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A Case Study of Automotive Technology Instructors' Experiences and Perceptions of Curriculum Change in the Louisiana Technical College

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A CASE STUDY OF AUTOMOTIVE TECHNOLOGY INSTRUCTORS' EXPERIENCES
AND PERCEPTIONS OF CURRICULUM CHANGE IN THE LOUISIANA TECHNICAL
COLLEGE

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ABSTRACT

The landscape of postsecondary education is changing in a variety of ways that present challenges and opportunities to educators, policymakers, and other stakeholders of higher education. One of the most significant areas of postsecondary educational change is in the community and technical college setting. The missions of both these institutional settings have changed to meet new technological demands, global economic competition, and societal issues. A consequence of mission change has been significant changes in the manner that instruction of technical education is conducted at these institutions. This case study explores automotive technology instructors' experiences and perceptions of changes in their curriculum in the newly created Louisiana Community and Technical College System.

The study uses a case study qualitative methodology with individual interviews of a purposive sample population of automotive instructors at Louisiana Technical College. The study revealed three significant issues impacting the instructors' experiences and perceptions of curriculum change in their automotive technology program. One issue was the manner in which

instructional delivery had changed by structure, course length and scheduling, and lab work. A second issue was the availability of appropriate instructional resources that included educational technology and training equipment. The third issue was the impact of industry standards and expectations on curriculum change in the instructors' programs. Recommendations are offered for policymakers, educators, and further research.

CHAPTER ONE

Introduction to the Study

At the beginning of the 19th Century, Booker T. Washington, in *Tuskegee and Its People: Their Ideals and Achievements* (1905), wrote the following words:

> To be sure, a flourishing garden may be made and managed by bright-eyed tots just out of the kindergarten, but how can commercial fertilizers be carefully analyzed by a boy who has made no study of general chemistry? And how can a balanced ration be adjusted by an illiterate person? Similarly, the girl in the laundry does not make soap by rote, but by principle; and the girl in the dressmaking shop does not cut out her pattern by luck, or guess, or instinct, or rule of thumb, but by geometry (p. 56).

This quote highlights the importance that was placed on vocational education as far back as the early years in which America began to rise as an economic and industrial world power. The design of vocational education curricula has been under a constant state of scrutiny and change efforts since then. One hundred years ago, fifty years ago, even twenty-five years ago,

education in America looked drastically different than it does today. There are many different reasons for the changes that have occurred. Social issues such as racial diversity, economic issues such as the global business market, and technology issues such as the explosion of the Internet have promoted change at all levels of education. One of the levels of education that has probably seen the greatest change in recent years has been the two-year postsecondary vocational program of community and technical colleges. Student enrollment trends are doubling in vocational programs (McClenney, 1998). Business and industry demands for training are promoting a shift in the education market from liberal arts endeavors to vocational training (Gumport & Sporn, 1999). Evidence of this can be found by the significant amount of federally funded grants directed to this educational level (McNeil, 1997). These funding initiatives include the Carl D. Perkins Vocational and Technology Act and the Workforce Investment Act (WIA). Rosenfeld (1999) points to the lack of a rigid organizational structure in the two-year institution as the reason they are able to work effectively with industry in curriculum development and design. Ultimately, the two-year institution is being looked at as the linking organization for people of all races, age, and culture to connect to and maintain that connection to the world (Ammentorp & Copa, 1998).

These factors have helped to promote the image of the two-year institution as both focal points for economic development and social reform in a way that has necessitated transformation of mission. For community colleges, their new economic development role has contributed to a change in their traditional mission as institutions providing two-year transfers to universities (Bakia, Dougherty, 2000). For technical colleges, their traditional mission of vocational skills preparation has been greatly expanded in many different ways. Adult basic education is increasingly becoming a cornerstone of instruction in these institutions as almost half of all students entering these institutions enroll in at least one remedial course (Schuetz, 2002). Basic vocational skills curricula are increasingly being complemented with customized training initiatives and job skills upgrade training; both a consequence of the lifelong learning needs driven by today's technological, economic, and social trends.

However, with a change in the technical college mission, there has to be a consequential change in the goals of knowledge delivery. The basic changes technical colleges have transformed through closely emulate community college settings such as semester academic years, credit hour scheduling, and increased academic offerings. Many of these transformations have resulted in what traditional vocational educators claim are dilutions of

hands-on, technical training curricula with intellectual work (Vo, 1996).

While there are documents that examine organizational changes to postsecondary vocational educational systems in states such as California, Georgia, Maine, Tennessee, and Wisconsin (Brewer, 1996; Mayhew, 1974; Patton, 2002; Peterson, 1998; Rash-Wooten, 1987; Rhoda, 1985), there is a lack of systematic research examining perceptions about and meaning of curriculum changes in such systems. Louisiana Technical College is currently experiencing these organizational changes. A review of current literature has found little research that is directly applicable to Louisiana Technical College or is of significant benefit to the policymakers that affect change in the college. This study addresses the experiences and perceptions of technical college faculty who have experienced postsecondary vocational curriculum change at Louisiana Technical College. An analysis of these experiences and perceptions substantively addresses a current gap in the literature and provides some conclusions that will inform policymakers of Louisiana Technical College and other statewide vocational colleges going through similar change.

Setting of the Study

Originally known as "Trade Schools", Louisiana's present day technical college began with the establishment of the first school at Bogalusa in November of 1930. Funding for the school was provided by local sawmill workers, students, and other citizens in response to their desire to expand course offerings through the Bogalusa Secondary School System to include a "manual arts" training department. Initially, training was provided in woodworking and automobile mechanics (www.theltc.net/ltc history.htm).

In 1936, a second school came into existence in Shreveