in this rural setting created impediments to offering certain types of training because of the difficulty in getting the numbers necessary to conduct a class. This was due to policies and procedures mandating a certain number of students for a class. Instances were cited by the Assistant Director of Continuing Education in which companies had worked cooperatively with the college to obtain the numbers required for a class.

The Continuing Education Director and the Dean of Instruction noted that a factor which fostered cooperation within the school was the absence of FTE student quotas for each department. The school had to achieve its targeted number of FTEs, but the personnel at the school worked as a team in achieving that goal. They were not competing against each other. This cooperation made it easier for different departments to respond to requests for customized training.

One of the major concerns of many people interviewed was the difference in funding between credit and non-credit courses. The Chairperson of Allied Health and Science discussed the difficulties caused by the lack of funding for non-credit training. He stated that it would certainly facilitate things if they didn't need to worry about whether courses were credit or non-credit. The majority of the interviewees felt that if non-credit activities were funded, they could do a lot more customized training. The difference in funding made it more attractive to offer courses in the credit mode. The Director of Continuing Education mentioned the cost savings to the company and student if the training was in the credit mode. This concern with credit was perceived to lower the flexibility of the college to respond to industries' need for customized training.

The Dean of Instruction and Student Services commented that a state-run budget closely tied to an FTE formula dictated the type of courses colleges offer. His opinion was that there was a tendency to fit courses into a credit format which was tied to a

particular program or course already offered. This situation created difficulties in offering other forms of customized training.

Personnel. The interviews uncovered many factors related to personnel which affected the nature and scope of customized training that Rural Community College offered. Quality of personnel, number of personnel, teaching loads and schedules of full-time faculty, and ability of full-time faculty to teach non-credit courses were factors which acted as facilitators or impediments to the college's involvement in customized training.

The quality of the personnel at the college was mentioned as a facilitator. The President stated:

The important thing is we have a number of personnel who have good background experience in the development of training programs, the development of curriculum and course structures, content, organization--that kind of thing. We have those in-house and so they're available anytime. We try to offer a comprehensive set of curricula so that means that we have personnel with backgrounds in many different areas. The customized training, I think, is for organizations across the broad spectrum. So having those subject matter specialists available is certainly something that facilitates it.

I think we also have good administrators, people who can manage the process, who have experiences and training in how to do that. That certainly facilitates it. So the availability of curriculum specialists, administrators, and the resources of the college in terms of the library and the counseling and the career information section all make it possible for the community college to be a very viable provider of customized training.

Most of the instruction for customized courses was provided by adjunct faculty, because full-time faculty were limited in the amount of non-credit courses they could teach, according to the President. Compensation for full-time faculty teaching non-credit

classes was "overload" or "by reducing their other load." An impediment to the utilization of full-time faculty in customized training was their teaching loads and the time frames of their work schedules. These factors limited their available time to be involved in customized training or industry contact.

Credit courses must be designed and developed by full-time faculty although the classes can be taught by anyone meeting VCCS criteria for the program area in which the class is offered. There were no standard procedures whereby faculty were compensated for developing classes. According to the President, full-time faculty would be given release time if the development process was lengthy. If it did not require a lot of time, faculty would be asked to do it as a part of their job as a community service. If full-time faculty members taught the course, their regular teaching load could be reduced or they could be paid for teaching overload. If adjunct faculty members developed non-credit classes, their only compensation was for teaching the class. Adjunct faculty were not compensated if the class was canceled.

Creative methods were used to staff and teach customized training. The President, when asked about the conflict between credit classes and non-credit classes concerning space, facilities, and faculty, replied that those were problems that could be solved. He mentioned that college personnel must be flexible enough and creative enough to solve those problems. He commented that there were spaces and people who could be used to meet those needs if they didn't get locked into the traditional method of delivery and scheduling.

A creative solution to enable full-time faculty to teach customized training was discussed by the President. An Advanced Manufacturing Technology Center was being designed on the concept of floating faculty. Those people will be employees of the Center and they may teach anywhere in the service regions of the five community colleges which comprise the consortium, day or night. If it is a credit course, it would be attached to that institution where the students come from. These people will move from company to

company, and they will not limit themselves to a given service region, even though the credit for the FTEs will go to the college of the service region where it is being offered.

The issues of teaching loads and the schedules of full-time faculty were discussed by many of the respondents. Both teaching loads and schedules were seen as impediments to utilizing full-time faculty to teach customized courses for credit. Faculty members in a program usually had a full teaching load, which consisted of 15 semester hours taught over a 15 week period. If faculty members taught in technical fields, there were usually laboratories or clinicals attached to their classes. This increased the work hours of the faculty members and made it difficult for those persons to teach other classes. Teaching schedules locked in the faculty members and made it difficult for them to participate in teaching other classes.

There was a consensus of opinion that the college could conduct more customized training if there were more personnel in the Continuing Education Department. An additional barrier to offering customized training was the time necessary to make contacts and set up the training. The shortage of personnel limited the amount of customized training in which Rural Community College was involved. There were resource restraints related to staff and the time they had available to make the contacts, identify the needs, design training and provide it. Customized training was not actively solicited because of the lack of personnel and resources. The college was responsive to the training needs of the industries in the region, but that training was usually offered by the initiation of the industry.

Infrastructure and resources. The physical infrastructure of Rural Community College did not seem to offer any impediments to the type or amount of customized training offered by the college. There were excellent facilities on campus for training and the college had created two regional centers to make training more convenient to industry.

Access to the facilities on campus for customized training was scheduled around the degree classes and laboratories. This situation limited the scope of customized training

offered on campus if the classes were in the non-credit mode. With creative scheduling this impediment could be overcome, according to the President. Facilities were empty at times and could be utilized for customized training.

The two regional centers which the college had created facilitated the scope and nature of customized training that the college could offer. According to the Assistant Director of Continuing Education, those centers made the training geographically convenient for industry because they were located close to industry. There were classrooms and laboratories at the centers. It was noted that the most sophisticated equipment had not been purchased yet, but that equipment was available at the college and could be relocated when needed. The Director of Continuing Education discussed agreements with companies which will enable the college to acquire that equipment when needed.

It was mentioned by the Director of Continuing Education that there were limited instances when the college did not have the equipment or facilities needed to perform the customized training requested. Good working relationships with industry allowed the college to use the company's facilities to conduct the training. There were also instances when companies loaned equipment to the college or made it available for use on-site after factory work hours.

Other aspects of the infrastructure that facilitated the involvement of Rural Community College in customized training were the Economic Development Committee, the Continuing Education Department, the Apprenticeship Program, and the Center for Economic Development. The President had established an Economic Development Committee comprised of people who conduct customized training, or who interact with industry and business personnel. This committee met periodically to share information and plan strategies concerning economic development and training needs.

The partnership with the Apprenticeship Program helped the industry, the college, and the student. The Apprenticeship Program facilitated training and educational services that were customized to industry needs. This type of customization was possible because

the college had a good working relationship with the Apprenticeship Program and the industry in its service region, according to the Director of the Apprenticeship Program.

The Division Chairperson of Engineering Technologies and Mathematics discussed sharing of classes and responsibilities with Continuing Education. Because Continuing Education was the outreach arm of the college dedicated to meeting the ongoing educational needs of the community, this sharing benefited everyone involved and affected the scope and nature of customized training offered.

Geographic location and size of companies. The geographic location of the school and the industries for which it provided training affected the nature and scope of the training offered. There were few large industries in Rural Community College's service region which limited the number or the scope of the training conducted. The time required to establish contact, set up training and complete preparatory work was essentially the same for a small company as for a large company. When small companies did not have enough students for a class to be taught, the person in charge of training had to contact more than one company to get enough enrollment for a class. Logistics and scheduling became more complicated when more than one company was involved.

The large size of the five-county service region impeded the number of classes offered because of the time required to travel from one business site to another, according to the Assistant Director of Continuing Education. Traveling between industries could often involve up to two hours of driving. This decreased the number of contacts the coordinator could make in a given time. Distance and time also created impediments for students, which affected the numbers participating in training programs. The Director and Assistant Director of Continuing Education thought this problem was somewhat alleviated by the establishment of two satellite training centers.

Summary

Rural Community College personnel stressed a sense of community in most interviews. Leadership was supportive of customized training not only as being important for economic development, but also to better prepare the student to become an asset to the community. Emphasis was placed on degree programs which were viewed as more effective in preparing the student as a productive member of society; financially, culturally, and educationally.

Credit courses in degree and certificate programs were customized to fit training needs and the regions industry saw benefits in employees actively pursuing degrees. Funding based on FTE student quotas created cooperation between departments to meet targeted FTE quotas. Curriculum courses adapted to fit customized training needs resulted in lower costs to companies and students.

Full-time faculty loads and schedules created impediments which resulted in adjunct faculty teaching most customized training offered by Rural Community College. A shortage of staff in the Continuing Education Department limited the amount of training offered. Training being offered was usually initiated by industry in the area who shared resources with the college.

Geographical distances within the large service area created the need for two regional centers to facilitate access for the remote areas of the region. Impediments were created when small companies lacked sufficient numbers of employees for customized training classes. The lack of large industries in the area affected the nature and scope of customized training offered by Rural Community College.

Case Two: Urban Community College

Description of the Case

Urban Community College is located in a large city. The population of the service region was 476,883. The major employers were service industries, retail trade,

manufacturing, and government. The enrollment of the college in 1992-93 was 6,243 FTE students and the annual unduplicated head count was 21,000 students (1993-94 figures were 5,817 and 16,083 respectively). There are three campuses and two Continuing Education Departments with one satellite center.

Persons interviewed at Urban Community College included the: President, Provost, Dean of Student Development Services, Acting Director of Public Relations and Economic Development, Director of Continuing Education (Downtown Campus), Director of Continuing Education (Center for Professional and Economic Development), Center Manager of the Exchange Place (a satellite center of Continuing Education), and the Chairpersons of the Departments of (a) Business and Public Service Technology, (b) Arts and Science, and (c) Health Technology.

Findings Related to the Following Factors

Leadership. Administrators interviewed at Urban Community College were supportive of the college's involvement in customized training. The leadership of these administrators seemed to affect the nature and scope of the customized training the college conducted. The Chairperson of the Health Technology Department, when discussing his views on management, made the statement, "I believe that management is the key to everything. The tone and status quo of the organization are set and determined by management."

According to the Director of Public Relations and Economic Development, the administrators at Urban Community College were very supportive of customized training. She noted that the President was "pro-industry" and supportive of industry training. The college was progressive and involved in many innovative ventures because of the leadership of the President. She talked about how supportive the administrators were of professional development; which directly effected the types of training about which instructors were knowledgeable and could provide. The President discussed one of the

major initiatives of the college which was a sophisticated technology center to train and assist the faculty in "developing ultimate methods for classroom delivery," which would include "virtual reality."

Discussing his views of education and the changes needed, the President stated that the college was not going to be able to do "business as usual" and needed to use new approaches to delivering educational services. He commented that everyone at the college must create innovative strategies to perform their jobs with existing resources.

When asked about his management style, the President noted that "Total Quality Management" was being practiced at Urban Community College. He discussed the planning taskforces for the college and noted that students, faculty, administrators, advisory committee members, and classified staff were involved. He mentioned that his style of management rewarded those people with an entrepreneurial spirit and gave them the freedom and support needed to implement their ideas.

We expect to move ahead. We understand, and the people here know, that I don't always expect us to be successful. If something failed, the way I like to put it, the sins of commission are acceptable. Sins of omission are not acceptable.

The President indicated he supported customizing more than regular training for business and industry. After teaching a developmental math class last year, he realized that it was a waste of the students' time and the college's resources to require students to take a complete course when they only lacked certain competencies. He thought students should be tested for required competencies and their classes customized to provide education in those areas in which they were deficient. The Director of Economic Development discussed the President's leadership and, "He is saying that as we look at alternative delivery systems, we will be able to customize what each student needs." This ultimate form of customization was also mentioned and supported by the Chairperson of the Health Sciences Department.

Philosophy. The philosophy of the personnel at Urban Community College had a definite affect on both the scope and the nature of customized training. All interviewees were supportive of the college's involvement in customized training. Policies and procedures tempered some individual's philosophy and changed the type of training offered. The different "mindsets" of technical and academic personnel were thought to be influential. Interviewees mentioned that philosophy had a definite impact on a person's involvement with customized training.

When asked if there was anything that kept community colleges from offering customized training, the President replied, "There is absolutely nothing out there that keeps you out of customized training, except narrow-minded people." He indicated that there were few of those people on staff, and that he had the best people in the world at the college.

The Chairpersons of the Departments of Health Technology and of Arts and Sciences cited the "mindset" of some personnel at the college as a major impediment to the college's involvement in customized training. The mindset of the people that concerned them were traditionalists, or administrators who usually had a liberal arts background. They commented that the aforementioned people have the point of view that a student must complete an intact program to benefit from and mature through the college experience. The Health Technology Chairperson understood their viewpoint, but he thought that there was a middle ground, "where those kinds of learning activities can be put into something that is self-directed, self-paced, and competency-based." His opinion was that this middle ground should allow the students to progress based on their ability and not be tied to a mandated time frame, which was cited as especially important in business and industry. One reason he deemed customized training important was to allow people the opportunity to progress at their own pace and not be held to a strict time schedule mandated by the system.

The Director of the Center for Professional and Economic Development mentioned that it was his philosophy, and that of the Provost, that appropriate business-related

training, customized training, and special training should have state dollars to help those projects. Their philosophy was that the training programs or classes should be for credit and that it was good for Virginia and good for Virginia's firms for classes to be for credit. He stipulated that the instructor must be qualified, lesson plans developed, and all other rules followed for credit courses. Offering training for credit was the mode of operation until the VCCS implemented the policy of funding colleges based on an established number of FTEs. The cap on funding meant that the college was funded for a maximum number of FTEs. Enrollment could increase but the college would not receive any more funding from the Commonwealth. The Director remarked, "At that point we started looking more at doing some non-credit self-sustaining activities and putting more direct costs into the formula." The policy of putting caps on the funding did not allow people involved with customized training the freedom to follow their philosophy. The majority of industry training was converted to non-credit and the infrastructure of continuing education was changed as a result of state funding policy.

Other interviewees agreed with the philosophy of credit classes being offered to industry because of the low cost of those courses. The Director of Continuing Education (Downtown Campus) justified offering customized courses for credit "because the state supplements those courses and small businesses can afford them." The Director was concerned that many small companies and individuals could not afford training without state support.

The Dean of Student Development discussed the change in industries' philosophy toward community colleges. "I've seen a lot of change in the way industry perceives us. They depend on us." According to the Dean, industries depend on community colleges for basic technician training and other types of education. The colleges are a "great deal" because they can provide the same training that external vendors provide, but at a savings of thousands of dollars to the company. Companies have found training provided by community colleges to be equivalent to that which they can obtain elsewhere, but at far less cost.

It was also noted by the Director of Continuing Education (Downtown Campus) that companies were requesting credit courses more often. Both the Director and the Chairman of Health Technologies discussed the philosophy of progressive companies. They noted that those companies wanted credit courses for their employees that would enable them to work toward a degree.

Policies and procedures. Policies and procedures seemed to have a definite impact on the nature and scope of customized training that Urban Community College provided. Funding, space utilization, and course length were listed as variables which might affect customized training. The funding cap based on enrollment caused a shift in courses from credit to non-credit. The lack of funding for non-credit training was listed as an impediment to involvement with non-credit training. The criteria for space utilization created changes in the location of training and the type of training conducted. The policy of requiring credit courses to be one semester hour or more decreased the flexibility of the college to conduct training for business and industry. Federal policies on limiting funding to only degree program courses were thought by many interviewees to affect the nature and scope of customized training that the community colleges of Virginia were involved in offering.

Policies and procedures caused the college to shift a majority of the classes in Continuing Education to non-credit in the summer of 1993. The confusion created by the lack of a coherent system of policies and procedures related to customized training was evident in conflicting reasons for offering industry training as credit or non-credit.

The President of Urban Community College described succinctly how he felt policies and procedures affected the nature and scope of the customized training which they conducted by stating:

Quite frankly there's been no incentive in Virginia to go with non-credit customized training. A lot of the states around us fund--granted, in many cases at a very low level, but still fund--non-credit economic development kinds of activities. In Virginia,

not only is there not state funding for it, when you do it, the rules and regulations, in effect pretend it didn't happen. In other words, if we run a non-credit automotive course all day long in a 6,000 square foot laboratory, as far as the state is concerned that laboratory was vacant that day. There has been a very strong disincentive to do non-credit type work.

The President talked about the loss of flexibility in offering partial credit hour courses for industry. At one time community colleges had the authority to offer partial credit hour courses. State Board policy was interpreted that a credit course cannot be less than one semester hour. This policy dictated the minimum number of days which a credit course may operate as two eight hour days, which caused a reduction in flexibility. He noted that the costs of sending an employee for training was more than the cost of tuition. The loss of production and the wages of the employees were much greater than tuition costs. The President stated:

The flexibility for credit has been tremendously reduced by making us go with at least a minimum of one full credit hour. So the only way you can go, if you're really going to serve business and industry and do economic development, you've got to go non-credit.

A positive affect on the scope and nature of customized training was that the college had greater freedom in the non-credit mode. The President stated that the college could go anywhere in the world, outside of Virginia, with non-credit. Examples were cited in which the college had conducted training in other countries, such as Yemen and Jordan.

The Provost, Dean of Student Development Services, and Chairpersons of the Departments of Health Technology and of Business and Public Service Technology talked about federal regulations mandating reduced funding for any student applying for free federal financial aid in a program not leading to a degree. Courses that were not part of a degree program or that were not 100 level or above would not be eligible for certain federal aid after January 1994. The aforementioned group thought this situation could

have a devastating affect on non-degree and non-credit customized training offered through Continuing Education.

The Chairperson of Health Technologies was concerned about many of the people attending community colleges and he felt this policy would turn many of them away. He declared, "Financial aid is absolutely essential for them to go to school." Noting that non-credit courses would be especially effected since they would not meet the criteria established by the government, those students would be denied financial aid.

The Provost and the Dean of Academic Development Services cited the reasoning behind the governmental action was to limit the amount of financial aid that proprietary schools were receiving. They perceived the community colleges being caught in a policy decision by the federal government because legislators did not fully understand the ramifications of their policy.

The policy of requiring a minimum number of students to conduct a credit class was cited as a possible impediment to offering customized training. The Chairperson of Business and Public Services Technology stated that this was a budgetary matter. He noted those budgetary matters restricted academic divisions from offering customized training. The terms "funding", "efficiency" and "productivity requirements" were used interchangeably. If the college could not justify running a class for less than the funding ratio, they were forced to balance the numbers with other classes or ask the company to pay the extra costs.

The Chairperson of Business and Public Services Technology discussed how the college scheduled and conducted classes as an impediment to the flexibility of offering customized training. Business and industry want an open-entry, open-exit configuration for training so their employees can expedite their progress through the educational process. The Chairperson stated that the college was not structured that way.

A faculty member gets paid based on X number of credits and we schedule those credits during a period of eight or sixteen weeks. How do we allow students to just

come in and out and not have a set number of students per faculty member for a given period of time?

His opinion was this policy impeded the college's ability to work with business and industry and to customize training to serve their needs.

When the VCCS established the policy of determining funding based on FTEs, that had an impact on the type of customized training offered. The cap on funding meant the college was funded for a maximum number of FTEs. Enrollment could increase but the college would not receive increased state funding for any FTEs above the established quota. The President mentioned that the college was over-enrolled 1,000 FTEs and it did not affect the college negatively to convert those classes to non-credit. The Director of the Center for Professional and Economic Development noted, "At that point we started looking more at doing some non-credit self-sustaining activities and putting more direct costs into the formula." The majority of continuing education training was converted to non-credit in the summer of 1993; and the infrastructure of Continuing Education, and the scope and nature of customized training offered, was changed as a result of state funding policy. The policy of putting a cap on funding based on FTEs did not allow college personnel the freedom to follow their philosophy.

The policy on space utilization affected the nature and scope of customized training that Urban Community College conducted. The President discussed State Council policy on space utilization. Because of this policy, non-credit courses were offered in rented facilities and credit courses were taught in college facilities. This is discussed in the section on Infrastructure.

Personnel. Personnel were cited as impediments and facilitators to the college's involvement with customized training. The consensus was that the majority of the people at Urban Community College were innovative and creative. Once again, the mindset of traditionalists was thought to be an impediment. It was stated that some people considered customized training just more work in an already overloaded schedule.

The Director of Public Relations and Economic Development noted an impediment to providing customized training was faculty who considered that being progressive, and working with advisory committees and industry people, as just creating more work for themselves. Some of these faculty members thought they were already overworked.

The President discussed the overall quality of the college personnel. He stated it was people that make a college.

It's just a matter of the mentality of the people, the energy of the people. If we can get the people with the right attitudes and the desire and the entrepreneurial spirit, then I can get the buildings and the equipment for them. The only thing that restricts us is people that resist change. People have to open their minds to new ideas and new approaches to things.

When talking about customized training he mentioned that anything was possible, except offering credit courses at the upper division and graduate level.

Infrastructure. The infrastructure of the college, both physical and organizational, was noted as being an impediment as well as a facilitative factor to the college's involvement in customized training. The college's facilities were noted as being inadequate for both the amount and types of training needed. The utilization of classrooms and facilities for customized training was directly impacted by policies and procedures. Although there was sharing of facilities, non-credit courses were invariably taught in rented facilities. Adequate facilities for non-credit training taught through the Center for Professional and Economic Development were being developed.

Non-curricular courses had been changed from credit to non-credit and were being taught through the Center for Professional and Economic Development. The Center was designed to meet the training and educational needs of business, industry, government, and professional organizations in support of economic development and community enrichment. The President observed that it would embody many of the concepts of the "Open Campus" or "Campus Without Walls." The President and the Director of

Continuing Education estimated the Center would exceed one million dollars of business the first year.

Non-credit training was being conducted in either rental or college foundation-owned facilities and the cost of those facilities was included in the pricing structure for the training. The President and the Director of the Center for Professional and Economic Development discussed the reasons for this change. According to them, VCCS space utilization policy does not count permanent facilities as being used if the classes are non-credit, as was noted earlier. If credit classes are offered in rented facilities the college is not able to count those facilities toward space utilization. The President explained that was why they were moving non-credit training to rented or leased facilities and the credit classes into the permanent buildings on campus. The overall affect on non-credit customized training was not clear since there was little opportunity to use on-campus facilities because of space limitations.

The college leased a shell building, and was equipping and furnishing it themselves. The cost of the training was computed using a formula that will enable the college to depreciate software every year, computers every two years, and furniture every five years. The reasoning was that the clientele the college is attracting for customized training requires an environment similar to one to which they are accustomed. The classrooms were being designed and equipped to be equivalent to the environment of the corporate world.

The Center was being marketed very aggressively and the President did not see any factors that would impede its involvement in providing customized training to people and companies throughout the world. According to the President, "There are no barriers if you have the right people working for you. People with ideas, and with the right support can accomplish most of what they attempt." It was interesting that Urban Community College has offered and taught courses throughout the world.

The President was establishing positions which would have a positive effect on the scope of customized training that was offered and generated by the academic divisions.

The college would eventually have people in Continuing Education who would be assigned the responsibility of liaison to each of the academic divisions. These people would facilitate the academic divisions' process through the myriad tasks of conducting industry training. They would take the ideas of people in the college and perform all of the background work associated with customized training, according to the President.

Resources. Resources were cited as a potential impediment to the college's involvement in customized training. The approach administrators took to solve the resource problem created by a deficit in funding had a profound affect on the nature and scope of the customized training offered. Funding caps based on enrollment meant no increase in funding even if enrollment increased. The interviewees stated that state funding was not sufficient for state-of-the-art technology. They noted that the cost of technology was increasing each year and the usable lifespan of equipment was decreasing because of technological innovations. One solution to these problems was to convert training to non-credit and for profit. Another approach was to develop partnerships with industry.

The Director of Continuing Education (Downtown Campus), the Dean of Student Development Services, and the Center Manager of the Exchange Place discussed problems created by a lack of resources when involved in customized training. The Chairperson of Health Technologies thought resources were a problem in all aspects of occupational and technical training. He observed that, "the occupational and technical people were going to take a beating" unless the General Assembly recognized that occupational education should be funded to a greater degree. Without an increase in funding, the occupational and technical programs would not have access to the equipment they need to teach in rapidly changing technological fields, hence partnerships with industry may be the only viable solution.

The Chairperson of the Health Technology Department was concerned that the community colleges would not be able to upgrade technology with the amount of money

that the Commonwealth was allocating them. The occupational and technical programs could be at great risk because of the expense of running those programs. The only way those programs could remain technically relevant was to form partnerships with industry, according to the Chairperson. They must be creative to attract money and equipment from industry.

The Dean of Student Development Services agreed with the Chairperson's approach. He thought that a possible solution to the lack of resources was to form partnerships with industry. Alternative approaches discussed were to (a) apply for national, state, or local grants; (b) develop a strong foundation; or (c) form an auxiliary enterprise. The solution that the Dean, President, Provost, and others agreed held the most promise was to form an alternative or auxiliary enterprise. This would lead to the creation of the Center for Professional and Economic Development and result in most of the Continuing Education credit courses being converted to non-credit and for-profit.

Funding for Virginia's community colleges is based on FTEs. Without an increase in funding, but with an expected increase in enrollment, the Center for Economic Development and Extended Learning was created. This auxiliary enterprise was formerly the college's Continuing Education Department and it now offers only non-credit courses. The Center's facilities will be either rented or owned and developed by the college's Foundation. Previously, Continuing Education had a "headcount" of 12,000 students, but received limited financial return because of the change in the funding policy. All of those courses became non-credit, and were "charged out" at the prevailing rate. The President and the Director discussed allowing the Center to retain "risk" or "venture" capital so they could respond to industry training requests in a timely manner. The Director noted that this would give them the capital to buy the latest versions of software and computers. This approach would facilitate the Center's ability to offer customized training to industry. A portion of the profits from those courses will be directed back into the academic programs after the Center becomes self-sufficient. This will allow the college to have a delivery system with state-of-the-art equipment, supplies, and materials.

Size of college. The size of the college affected the nature and scope of its customized training. The enrollment of the college meant that space was limited, both parking space and classroom and laboratory space. Since the philosophy of most people interviewed designated customized training to a lower priority than curriculum courses, crowded conditions meant that customized classes had limited access to on-campus facilities. This had a direct affect on the type of class and the nature of that class because of the enrollment at the college.

The President, when discussing the Center for Professional Economic Development, noted that it made no difference to the college when most of the business and industry training was changed to non-credit because the college was over-enrolled by a thousand FTEs. Inasmuch as the college was funded on FTEs, the enrollment of the college could determine whether classes were offered in the credit or non-credit mode.

Location of college. The location of Urban Community College enhanced the large number of potential students. Because the service region contained 475,000 people, the opportunities for training were described as being extensive. The location of the college was also listed as a facilitator of customized training because it was easy to get faculty from other colleges to teach as adjunct faculty. This was cited as one reason Urban Community College could offer many types of customized training.

Location was listed as an impediment by the Director of Continuing Education because there were many proprietary schools in the region offering the same type of training. If classes were offered for credit, then the community college had a competitive edge or advantage when competing with private industry in providing customized training. If the product was priced according to the market conditions, then the college might not offer the training in that mode.

Type of industry. The type of industry in the college's service region affected the type and amount of customized training offered. The Chairperson of Business and Public

Technologies discussed increasing instances of companies making long-term investments in the education of their employees. These companies were requesting credit classes that would be applicable to degree programs. The Chairperson also mentioned AT&T requesting credit training for people being laid off, but that was a combination of factors involving union pressure for intact training programs for workers who had lost jobs.

The Provost discussed the college being responsible for a company locating in the college's service region. The reason cited was that the college was able to offer customized training to provide the work force with the required skills and knowledge.

Summary

It was noted by many of the people interviewed that customized training was an important part of the college's mission. All of the people interviewed stated that the college should be involved with customized training and that it benefited the people and the companies in its service region. Much of the training had been shifted to non-credit but that occurred because of state funding policies rather than philosophy or the desires of college administrators.

Policy decisions at the state and federal levels were cited as factors that determined the nature and type of customized training that Urban Community College offered. Those policies affected the location of the training and even the people that could take the training. Federal guidelines on recipients of federal financial aid and courses that were eligible for that financial aid were listed as potential factors in the type of classes students would take and the format (credit versus non-credit) that the college would offer.

A state policy affecting the type and nature of training was the ceiling-level funding on FTEs. This created a situation where it was advantageous and necessary to change much of the training from credit to non-credit in order to provide the education needed by the people in the service region.

The inadequate level of funding provided to Virginia's community colleges has created a situation in which colleges need to develop partnerships with business and

industry in order to have access to the type of equipment required to teach state-of-the-art classes. Additionally, colleges may be required to develop auxiliary enterprises to obtain additional monies, not only for customized training but for classes in the curricula. This has created a situation in which there is an opportunity for the college to become very involved with customized training and to benefit the other programs by providing additional revenues through their money making endeavors.

Case Three: Suburban Community College

Description of the Case

Suburban Community College is located in the suburbs of a large city in Virginia. It is the largest community college complex in Virginia with five campuses. There were 63,000 Full Time Equivalent students and 200,000 non-credit students in 1992-93. The Extended Learning Institute provided extensive distance learning opportunities. The government and military were major employers in this region. Other employers in the region were high tech service industries. There was limited manufacturing.

The researcher interviewed the: President, Interim Provost, Dean of Academic and Student Services, Director of Continuing Education, Associate Dean for Curriculum Services, Associate Dean of Planning and Institutional Effectiveness, Director of the Extended Learning Institute, Associate Dean of Institutional Technologies and Extended Learning, Director of Facilities Planning and Support Services, and Chairperson of the Department of Business. These interviews were audio-tape recorded.

Findings Related to Following Factors

Leadership. The importance of leadership at Suburban Community College and how it affected the nature and scope of customized training was mentioned as facilitative and

impeditive. Several interviewees stated that the top management of any community college influenced the type of training provided by the college.

The leadership of the President was seen as a facilitative factor affecting the community college's involvement in customized training. The President stated that the college's mission was to provide whatever instruction the local community needed. According to the President, "You've got to have folks in leadership positions who let you go out and do what you do best. You've got to take risks. That's what an entrepreneur does." He noted the only thing which kept community colleges out of customized training was lack of initiative.

To attract industry into an area there is a need for a strong economic development authority, and the President indicated the college faculty and administration should be involved in its leadership. He observed that the expertise of the faculty and the administration would facilitate industry recruitment into the area.

The Director of the Extended Learning Institute was concerned that the mission to do customized training wasn't uniformly accepted or applied by all community colleges. He noted training services available to industry were dependent on the location of the company and that, although all colleges have the same mission, each president interpreted that mission differently. The Director stated that, "Leadership has a lot to do with it. If that's important to the president then the college is involved extensively with customized training. When a President is a strong believer and advocate of training, his institution reflects it."

Philosophy. The philosophy of the administrators interviewed affected the nature and scope of customized training offered by Suburban Community College. The importance of customized training and the benefits to the college were mentioned by many of the interviewees.

To the Director of the Extended Learning Institute, the word "customized" was the correct word. "To me it has the connotation of treating these people as the customers,

which we should." He thought the process of cooperatively developing customized courses benefited the company and college. The company received the training they needed, and the college gained access to the resources needed to perform customized training as well as knowledge of what the company's training needs were. The Director commented that involvement in customized training was critical for the economic base of the Commonwealth.

The Dean of Academic and Student Services, when discussing customized training for industry, cited it as an integral part of the community college's mission. He noted that older students working full-time in the business and corporate world were very much a part of the college's constituency. The Dean and the Director of Continuing Education discussed high rise corporate office complexes where 15,000 people commute each day. These administrators thought classes should be offered at those locations at times convenient for the workers. According to the Dean, the next master plan would include the concept of having a community college center in each commercial location. With access to teleconferencing, satellite capabilities, and short range transmission of video data, the Dean hypothesized that the college could provide training to corporate areas without sending faculty members to off-campus locations.

The Associate Dean of Planning and Institutional Effectiveness agreed that the need for retraining and cross-training was important. Companies "downsizing" were creating different job duties or layoffs and were increasing the need for customized training. The ability of the community college to provide training for industries locating in the region was being used by the area Chambers of Commerce as a recruiting tactic to attract industry to the region.

The Director of the Extended Learning Institute questioned the economic development opportunities the college was missing by not being involved more in customized training. He saw vocational training as an "engine of economic development" and the economy of the future dependent upon knowledgeable workers.

According to the Dean of Academic and Student Services, there was a real potential in providing customized training for industry. To fulfill the college's community service mission, he concluded they should provide more customized training. The Provost agreed and mentioned that the Continuing Education Department was a facilitative factor that effected the VCCS offering customized training because its mission was to determine industry training needs and provide it if possible.

The Director of the Extended Learning Institute believed the community colleges were the institutions to provide most of the customized training. He didn't know how the colleges were going to get the funds or the time to do the training, but "I think there are a lot of people in the community colleges who want to do it. In our institution, they are disappointed to see us moving more and more to transfer programs." He saw the balance between transfer and vocational shifting, and that as the college started losing the vocational training, it became more of a junior college. According to the Director, most college personnel supported industry training and were not at the community college just to be involved with transfer programs.

The Director of the Extended Learning Institute did not think the community colleges could continue "business as usual." Elaborating on that concept, he mentioned that colleges could not afford the technology that companies have in the workplace and must look to resources in the community that can be used for instruction. For colleges to provide training on state-of-the-art equipment, they needed to form partnerships with companies in order to use the companies' equipment and personnel for training. The Director noted that otherwise the colleges would not be able to provide the types of customized training on the equipment that companies need.

Competencies, instead of seat time for degrees and credits, are being examined by the State Council. If Virginia's community colleges move in that direction, then customized training will be the norm, according to the Associate Dean of Curriculum Services. College personnel will assess applicants' skill portfolios, and then teach them precisely what they need. The Dean wondered if education in the 21st century will become more

flexible where people will be diagnosed and an individually customized training plan developed for them. The Dean discussed the capabilities of the Extended Learning Institute at Suburban Community College and the possibilities of using print-based, computer-conferencing, telecourses, and other kinds of distance learning in customized training. He suggested that the most flexible educational approaches available should be used, and questioned whether colleges will be responsive and adapt new educational techniques as technology enables education to be delivered in different modes.

The Director of the Extended Learning Institute thought faculty would adapt alternative delivery modes of instruction. He thought that alternative delivery modes of instruction to companies could be provided by having faculty members teach a third of the contact hours on campus and the other two-thirds through distance education technology with computer conferencing, voice mail, or video. He thought there were good opportunities for customized training being provided via distance education delivery modes and that business would embrace this concept.

The President and the Associate Dean of Curriculum Services discussed training programs which the college and industry had cooperatively designed. The programs included on-site training with the companies selecting the courses in the program and the college granting the degree to fit into their degree structure. Intermediate steps, where both the college and the company provided certificates before the degree, maintained student interest and involvement. The President discussed the importance of keeping students involved and interested in pursuing a degree. His concern was that it can take a working student three or four years to obtain an associate degree. Often they become discouraged and drop out of the program. Numerous career studies certificate programs in a variety of fields tied to certificate and associate degrees have been designed by college personnel. The courses in these career studies certificates applied toward a degree.

The Associate Dean of Curriculum Services talked about the philosophy of trade unions which have different training needs. The Dean's comments were that, "The unions want a competency-based certification of skill and a degree is not their goal." According

to the union's philosophy, it did not matter if classes were non-credit or credit. They wanted classes customized to meet their specific competency needs.

A facilitative factor affecting customized training was the acceptance of portfolios by the administrators of Suburban Community College. The President, when talking about Credit for Prior Learning [PLACE], said they were the first in the state to accept portfolios and had with initial resistance because of the novelty of the concept. They had an intact system with faculty workloads calculated on the basis of ten portfolio reviews equaling one credit hour. The student could count a maximum of 15 credits of life experience toward a degree.

The Dean of Academic and Student Services noted the concept was developed 10 years ago and was readily accepted. The federal agencies accepted it because many people working in the federal government have developed skills and expertise but they might not have any formal training. They had earned certificates, attended conferences, and given speeches, but had not attended college. Determining competencies and giving them credit for those competencies provided those employees an opportunity to progress to their next level of education. This gave college personnel a procedure to develop customized individual training plans in concert with the portfolio to enable students to achieve career goals and obtain a degree.

A common course numbering system throughout the Commonwealth would facilitate the acceptance of portfolios, according to the Associate Dean of Planning and Institutional Effectiveness. A common course content analysis agreement should be developed statewide and all schools in the Commonwealth could accept that course because the content had been standardized for that course number. That would facilitate acceptance of a course throughout the state, at the community college level and with the four year institutions.

The President discussed his philosophy concerning the status of courses less than one credit.

We've never given credit for what should be non-credit. We never have taught with partial credit at this institution. I thought it was wrong and I never permitted it to happen. We provide 75% of the all the C.E.U.s in the whole state at this college. That's because we've always emphasized non-credit. We didn't need more credit because we have 63,000 credit students. But we have 200,000 non-credit students. It's a money-maker. We supplement our budget by three or four million dollars a year by just the overhead that we get off the non-credit.

When asked if small companies that could not afford customized training or non-credit fees would be denied training, the President countered that the college could adjust fees. It could charge high fees for those who can afford it and have introductory fees for those who can't. On an average, 130% of costs was the normal fee.

The space issue was discussed in numerous conversations. The President noted that credit classes in programs were given first priority on space usage. This meant that customized classes, either credit or non-credit, were usually taught in facilities other than on campus. Limited access to classrooms and computer laboratories effected the nature and type of customized training offered. The space issue was cited by the Director of Continuing Education as an impediment when offering customized training. This factor surfaced in discussions on infrastructure, policies and procedures, and space issues.

Policies and procedures. Policies and procedures were perceived by the respondents to act both as facilitators and impediments to the college's involvement in customized training. The policies and procedures which were viewed as important were credit versus non-credit courses, development procedures for credit classes, the number of students required per class, advisory committees, funding tied to the number of FTE students, service area boundaries, space utilization, laboratory fees, and the cost difference between credit and non-credit classes, especially in accessing distance education facilities.

Federal standards for minimum levels of education also influenced the types of customized training provided.

The President observed that there were a lot of things that facilitate the college's involvement in customized training. "If you begin with non-credit, you have considerable flexibility as to what you can do. You can do all kinds of creative things."

The Associate Dean of Planning and Institutional Effectiveness thought the system was not flexible enough to allow the college to be responsive to training requests from industry. In conversations with Continuing Education personnel she had been told that rules and procedures were cumbersome. A situation under scrutiny was one which occurred when a company and the college paid equal portions of a faculty member's salary to enable the teacher to teach low numbers in two classes. Student retention required identical course content so that fire fighters attending a class and responding to an emergency could attend the next class. The Provost also discussed this aspect and mentioned that the restrictions of working in a state bureaucracy impeded the quick action and flexibility useful in offering customized training to the industries of Virginia.

A related factor that impeded involvement in customized training was the numbers required for classes, according to the Associate Dean of Planning and Institutional Effectiveness, the Provost, and the Director of Continuing Education. Suburban Community College's prescribed number was 22 students per class and was based on an enrollment-driven formula. This was seen as an impediment when attempting to offer customized credit classes to industry. If the company did not have the required numbers for the class, the alternative was to change the class to non-credit.

The Associate Dean of Curriculum Services, Dean of Academic and Student Services, Director of Continuing Education, Chairperson of Business Division, and the President discussed development procedures for credit and non-credit customized courses. They agreed that it was very time consuming to get a credit course approved within the VCCS. This was mentioned as a factor affecting whether customized courses were

offered for credit or non-credit. The system provided the flexibility to offer training in different modes but the approval process for credit courses was very lengthy.

Credit courses had to be developed by full-time faculty and follow this development procedure:

1. The faculty at a particular campus develops the course in a preliminary stage.
2. A discipline cluster made up of the faculty of the five campuses evaluates the course.
3. The college curriculum committee approves or disapproves the course.
4. If approved, the administrative council, which was comprised of the President, the Provost and others, evaluates the course.
5. It is sent to the VCCS for review and approval.

If the course was on a trial basis or would be taught for a short period of time, there were special topic numbers that could be used to circumvent the approval process. These were included in policies and procedures to enable community colleges to respond to training requests in a timely manner. These courses only required internal approval within the division on campus and by the Provost. If the course was taught for more than a year, it must go through the approval process.

Interviewees also mentioned the flexibility of variable credit courses and how those courses facilitated being responsive to industries' requests for customized training. The length and content of the course material could be modified to meet the training needs of each company.

Non-credit courses did not need to go through an approval process. The President commented that faculty teaching non-credit courses were free to be creative. When asked about compensation for adjunct faculty who developed courses for non-credit, the President responded that they were entrepreneurs and developed courses without compensation. The Director of Continuing Education agreed but stated that she paid the teacher and billed the company if a customized class required extensive customizing and site visits.

The federal policy concerning courses eligible for Pell Grants was seen as affecting the nature and scope of customized training. The Associate Dean of Curriculum Services described a customized training program for the Homebuilder's Association in which they were concerned about students being eligible for Pell Grants. The Dean of Academic and Student Services observed that if a course was not in a degree program, it would not qualify as part of a student's enrollment status for financial aid. This federal policy influenced decisions made on the courses included in the program because they had to be careful how the program was structured. Both Deans declared that this could be an impediment to offering customized training if the classes were not in a program.

The Dean of Academic and Student Services commented that the college does not receive funding for non-credit courses. This is one reason the college provides training in the credit mode. Many businesses wanted training for credit as an incentive for their employees because it could lead to a degree. They viewed it as a professional development reward. Some employees did not care whether courses were credit or non-credit. The Dean noted that if they could get approval to fund non-credit courses funded similar to credit courses, they could better serve the business community and promote economic development.

The Chairperson of Business Division commented that the lead-time needed to plan schedules was a deterrent to offering credit classes in industry. Credit classes in programs were scheduled months in advance and assigned space. This precluded having access to classroom space for industry classes unless those customized classes were planned months in advance.

The Associate Dean of Technologies and Extended Learning stated that, "The community college ought to be a window on the world, where they are the broker of training opportunities." He discussed factors that prevented or impeded the utilization of existing technology to provide that window.

The VCCS has the capability of doing distance training from within the system, not from every college, but from within the system. A limitation is that the colleges are

not interconnected, which makes it difficult for all of the colleges to participate.

There's unequal distribution of technology and access to the technology. That creates limitations. And the relationship of continuing education to distance education is not clearly specified. Service area boundaries can also create problems.

The Associate Director of Technologies and Extended Learning discussed the relationship of Continuing Education and distance learning. He asked, "If Continuing Education wants to use the Extended Learning Institute's facilities to develop non-credit courses, what are the costs that they should have to pay?" His understanding was that the facility was created for the credit programs and that Continuing Education would have to pay all direct costs if they wanted to use the Extended Learning Institute. He cited increased costs and limited access to the college's technology if the course were offered through Continuing Education and for non-credit.

The service area boundary issue was a limitation to utilizing technology to its fullest potential, according to the Associate Director of the Extended Learning Institute. Providing training for companies statewide raised questions concerning (a) who received credit for the FTEs, (b) where the revenue went, (c) how were the development costs charged out, and (d) with whom did the Extended Learning Institute negotiate in each service region? These issues are emerging as the capability to provide training worldwide becomes available. The Associate Director declared that these were policy issues the VCCS will need to deal with in the near future.

The Virginia Distance Education Network Plan established procedures to account for credit classes offered statewide. On the non-credit side, the colleges did not have procedures set up to share resources. Every time they developed a non-credit course and offered that course across service area boundaries, they were required to negotiate a new agreement with each college. The Associate Director of Technologies and Extended Learning deemed that as an impediment to offering customized training via the Extended Learning Institute and impeded the development of a customized course once and sharing it.

The utilization of technology, according to the Associate Dean of Technologies and Extended Learning, could be used to provide training more efficiently instead of increasing services. His opinion was that technology was one way of everyone winning. Discussing customized training as being typically low-enrollment, he wondered how the college could make room in the curricula and budget for customized training. He observed that technology was one method, but sharing between service areas was another way of increasing services and productivity. According to the Associate Dean, the service area boundary issue and the coordination of training would require a tremendous effort and the lack of a person at the state-level to coordinate training was an impediment to utilizing distance education technology. He cited cost factors and revenue issues as even more confusing when customized training was conducted across service area boundaries. He saw this as a dilemma that was not prohibited by state policy but more from the lack of creativity of the college personnel.

An issue that could directly impact the college's involvement in non-credit customized training emerged when the Associate Director of Technologies and Extended Learning discussed community colleges competing with private firms. If the college offered non-credit courses and used adjunct faculty, private firms providing the same training could protest. Community colleges were, by policy, not supposed to compete with private firms in offering training. If the course was for credit, he thought that there was no cause for concern.

The Associate Dean of Technologies and Extended Learning said the funding model for full-time faculty made it difficult for them to be involved in customized training or other economic development activities. When faculty members must teach five classes for a full workload, it makes it difficult for them to be involved with customized training. He noted that if a full load could be satisfied by three courses plus optional duties, faculty could be involved with volunteer and economic development activities. The college could become more involved and play an important role in the community.

The Chairperson of the Business Division thought full-time faculty should be able to use the teaching that they do in industry as part of their regular load. The Chairperson concluded the college was losing an opportunity for synergy that exists when a qualified faculty member teaches in the community as well as in the classroom.

The inability of community colleges to charge laboratory fees might limit their offering of credit courses that utilize expensive laboratory supplies, according to the Provost. He thought this factor might have future ramifications affecting the types and amount of training provided because of the high costs of hands-on laboratory instruction. Non-credit courses do not have those limitations because Continuing Education could include those costs in the bid price of the class.

The Chairperson of the Business Division observed that requiring curriculum advisory committees in each occupational-technical curriculum was very helpful and that they kept college personnel current. The Associate Dean for Curriculum Services mentioned that the college has to continuously look for opportunities for faculty to work with industry. The college administration encouraged their advisory committees to be active in programs and the faculty to communicate continuously with the advisory committees.

The Associate Dean of Academic Services noted that federal standards requiring minimum levels of education for certain jobs have to be met and that these standards have determined to some degree different types of training that the college provides. Federal regulatory agencies have increased the need to provide customized training in many occupations.

Personnel. Many factors related to personnel affected the nature and scope of customized training that Suburban Community College offered. Quality of personnel, number of personnel, teaching loads and schedules of full-time faculty, and the ability of full-time faculty to teach non-credit courses were factors which acted as facilitators or impediments to the college's involvement in customized training. The Director of

Continuing Education, acting as the liaison for business and industry, was mentioned as a facilitative factor.

Because this region is the high tech center of the East Coast, there was no problem in hiring qualified instructors in the new technologies. A problem, according to the Associate Dean of Research and Institutional Effectiveness, was the inability to compete with the high salaries which private industry pays in the area. Full-time faculty for many positions were difficult to find because of the wage differences between private industry and the community college system.

The President observed that they were fortunate in where they were located because they have few problems in getting very highly-qualified faculty who don't teach for the money. The adjunct faculty teach because they want to, otherwise the college could not afford them. He cited examples of presidents of high-tech companies who had served on the State Board of Higher Education and on the Foundation. Many of these people were involved in teaching. The Provost also mentioned that competent people to provide training were readily available. The Associate Dean of Research and Institutional Effectiveness observed that many adjunct faculty were committed to the college. It was also noted that it was necessary to use adjunct faculty if the content of the course was something that was not taught in the regular programs.

The Director of Technologies and Extended Learning observed that if the course was offered during the day, the best adjunct faculty were not available because they work during the day. He commented on the difference between credit and non-credit instructors and said, "If you go non-credit, then you have limited your access to your best teachers, your full-time faculty, the people who have gone through a competitive job application procedure, whereas adjuncts can be hired off the street."

The Associate Director of Technologies and Extended Learning was concerned that the college was neither staffed nor was there a return on investment that encouraged college personnel to do high quality customized training. He wondered how Continuing Education or non-credit education could be funded so that these components didn't need

to buy the expertise needed to teach their classes. Other interviewees agreed that full-time faculty should be involved in customized training, to utilize that vehicle as an opportunity to develop professionally and to network with industry personnel. According to the Dean of Academic and Student Services, college personnel wanted to provide customized training and they understood what to do, but the colleges lacked the staff to take the initiative and provide the training which was needed.

The Director of the Extended Learning Institute and his staff discussed different methods of working directly with companies and were receptive to providing training via the Extended Learning Institute. Unfortunately they did not have the staff or resources to start a new endeavor. He observed that there were many opportunities to work on location with companies as well as provide distance training.

The Director of Technologies and Extended Learning and the Director of Continuing Education discussed the aging faculty of the VCCS and commented that the VCCS is at a dangerous age where many faculty have 15 or more years of experience. They observed that many of these faculty members were not interested in working with industry or working overtime. Because of rapidly changing technology and limited professional development opportunities, some full-time faculty members have not kept technologically current. The Directors felt that these faculty were a group which the community college could not use to provide customized training. The Associate Dean of Curriculum Services also concurred that if faculty did not have the skills to teach state-of-the-art training in industry, then the college was limited in its ability to provide customized training for companies.

The Chairperson of the Business Division expressed her concerns about adjunct faculty teaching non-credit courses in continuing education. These faculty were not required to meet the same education and experience criteria as full-time or adjunct faculty members who were teaching in credit programs. Her concern was that problems might arise if students and companies did not understand the qualification differences between

full-time professors teaching credit courses and adjunct faculty teaching non-credit courses.

The Director of the Extended Learning Institute thought faculty was one of the facilitative factors in a community college being involved in customized training. He wanted full-time faculty to have as much opportunity as possible to teach customized classes for industry. He saw it as a challenge to faculty and important for their professional development. The Associate Dean of Curriculum Services agreed that it was important for faculty to teach in the workplace for the same reasons. The Chairperson of the Business Division also said that performing customized training on the industry's site could supplement money spent on formal professional development activities as well as free up classroom space on-campus.

Requiring full-time faculty to teach five courses or 15 credit hours impeded their involvement in customized training, according to the Director of the Extended Learning Institute. He indicated that this course load limited their opportunity to consult and be involved with industry. Another impeding factor he mentioned was that full-time faculty who taught overload or continuing education non-credit courses experienced a decrease in their pay.

The staffing for Continuing Education was determined by the revenues it produced. Continuing Education was a profit-generating endeavor which could hire as many people as it could support financially. The Director of Continuing Education added that the only support from the state was the Director's and secretary's salaries. The President observed that the size of a Continuing Education Department was only limited by the initiative of the staff. He commended the Continuing Education staff at Suburban and mentioned their entrepreneurial spirit and the ventures in which they were involved. The Director thought an impediment to growth was the lack of "seed money" or "venture capital" to establish satellite centers.

The Associate Dean of Technologies and Extended Learning discussed the Extended Learning Institute. He cited that there were 45 faculty offering 80 courses to 3,000 students a semester. These were credit courses and counted as faculty workload.

The reason is, and we base it on number of students so, that from 20-45 they get three credits, or the equivalent of one class. From 45 to 90, they get credit for two classes. Then we go credit-and-a-half increments after that. So it's a little bit higher than on campus. But when you figure the lack of having contact hours, it's fair to the faculty. It's extra work to develop the materials. We don't pay them for that anymore. But it's a day job, and it's an office job. We provide a lot of support, both moral and clerical, to help them do that job for us. Instead of having to go teach in front of a class for that extra three credits, or teach another night, or teach a weekend class, they can do it here. They're still serving the student who might not be able to come during the day. But for many of them, this is a very good way to get an extra three or six credits toward workload.

Another innovation, according to the Director of the Extended Learning Institute, was that there were faculty at the Institute whose job it was to teach and assist other faculty. He noted the President had to make a decision on how they were going to staff the Institute so that they could achieve the productivity ratios that technology has made possible.

The Associate Dean of Technologies and Extended Learning discussed the need for regional centers of technology and extended learning. Instead of having just one person at a college, his premise was that there should be a group with differing expertise. The Associate Dean thought it important that there be opportunities for sharing expertise. He observed that it was difficult to utilize technology to its fullest potential if a person was working in isolation. He was concerned that, "When you have colleges in the VCCS that don't even have an audiovisual person, it's tough to talk about teaching technology because there's nobody to help them." When asked about floating faculty, the Associate Dean of Learning Technologies and Extended Learning responded there was nothing in

state policy that prohibited a faculty member "floating", or not being assigned to a specific campus. He thought it might benefit some colleges if they had access to "experts" who were not assigned to one campus.

The Associate Dean of Curriculum Services noted that most of the automotive dealership programs sponsored a faculty member. There were certain benefits associated with the automotive program. Access to their facilities for training was a very important consideration. Also there was a cooperative education component to the program in which students had to be sponsored by a dealer in order to get into the program, facilitating job placement.

Infrastructure. The infrastructure of the college was seen as both facilitative and impeditive when offering customized training. The physical infrastructure was mentioned as an impeding factor, except for the Community Cultural Center and the Extended Learning Institute. The organizational structure was also facilitative and impeditive, with the Continuing Education Department providing needed personnel and contacts in industry.

As mentioned previously by the Associate Dean of Learning Technologies and Extended Learning, the VCCS has the capability of providing distance training from within the VCCS but not from every college because of the unequal distribution of technology and access to that technology. Suburban Community College had the facilities and manpower to provide distance training in many modes, especially through the Extended Learning Institute, according to the Director of the Institute and the Associate Dean.

The Dean of Curriculum Services discussed the importance of having good working relationships with the business community and Continuing Education. The structure of the System facilitated those contacts being made because Continuing Education was a fund-generating endeavor for the college. This, he indicated was an incentive for Continuing Education personnel to build good relationships with the business community. Through maintaining good relationships with the rest of the college, those contacts were

shared. The Director of the Extended Learning Institute thought that having a Continuing Education Department was a facilitative factor affecting the college's involvement in customized training because staff and faculty went out and met with the business community, developed the course content, and found faculty who could teach the course.

The Community Cultural Center was a Foundation-owned complex consisting of a gymnasium theater, conference hall, meeting rooms, and offices for Continuing Education. The Director of Continuing Education remarked that the Center was utilized for customized activities, but use of the Center was shared by the college and Continuing Education. The Director thought the availability of the Center was a facilitative factor in conducting some types of customized training, but there was a limitation because none of the space was designated solely for training purposes.

The Director of Continuing Education discussed the lack of space to conduct non-credit customized training. She wanted to establish a satellite center to make training more geographically accessible to employees of a large corporate complex. Urban Community College had supplied seed money for Continuing Education to lease and equip a building. The Department would need to reimburse the Commonwealth because Continuing Education is a self supporting enterprise. The Director wanted to replicate this idea and she stated that the VCCS should make venture money available to continuing education departments. Being allowed to carry over profits was allowing her options not available before.

The President discussed the structure of Continuing Education and the flexibility that it provided the college when conducting customized training. When discussing staffing, the President observed that Continuing Education could hire as many people as it could support. The Continuing Education office on his campus were entrepreneurs and had a large staff.

They are paid for by revenue that they generate. They establish the fee based upon the market-place so it's strictly free enterprise. Overall, they have to generate 130% but they can charge whatever the market will bear. It's strictly a business operation.

When asked about access to space and facilities, the President stated, "We accommodate the credit program first. Any available time and space goes to the non-credit program." Out of the revenue that continuing education had generated, the college added a computer laboratory which could be used by the non-credit program, but the credit program still had first priority.

The Dean of Academic and Student Services discussed distance education and the college's capabilities. A grant had enabled them to develop and deliver a complete degree program through the Extended Learning Institute. Students were not required to attend any classes on campus. He viewed it as ideal for the disabled, senior citizens, incarcerated people, persons who are confined to their homes, or women who have young children at home. He mentioned that students could tape the programs and watch them at their convenience. He thought distance education had real significance for working with business and industry because corporate people appreciated this type of approach and flexibility. The Dean of Academic and Student Services stated:

Many of the high tech companies are very accustomed to satellite transmissions and teleconferences, so it fits right in with things they understand. It ties right in with customized training because it's customizing the whole process; the teaching method, the delivery method, and the scheduling.

The Associate Dean of Planning and Institutional Effectiveness, the President, and the Chairperson of the Business Division discussed many degree programs that were offered on-site. Some programs were implemented in 1985 and are still functioning. The Associate Dean of Planning and Institutional Effectiveness discussed the merits of the automotive dealership program by saying, "It's wonderful for the student. They're going to school, they're getting a degree, they're working and making money. And if they're good, they get a job when they're done." Many of the industries sponsored a faculty member. The benefits to the college were the use of a facility for training which was equipped with the latest technology and equipment, increased FTEs, sponsored faculty positions, improved reputation, and a proven training ground for interested faculty.

The President was concerned with a lack of space. At two of the campuses, there were more classrooms off-campus than on-campus. Space was cited as a continual challenge by the Director of Continuing Education. Concerning the State Council's space utilization guidelines, the President observed that non-credit instruction could be counted for space utilization providing it was designated as non-credit instruction. Other interviewees were not aware that they could use non-credit space utilization towards additional facilities. According to the President, it did not make any difference where the space was, it was still tied into the space utilization guideline, whether it was on-campus or off-campus. The college could justify on-campus space because of the amount of off-campus space that they used.

The Director of the Extended Learning Institute was concerned that the college would never be able to buy the equipment needed on campus to train technically competent technicians. He remarked that equipment changed too fast and cost too much for the colleges to be able to provide laboratory training on-campus.

Vocational programs have to conduct more of their classes on the worksite. The instruction has to go there and the faculty have to go there. That's where the technology is. It's got to go away from the simulated technology of the classroom to training within the worksite and using technology that's there.

He noted that it was imperative that the college cooperate with companies and other institutions in order to provide vocational training and that the college would not be able to provide that training on-campus.

Resources. The lack of resources was an impeding factor limiting the college's involvement in customized training, according to the Provost. He discussed laboratories being outdated, many which were built when the VCCS was started. Even updating the laboratories and buying equipment through the Equipment Trust Fund would not solve the problem, because the limited supply budget was not sufficient to operate the laboratories. According to the Provost, Continuing Education personnel could solve those problems

better than the academic people. He noted that Continuing Education personnel could often locate a company that would allow them the use of their facilities to teach classes. This gave the college access to current equipment and freed up on-campus space for other classes. He indicated that if the colleges could charge laboratory fees they could operate the laboratories more efficiently as well as upgrade them.

The Director of the Extended Learning Institute thought community colleges should be providing customized training, but he didn't know how the colleges were going to get the funds or time to do the training. The Director of Continuing Education had similar concerns about the lack of resources limiting the amount of customized training the college could conduct.

The Dean of Curriculum Services was concerned that the college's approach to customized training was reactive. He mentioned some campuses having outreach activities, but indicated that these programs had decreased because the Center for Business and Government Services was closed. That office had been specifically responsible for marketing and outreach to the business and corporate community to stimulate interest in training. The Dean thought the Continuing Education offices were performing the majority of the college's outreach activities. The Dean noted that they were trying to react positively whenever a request came in, but they did not have the ability to perform extensive customized training because of the lack of resources, including a shortage of personnel.

Size of college. The enrollment of a college determined the number of students required in a class before the class could be taught. At Suburban Community College this number was set at 22 students. The Dean of Academic and Student Affairs noted that this had created problems when teaching customized classes for industry. Those numbers were determined by SCHEV and were based on the supposition that there were economies of scale attained when a college reached a predetermined enrollment.

The size of the college affected the type and nature of courses taught. The Dean of Academic and Student Affairs discussed using distance education technologies because the campus had almost 15,000 students. Traffic and parking were factors affecting the delivery method of courses.

The analysis of the interviews at Suburban Community College revealed that there were definite advantages attributable to the size of the college. The enrollment of the college provided funding for a large staff and faculty. There were faculty and staff to establish a department for distance learning and telecommunication courses because the positions and equipment to provide those services could be justified by the number of FTEs.

Location of college. The Dean of Curriculum Services said that the size of the service region and the number of industries prohibited the college from providing all of the training needed. Transportation was cited as a problem at certain times of day because of traffic.

The Director of the Extended Learning Institute mentioned location as being a facilitative factor to offering customized training to industry because the community colleges are located within 30 minutes of most companies and students in the Commonwealth. The Director of Continuing Education agreed that the location of Suburban Community College facilitated the success of the Continuing Education Department because of the number of companies and the wealth in the area. The training opportunities were extensive.

Types of industry. The types of industry in Suburban Community College's service region affected the type and nature of the training provided. There was no training offered in manufacturing technology because there was very little manufacturing in that region. The cost of living was cited as a reason for limited manufacturing.

The Associate Dean of Curriculum Services discussed Suburban Community College's liaison with Mobil Oil. Mobil had restructured its work force and downsized total employment as part of its "Total Quality Management [TQM]" style. In restructuring their work force, they were not sure of the content which employees should possess in each of the groups they had created. The college worked with them to develop an assessment and training plan for each of the groups at Mobil Oil. Either the college or commercial vendors will provide customized training for those groups of people needing training.

The President discussed different companies which have training agreements with the college and the structure of the training programs. General Motors, Ford Motor Company and Nissan were some of the automotive companies with which the college worked. He thought it interesting that Ford Motor Company's program was different from General Motor's program, in terms of the kind of training they requested and the administration of the program. The aforementioned were specific two-year programs, designed specifically for a corporation with the active involvement of the company in the design of the curricula. Students worked on the manufacturer's vehicles and used the company's diagnostic equipment, which they provided free to the college. Company personnel participated in the selection of the faculty and the cooperative education component of the program was at their specific places of business.

The President cited that the college was involved with over 600 different businesses and industries in providing cooperative education programs. There were over 2,000 students participating in the co-op programs. For the internship program, the college had agreements with 200 agencies, clinics, or hospitals for a variety of health technologies programs and had between 1,000 to 1,500 students in the internship program. He noted the facilities they sought out for the internship programs were chosen to meet specific curriculum needs. Staff sought out specific hands-on experiences for the students and signed contracts with the agencies and institutions to provide those internship experiences.

An impediment to providing training to some companies was that much of the training which personnel needed was beyond the first two years of a college program, according to the Director of the Extended Learning Institute. In a high-tech environment involving engineers or software specialists, most company personnel had Bachelor of Science degrees. The subject matter would seldom be in a community college faculty member's area of expertise, so those employees must seek some other source for high-tech training. As the work force as a whole becomes better trained, the community college loses the curriculum edge. While the community colleges can do certain things, the Director noted they may not always have the content expertise because of the nature of the community college curriculum.

Summary

The Continuing Education Department was conducting all non-credit customized training at Suburban Community College. Leadership personnel viewed industry as customers and the Continuing Education Department was managed as a fund generating source. Flexibility in class size, less time required for course approval, and creativity in teaching methods were factors facilitating non-credit customized training.

Customized training for credit was offered in degree programs. Career studies and certificate programs were developed with courses that would apply toward a degree. Portfolio evaluation was implemented and credit given for work and life experiences. Transfer and degree programs were the primary focus at Suburban Community College.

Space limitations, scheduling, high lab costs, and the lack of opportunity for full-time faculty to become involved with customized training were noted as reasons Continuing Education performed the majority of industry training. Adjunct faculty were widely used for customized training.

High-tech industries in the college's service region provided opportunities for internships. The large population and service area created the need for many off-campus course locations.

Analysis of Factors Across Sites

A cross-site analysis of the factors affecting the involvement of selected community colleges in the Virginia Community College System revealed that there were factors which were influential across sites. Other factors were only influential at single or multiple colleges. There were many similarities that were sometimes affected by the location and size of the college, and type of industry. The cross-site analysis examined those themes which crossed over all three sites.

Findings Related to the Following Factors

Leadership. The cross-site analysis revealed three dominant themes related to the impact of leadership on customized training. These themes were:

1. Commitment of the leadership affected the colleges' involvement in customized training.
2. Creation of environments conducive to the sharing of resources and contacts by different departments of the colleges.
3. Leadership of continuing education directors.

The presidents were supportive of industry training and this commitment positively affected the colleges' involvement in customized training. The leaders at each of the colleges provided opportunities to customize complete credit programs for industry, facilitated the creation of facilities for industry training, and formed partnerships with industry; all of which facilitated the colleges' involvement in customized training. The leadership and cooperation of the presidents and the continuing education directors had resulted in the creation of facilities, access to laboratory equipment, and the funding of faculty positions.

The presidents, using different terminology but identical ideas, declared that nothing kept the colleges from offering customized training except lack of initiative. Factors

which were cited by other interviewees as impediments were thought to be surmountable. The leadership of the administrators was critical in overcoming any impediments.

The cooperation of the continuing education departments and the academic divisions facilitated customized training opportunities at Rural, Urban, and Suburban Community Colleges. A cooperative spirit existed at the colleges and was a positive influence on the type and amount of customized training the colleges conducted for their clients. This environment was attributed to the leadership of the presidents and their administrators.

The leadership and entrepreneurial spirit of the continuing education directors was mentioned by numerous interviewees as being the most important facilitative factor influencing the colleges' involvement in providing customized training to industry. They were credited with networking with industry, determining training needs, and sharing those contacts with the relevant personnel.

Philosophy. The cross-site analysis revealed five themes related to the impact of philosophy on customized training. These themes were:

1. The community colleges, in fulfillment of their mission statement to benefit students and industry, should provide customized training.
2. Non-credit customized training was relegated to secondary importance, after academic programs.
3. Credit given by portfolio evaluation was being implemented.
4. Concern for the student was evident. Credit offerings were more beneficial to students and companies.
5. Auxiliary enterprises were needed to provide additional monies to overcome funding shortfall.

The senior administrators at each site stated that Virginia's community colleges should be involved in providing customized training. They indicated that customized training benefited the students, industries, and community. Reasons given for involvement included (a) fulfilling the mission statement, (b) improved economic development of the

region, (c) benefits to employees through increased chances for promotion and raises, and (d) involvement of employees in the educational process which eventually led them to continue their education. Interviewees at each site declared that the colleges should be utilizing a customized approach for credit and non-credit courses. Portfolios, lifelong learning, and occupational changes provided opportunities to the colleges to be responsive to emerging educational needs.

The presidents declared that the primary function of the community college was to provide education in the degree programs, either occupational-technology or transfer programs, and industry training was deemed secondary to providing resources and support to the degree programs. They maintained that the academic programs benefited the students and service region the most. Facilities and resources were allocated according to this philosophy. Some personnel interviewed contended that colleges which were involved with economic development and customized training should not relegate those activities to a secondary function or importance.

College personnel were consistently concerned with persons who had never attended college. Curricula were designed at all sites which allowed customized training to count toward degrees. Complete development of the student was deemed very important. Sequences of credit courses were developed which enabled students to earn a career study certificate that was part of a certificate program eventually leading to an associate degree. This concern for the development of the individual influenced the type of training offered.

The President and others at Rural Community College remarked that students received a better education in the credit mode as compared to the non-credit mode. Personnel at Urban Community College also thought credit instruction had many benefits compared to non-credit instruction, but their college had converted the majority of industry training to non-credit. Over-enrollment had created a situation where it was advantageous for the college to create auxiliary enterprises to enable them financially to provide industry training.

The credit mode of customized training was stressed at all three sites because:

1. Students received a better education because of the increased rigor of credit courses, the required grading procedures, and the credentials required of the professors.
2. Students experienced a change of mindset when they took their first college course. Many of these students went on to take other courses and some eventually attained degrees.
3. Credit courses could be included in a certificate or degree program and were documented.
4. Credit courses could be transferred to other institutions.

Suburban Community College was involved with portfolios and had procedures in place to accommodate and facilitate students' requests for portfolio evaluation. It had a comprehensive portfolio package and granted credit for prior education and work experience. It was the college's philosophy that the experienced student could be better educated through a customized educational package than by wholesale education.

The administrators' philosophy at Rural and Urban Community Colleges was beginning to change toward an acceptance of portfolios. Although there was limited involvement in portfolios, it was acknowledged that lifelong learning and changing job requirements could create a need for portfolios which would have an impact on customized training.

Rural Community College personnel were concerned with the sense of "community" and how they could improve their community through their job performance and the types of training offered. This sense of community influenced their decisions and actions. As a result, customized training was usually offered for credit and was part of a degree program.

There were differences in the approach that Rural Community College and Urban Community College used to implement customized training. Rural Community College did not advertise whereas Urban Community College very aggressively promoted their

training programs. It used customized training as a fund generating source to help support the academic programs and overcome the budget shortfall from the Commonwealth. Rural Community College taught classes in the credit mode to keep industries' training costs low. This was mentioned by interviewees at Urban Community College also but the emphasis had shifted to non-credit classes primarily because of the cap on funding based on FTEs. Suburban Community College had many customized credit degrees that were taught on-site for companies. The for-profit non-credit offerings were extensive and also supplemented the general operating budget.

Interviewees at all three colleges thought instruction should be customized in other areas, as well as industry training. Their contention was that customizing credit, non-credit, and other training made the college more responsive to the educational needs of the constituency. Scheduling, location, content, delivery method, instructional techniques, and instructors were listed as factors which could be customized to make the training more applicable, up-to-date, and appropriate for industries' training needs. An example cited was classes in developmental mathematics which were customized and taught by continuing education personnel. The students had a higher completion rate in a shorter time than students in the regularly taught classes.

Policies and procedures. The cross-site analysis revealed six dominant themes related to the impact of policies and procedures on customized training. These themes were:

1. Policies allocating faculties, facilities, and resources to credit and non-credit courses.
2. Utilization of full-time faculty outside program areas.
3. Requirement of advisory committees in the technology programs.
4. Funding policies determined by an FTE formula.
5. Funding of customized training.
6. Approval process for credit classes.

Policies affected customized training at all of the colleges. Customized education, whether it was credit or non-credit, was given lowest priority when space was allocated. The presidents of the three colleges stated that classes in the degree programs had first priority, then credit classes. If non-credit classes were offered through Continuing Education, they were given last priority. Space was limited at all three colleges, so customized training was conducted at the employer's site, if possible, or in rented space. The limited access of customized training to faculty, resources, and facilities emerged as themes in leadership, philosophy, policy, personnel, infrastructure, and resources.

Personnel at some colleges interpreted policies and procedures to mandate that the utilization of space for non-credit classes would not count in the accounting procedures for space utilization by the Systems Office. Many non-credit classes were moved off-campus and credit classes were moved on-campus because of this interpretation of policy. There was disagreement about the space utilization guidelines at Urban and Suburban Community Colleges. Interviewees at Suburban Community College said that non-credit courses counted toward space utilization; it was just a matter of the correct paper work being done and the space it justified. Non-credit space utilization, either on campus or off-campus, did not figure into the formula used to determine space for credit programs.

Advisory committees were required in the technical programs and their primary function was to advise personnel in the credit programs on the area's educational needs for industry. These advisory committees were mentioned as a facilitative factor in affecting the community colleges' involvement in customized training by interviewees at each college.

Impediments at each site in providing customized training for credit were the lack of procedures and personnel to perform the necessary work in (a) establishing and maintaining industry contacts, (b) evaluating training needs, (c) scheduling classes and facilities, (d) obtaining needed laboratory space and supplies, (e) generating course

content and getting it approved, and (f) supervising and evaluating the performance of the instructor, especially if the class was taught at night, off-campus at a remote site.

The "cap" on funding based on FTEs created a situation in which many industry classes were being converted from credit to the non-credit mode so that degree programs would have room to grow. Conversion of credit classes to non-credit had occurred at Urban Community College and Suburban Community College. These colleges were over-enrolled according to the funding formula so it was beneficial for them to use non-credit courses to provide training. The ramifications of the above policy decision were far reaching and affected all facets of customized training. Over-enrollment had created a situation in which it was advantageous for the college to create auxiliary enterprises to enable them to provide industry training.

The procedures required to create and get credit classes approved were mentioned by interviewees at the three sites as impediments to offering customized classes for credit. The procedures were lengthy, cumbersome, and impeded the colleges in responding in a timely manner to training requests from industry. Colleges with multiple campuses had unyielding procedures in an attempt to involve faculty at the different campuses in the approval process.

Issues discussed by personnel at Suburban Community College were (a) the differences in access to technology between the credit and non-credit teachers, and (b) problems created by service area boundaries when attempting to utilize distance education technologies. The lack of a central contact person or office in the VCCS where statewide training could be facilitated and marketed was mentioned as a definite impediment to utilizing technology to its fullest potential.

The inability to charge laboratory or usage fees for credit classes was cited as a definite impediment to offering customized training for credit in courses that had high laboratory or equipment costs. Although this was an impeditive factor at the other colleges, Rural Community College usually taught in the credit mode to be able to provide training to companies in their service region at the lowest price. The reasoning was that

charging laboratory fees might limit enrollment in those classes to a segment of that regional society.

Although continuing education departments could offer credit courses, it was accepted practice at all of the colleges for these departments to provide non-credit classes and the academic divisions to teach credit courses. This created difficulties because the academic divisions were not structured to handle the myriad tasks involved in offering customized training. Urban Community College was establishing a position for a person to work closely with the academic divisions and gain their input on ideas for training, credit and non-credit, as well as facilitate the process.

Personnel. The cross-site analysis revealed five dominant themes related to the impact of personnel on customized training. These themes were:

1. Quality and expertise of college personnel.
2. Lack of personnel in degree programs responsible for customized training.
3. Continuing Education personnel.
4. Inability of full-time faculty to be involved with industry training.
5. Faculty positions being created through partnerships with industry.

The consensus of the three presidents and other interviewees was that an important factor facilitating community college involvement in customized training was the caliber of personnel at the colleges. The presidents stated that there were good administrators and faculty with the knowledge and expertise to facilitate the offering of customized training. Reputation was cited as an important factor when conducting customized training.

Common to all sites was the lack of a central contact person whose responsibility would entail visiting industry and interacting with all departments of the college. This situation was seen as a definite impediment to customized training. The lack of a central contact person in the VCCS where statewide training could be facilitated or marketed was mentioned as a definite impediment to utilizing technology to its fullest potential.

Continuing Education personnel performed the aforementioned function, providing industry contacts, but their function at the colleges was limited to non-credit training. This interpretation of policy limited their involvement in other aspects of training. If training requests were for credit courses, the Continuing Education Department would contact the appropriate academic division and share those training requests. At this point the system broke down because credit courses were handled by the academic divisions and they did not have procedures in place for handling training requests from industry. Impeditive factors were that (a) faculty schedules were predetermined months in advance, (b) facility use on campus was scheduled for credit classes months in advance, (c) classes taught would be overtime work for full-time faculty, and (d) course development work was not compensated except in rare instances.

The type of training provided depended more on the people involved than any other factors. Rural Community College had a strong involvement with the Apprenticeship Program because of the leadership of the Director of that program and because his office was located on the campus. Suburban Community College was not involved directly with apprenticeship training but was involved with cooperative education and had students working at 600 companies.

Analysis of themes across sites revealed that faculty positions were being supplemented with partnerships between the colleges and the industries receiving the training. These partnerships were extensive at all sites and were thought to provide benefits to the colleges and industries involved. Benefits to the colleges included (a) increased faculty positions, (b) access to training facilities with state-of-the-art equipment, (c) freed-up space on-campus, (d) educational opportunities for faculty, and (e) curricula revisions due to contact with industry.

Infrastructure. The cross-site analysis revealed two dominant themes related to the impact of infrastructure on customized training. These themes were:

1. Physical infrastructure of the VCCS.

2. Organizational infrastructure including continuing education.

The infrastructure of the colleges gave them the ability to respond to training requests from the community in many different ways. Location was mentioned by interviewees at each of the colleges as positively affecting their ability to offer customized training. The importance of having an infrastructure of classrooms and laboratories located throughout the Commonwealth was a theme which crossed sites. Being situated within 30 minutes of the majority of the citizens was an important facilitating factor.

The existence of continuing education departments at each college was cited repeatedly as a facilitative factor affecting community college involvement in customized training. Consistently, it was the continuing education personnel who were networking, establishing training needs, and providing training to industry. Although classes could be offered for credit, the continuing education departments only offered non-credit training at each of the colleges.

Resources. The cross-site analysis revealed two dominant themes related to the impact of resources on customized training. These themes were:

1. Resources affected the nature and type of customized training offered by the community colleges.
2. Partnerships with industry were being created.

Resources affected the nature and type of customized training offered by the community colleges. A shortage of resources kept the colleges from offering certain types of customized classes. The nature of other classes was changed because the colleges were creating partnerships with industry to overcome a shortage of resources. This meant that courses might be taught on company sites utilizing company personnel. Companies were also sponsoring faculty positions.

Size of college. The cross-site analysis revealed three dominant themes related to the impact of the size of the college on customized training. These themes were:

1. Class size determined by enrollment of college.
2. Capability to design and conduct distance education influenced by size of college.
3. Traffic and parking problems creating need for distance education.

The number of students required for a credit class was determined by a formula calculated on the enrollment of the college. This practice affected the offering of classes for credit because small companies might not have enough personnel to have a customized class for credit.

Urban and Rural Community Colleges had limited distance education capabilities and involvement whereas Suburban Community College was extensively involved. The capability to conduct distance training was influenced by the size of the college. The skills and knowledge required dictated that there be a large pool of people with differing knowledge and skills. Physical resources also must be extensive.

Suburban Community College was being forced to utilize distance education because the number of students was creating parking and traffic problems. None of the other college personnel mentioned this problem.

Types of industry. The cross-site analysis revealed one dominant themes related to the impact of the type of industry on customized training. This theme was:

1. Types of industry influenced nature and scope of customized training.

The types of industry in the community college's service region affected the nature and type of customized training offered. Of greater influence was the personnel, their contacts and expertise. Although the existence of an industry was a prerequisite for training requests, personal contacts determined most training requests.

Space. The cross-site analysis revealed two dominant themes related to the impact of space on customized training. These themes were:

1. Program classes given first choice on utilization of facilities.
2. Limited space at all three colleges.

The issue of space affected customized training at all of the community colleges. Credit courses that were part of a degree program were always given first choice on room scheduling. This negatively affected the offering of non-credit customized training because of a lack of designated facilities. The colleges were moving away from using state-owned facilities and moving industry training into rented, leased, or college foundation owned facilities. Renting or leasing facilities gave them more control over their destiny and they could plan better.

All three colleges had limited space and were creatively attempting to solve that limitation. The space utilization guidelines from the State Council of Higher Education were interpreted differently by many of the interviewees. Rural Community College personnel did not discuss space utilization guidelines as a factor affecting their involvement in customized training. Those guidelines directly affected the other colleges and influenced where training was conducted and the type of training offered.

All of the colleges were establishing space outside the VCCS. Rented, leased, or college foundation owned spaces were being aggressively developed throughout the colleges. These spaces and laboratories were under the control of the individual colleges, mainly the Continuing Education Department, and gave the colleges more flexibility in responding to customized training requests from local clientele.

Credit and non-credit. The cross-site analysis revealed three dominant themes related to the impact of credit and non-credit classes on customized training. These themes were:

1. Costs of training.
2. Concern for the future educational opportunities of the student.
3. Funding policy based on enrollment.

The credit and non-credit issue was different at each of the colleges. This situation could be attributed to many factors. The president of a college determined to a great extent the direction that college pursued when conducting training and whether that

training was in the credit or non-credit mode. Rural Community College performed the majority of its customized and industry training in the credit mode. Costs and the concern for the future educational opportunities of the student were reasons cited by interviewees for the classes being offered for credit. Urban Community College conducted the majority of its classes in the non-credit mode, however this was determined by a funding policy based on enrollment. When the Systems Office put a ceiling level funding based on the current number of FTE students, it was to the benefit of that college to convert industry classes to non-credit. It was over-enrolled a thousand FTEs and that action opened up more space for students in degree programs. The President at Suburban Community College stated that it offered more non-credit courses than the rest of the colleges in the system, combined.

Funding. The cross-site analysis revealed two dominant themes related to the impact of funding on customized training. These themes were:

1. Funding disparity influenced the type of training offered.
2. Shortage of funding influenced the type of training offered.

The funding disparity between credit and non-credit courses affected the nature and scope of customized training offered at each college site. Classes were offered at some colleges to provide customized training to companies at the lowest cost. Other colleges offered the same courses for non-credit so they could charge market price and generate revenue. Those funds were used to increase continuing education's personnel and to lease and equip buildings. Funds were also returned to the college's discretionary fund to supplement the budgets of the academic programs.

A theme which crossed sites was that non-credit should be funded more equitably. It was stated that the disparity in funding stifled industry training in many instances.

Community. The cross-site analysis revealed one dominant theme related to the impact of community on customized training. This theme was:

1. Sense of community limited to Rural Community College but affected the nature and type of training offered.

The sense of community was a very important factor at Rural Community College and had a definite impact on the nature and type of training offered. The Director of Continuing Education at Urban Community College mentioned community or the responsibility to the people in a community sense. The Chairperson of Health Technologies at Rural Community College and others discussed the "individuals" and how the college had a responsibility to improve their lives in many ways.

Reputation. The cross-site analysis revealed one dominant theme related to the impact of reputation on customized training. This theme was:

1. Reputation facilitated all three colleges' involvement in customized training.

Reputation of the college and the quality of training it provided emerged as a facilitative factor affecting the college's involvement in customized training. According to interviewees at each site, companies were aware of the high quality of instruction provided by the community colleges and the competitive prices. Adjunct faculty were cited as a potential danger because they were seen to represent the college and were actually only part-time employees. Usually possessing less credentials and expertise in teaching, technically they were proficient and knowledgeable.

CHAPTER V

Conclusions, Recommendations, and Discussion

Purpose of Study and Research Methodology

The purpose of this study was to identify and analyze those factors which key administrative personnel of the Virginia Community College System felt facilitated or impeded community college involvement with customized training. The objective, to understand how those factors affected the nature and scope of customized training, was accomplished using naturalistic qualitative research with interviews as the primary information gathering instrument. A multiple-site case study was used to obtain maximum variation and site selection criteria were (a) geographic location, (b) size of the college, and (c) the business and industry base of the college's service region. Twenty eight administrative personnel who were involved with and knowledgeable about customized training were interviewed. The audio-tapes of the interviews were transcribed into wordprocessor files, then coded and analyzed with the computer software program Ethnograph

A definition of customized training was developed to provide consistency in communicating with the respondents. This definition was, "Training, associated products, or services which are developed or modified under a contract or other agreement with a specific client to meet the training, retraining, or upgrading needs of identified participants."

Three questions were posed to guide, but not constrain the study:

1. What are the factors that facilitate the Virginia Community College System in offering customized training?
2. What are the factors that impede the Virginia Community College System from offering customized training?

3. What is the relationship between the identified factors and the nature and scope of customized training provided?

Ongoing data collection revealed that the original factors proposed, based on literature and personal experience, were indeed the factors that emerged from the data. These factors were (a) philosophy, (b) leadership, (c) policies and procedures, (d) personnel, (e) infrastructure, and (f) resources. It was found that factors tended to serve as both facilitators and impediments, depending on related variables.

Findings from each of the case studies were analyzed individually followed by a cross-site analysis. Within each of the three cases, findings related to the proposed factors were analyzed first, followed by findings which were at variance with the proposed factors or which were outside those factors. Major themes which crossed over individual sites were then examined, both within the proposed factors and those which arose unanticipated from the data.

The changing demographics of the workforce, technological changes in industry and education, and a shortage of funding for community colleges and industry have created an emerging and growing need in the community for customized training supplied by the Virginia Community College System. Customized training was requested by industry because: (a) additional employees with particular skills were needed in the region (remedying skill shortage), (b) new skills were required because of technological advances, (c) existing workers needed retraining to avoid potential layoffs, and (d) existing workers needed retraining for other employment because of layoffs.

Interviewing 28 administrators at three community colleges provided the researcher insight into the facilitative and impeditive factors affecting the Virginia Community College System's involvement in customized training. Conclusions reached are cited, followed by recommendations, and a discussion on customized training.

Conclusions Concerning Customized Training and the Following Factors

Leadership

Conclusions concerning customized training and leadership are:

1. The leadership at each of the colleges provided opportunities to customize complete credit programs for industry, facilitated the acquiring of facilities for industry training, and formed partnerships; all of which facilitated the colleges' involvement in customized training.

2. The leadership of the continuing education directors facilitated the involvement of the community colleges in customized training. With many impediments to overcome, the continuing education personnel networked throughout industry and the colleges and provided customized training.

3. The presidents' leadership style and administrative structure created environments conducive to cooperation among departmental personnel throughout the colleges. This cooperation resulted in the sharing of resources, facilities, faculty, and contacts which were facilitative factors affecting involvement with customized training. The organizational infrastructure was well designed and competent administrators provided leadership.

4. Advisory boards for the administration and the program areas provided college personnel, at all levels, guidance from the constituency they served. The colleges were guided through their changes as education and economic requirements changed.

Philosophy

The conclusions concerning customized training and philosophy are:

1. The consensus of opinion of the administrators interviewed at selected colleges was that the community colleges were the institutions to be providing customized training. Reasons cited included but were not limited to (a) location, (b) infrastructure, (c) personnel, (d) expertise, and (e) the mission of the Virginia Community College System.

2. The philosophical viewpoint of many interviewees included the concept of customizing more than industry training. Examples include:

- Complete degree programs were being customized and were cited as examples of the colleges' responsiveness to the educational needs of their constituents.
- Customized training programs for individuals utilizing portfolio evaluations were being implemented and thought to be necessary when educating employed adults. Evaluating life experiences, including work and education gained through seminars and workshops, is enabling the community colleges to be more responsive and responsible to the adult life-long learner.
- Degree classes were regularly customized to make the content more appropriate to the students' work environments.
- Intact degree programs were being offered via distance education technology whereby the students never were required to attend class.

3. Many of the interviewees mentioned personnel teaching in the academic programs who believed that students could only benefit from an intact degree program. Personnel with this mindset were not receptive toward customized training or portfolios.

Policies and Procedures

Conclusions concerning customized training and policy and procedures are:

1. Faculty workloads virtually prohibited faculty members from interacting with industry because of the amount of time spent in the classroom and laboratory. There were no obvious benefits to faculty members when evaluated by their supervisors. Faculty members were further discouraged from being involved in industry training because their jobs depended on productivity quotas. Full-time faculty were assigned to a program and that program had to meet productivity quotas or it could be canceled. Positions were tied to programs and faculty could be terminated because being responsive to industry requests for training did not show as productivity in degree programs. Full-time faculty members

were also limited in the number of non-credit courses they were permitted to teach. Their wages were reduced to lecturer rates if they taught overload.

2. Credit course approval procedures were lengthy and cumbersome. These procedures limited the ability of the colleges to respond to industry requests for customized courses for credit. Credit courses must be developed by full-time faculty. If courses were customized for industry faculty members might not receive compensation for their work because they were limited in their involvement in industry training outside of degree programs.

3. Service area boundaries created problems in utilizing distance education technologies that should not be affected by distance or arbitrary boundary lines.

4. Continuing education, operating as a business, charged 130% of costs in offering non-credit classes. A shortage of funding was a deterrent for the colleges to provide quality customized training to the industries of Virginia. Other states attracted industry because of training opportunities available through their community college systems.

Continuing education at the three colleges, although having the authority to teach credit courses, taught in the non-credit mode. Another limitation was that they had few full-time faculty or staff. Technical expertise had to be contracted for each class. Hiring adjunct faculty was time consuming and limited the colleges in developing in-house expertise in new and emerging technologies.

5. The college transfer and occupational-technical degree programs were the first priority of the college. Personnel involved with customized training were limited in their access to facilities, faculty, and resources.

6. Many companies and employees wanted customized training for credit because of promotions or federal certification requirements, yet there were no provisions for offering this training through regular channels.

Personnel

Conclusions concerning customized training and personnel are:

1. The professionalism, knowledge, and abilities of the administrators interviewed convinced the researcher that the VCCS has the caliber of personnel needed to accomplish its chosen goals. A facilitative factor affecting the colleges' involvement in customized training was the administrators belief in its importance.

2. The academic programs did not have personnel whose responsibilities were to interact with industry and provide training for industry. Continuing Education personnel performed this function in the non-credit mode of instruction but they operated as a business and their contacts and job performance had to provide results. The program areas were not staffed or equipped to deal with the myriad tasks involved with offering customized training. Without designated personnel in the academic programs who have opportunities to do customized training, much of the training will continue to be done for non-credit and for-profit.

3. An impediment was created by the lack of an individual on campus who could be contacted for industry requested training.

4. The shortage of professional development opportunities and back-to-work initiatives meant some faculty were not current in their knowledge of new technology and could not be utilized in industry training.

5. The importance of full-time faculty involvement with customized training in industry was stressed by numerous interviewees. They were seen as the ambassadors of the college and that function was deemed critical to the continued success of customized industry training.

6. The nature and type of customized training provided was dependent on (a) the person in the leadership position or (b) the initial contacts made by the industry personnel. Training effectively performed was attributed to the personality, background, skills, and contacts of the person in charge.

Infrastructure

Conclusions concerning customized training and infrastructure are:

1. The existence of the continuing education departments, by mandate of the VCCS, has facilitated the offering of customized training. Because these departments were organized to be operated as businesses, they were released of constraints that have limited the academic divisions in industry training. Continuing education departments may offer all types of training, anywhere, anytime in the world--within their service region and outside of Virginia. They were not limited to state-mandated tuition charges, but could charge market prices for their services. Their manpower was not determined by the Manpower Employment Level [MEL]. They have more freedom and flexibility to be responsive to the training needs of industry because of their business type structure.

A disturbing trend was that, although continuing education departments had the authority to teach credit classes, they taught solely in the non-credit mode. Another limitation was that they had very few full-time faculty or staff. Expertise had to be hired each time a course was offered.

2. Emerging educational technologies have the potential to benefit customized training. Distance education, multimedia, or virtual reality provide opportunities for credit and non-credit courses to be customized to fit the training needs of individuals. Open entry, open-exit, competency based education and portfolio assessment provide the colleges opportunities to be responsive to the needs of the individual. Wholesale education based on seat time is prohibitively expensive and is a luxury that the college professor cannot expect to have much longer. Training, customized to an individual's needs and utilizing current and emerging technologies, may be provided to students in formats that are convenient geographically, adaptable to their work schedules, and utilizing different teaching methods.

3. The restrictions imposed by service area boundaries and the lack of a central contact person for the Commonwealth created problems in offering distance education to colleges or industries outside the college's service region. Procedures were not

standardized on how the revenues were shared, how development costs were shared by sites, who received credit for the FTEs, and who must be involved in the development of the program or courses. These were questions that disturbed people involved with providing distance education. Another concern was that education technology was unevenly distributed across the VCCS.

Resources

Conclusions concerning customized training and resources are:

1. Resources affected the involvement of the community colleges in customized training. A shortage of resources meant that most customized training was being provided at the industry site, if possible. Lack of laboratory supplies, equipment, training aids, and classroom and laboratory availability dictated that the training had to be provided at locations other than the college. Colleges were forming partnerships with industry to gain access to state-of-the-art training facilities and professional development opportunities. While large companies were able to provide student numbers, facilities, and state-of-the-art equipment, small companies attempting to obtain training in emerging technologies were denied training. Another factor involved was that high cost customized training programs were apt to be eliminated on campus, resulting in resources being shifted to college transfer programs.

2. Funding disparities between credit and non-credit instruction had caused a shift in priorities. The cap on funding based on FTE numbers had also affected the nature and type of customized training provided. At schools with low enrollments, customized training was provided in the credit mode because of numerous long term benefits to the college, student, and industry. Enrollment numbers beyond the FTE cap have made it imperative that the college shift industry education to non-credit and charge market price for that training.

Recommendations

Recommendations to the VCCS to facilitate its involvement with customized training are as follows:

Provide Greater Access to Resources

Customized training should be provided greater access to the resources of the VCCS, whether it is credit or non-credit. The economic viability of the Commonwealth depends on a well educated and competent work force. There is a discrepancy between training for credit and non-credit, not only in the costs charged for the class but the amount of student services that are provided.

Develop Partnerships with Industry

Partnerships should be developed that would allow the colleges access to real world training situations which will be upgraded by the companies themselves. Professional development, access to the latest technologies, and training within the industrial environment must be implemented to a far greater degree than has been done in the past.

Conduct Policy and Procedure Workshops

Workshops need to be conducted throughout the System to provide administrators and faculty guidance on interpretation of policy and procedures. Issues such as space utilization and the structure of continuing education were interpreted differently across the Commonwealth.

Implement Common Course Numbering and Content

There should be common course numbering and content. This is necessary if distance education, lifelong learning, transferal of classes between 2 year colleges and 4 year colleges, and portfolios are to be utilized in Virginia's Community Colleges to their fullest potential.

Establish Coordinator of Customized Training at Each College

The VCCS needs to establish an office at each college to facilitate requests for customized training and provide one stop shopping for business and industry. By having one contact person, industry's problem of whom to contact for training at a community college would be eased.

Establish Leadership at Systems Office

A coordinator of training should be created for the Commonwealth. Serving an identical function as the campus coordinators, this person would facilitate customized training throughout the Commonwealth. Statewide expertise could be developed within the System instead of requiring the hiring of an adjunct for each class.

Provide Flexible Class Size Criteria

A commitment by the System to facilitate economic development should include the provision of alternative funding sources for small businesses who cannot generate the number of students required for credit classes. Companies with fewer employees than the required number for a class should have their cost based on a sliding scale or be the recipients of grants.

Fund Customized Training

Customized training should be funded. Small companies should be given at least equal opportunities for training as new and expanding businesses. The 130% of cost required by continuing education was a deterrent to the colleges providing quality training to the industries of Virginia. Many states attract industry because of the training opportunities available through their community college system.

Credit and non-credit courses should be funded more equitably. The colleges are not getting the monies from the Commonwealth which are required to plan, design, and implement customized training programs. Personnel in the technical field were concerned

that there might be a shift from the colleges offering customized training or high cost technical training requiring constant updating, to only offering college transfer programs.

Credit Workloads of Faculty for Involvement

Faculty should be given increased opportunities to work with business and industry. Rather than requiring faculty members to teach 15 credit hours in a program, they should be given the option of including industry training as a part of their work load.

Establish Regional Centers

To provide distance education and to implement the latest technologies in education, regional centers should be developed throughout the state. These technologies would be available to a consortium of colleges. These centers could be housed within existing community colleges. Regional centers could also be training facilities for the individual colleges to send their faculties for training periods.

Regional centers should gain the necessary funding from the colleges in the consortium to have the latest technologies. With the elimination of service area boundaries, up-to-date technology could potentially increase productivity to the point that these centers could generate monies to expand services.

Establish a State-wide Training Plan

There is a need for comprehensive environmental sampling to better plan areas of involvement, as none of the colleges are supplying training according to an overall plan. Regional and state-wide training initiatives need to be planned and coordinated to reduce duplication of effort and utilize resources most efficiently.

Recommendations for Further Research

There should be further research conducted on the factors which affect community college involvement in customized training. The research methodology might remain the same but customized training should be examined from industry's viewpoint. It would be beneficial to the VCCS and Virginia's industries to study the factors which facilitate or impede the industries of Virginia in utilizing the community colleges as providers of customized training.

The mission statements of the VCCS and the individual community colleges should be reexamined and clarified to determine if the stated goals and objectives are feasible. Educational areas are being prioritized due to (a) a shortage of funding, (b) FTE cap on funding, (c) interpretations of policies and procedures, and (d) the philosophy of personnel in leadership positions. A quantitative study conducted throughout the System could discover role model colleges or approaches in meeting educational needs.

Discussion

Throughout the interviews, the researcher encountered the philosophy of the community colleges cited in the mission statement, to include the customized training needs of business and industry. Administrators interpreting these statements, while being supportive of customized training, focused their priority on the degree programs. Customized training requires planning, equipment, space and instructors; factors that are not clearly addressed in policy and procedure.

Statements indicating that students benefit more from a degree program are true for a large portion of the student body. Such statements are not true for a segment of people in industry who are already employed but who need customized training to remain productive at their jobs. This segment of the population served by the community colleges are at risk of being negatively affected by the emphasis on degree programs. Productively employed adults, who have been out of school for many years, are often demoralized when they are directed to remedial English and mathematics as prerequisites to enter a

degree program. Their need is for specific skills which the community colleges can offer as customized classes.

Our society has interpreted "education" to be equivalent to academic college experiences. Education must be defined in broader terms and customized training included in the definition. For community colleges to provide for the educational needs within their service regions, policies and procedures must clearly mandate the compensation for faculty members involved in planning and developing customized training. Space utilization guidelines need to be clearly defined and non-credit classes allowed to be counted as usage when space is available. A means to show productivity when performing customized training would act as an incentive to involve faculty in development and implementation of customized training. Direct faculty involvement would improve the expertise of those teaching in technical degree programs by allowing them to have direct contact with changes in technology. The faculty should be viewed as ambassadors of the college. Contact with the businesses and industries in the service regions expands the contact of the community colleges to members of the communities who are not degree oriented students. The administrator discussing student contact and involvement with the community college guaranteed that a persons quality of life would be improved through contact with the community college personnel.

Customized training should be viewed as a developing interpretation of the VCCS mission statement. The potential impact in economic development and increased service by the colleges creates a compelling need to implement a strategic plan throughout the VCCS to facilitate the customized training being offered.

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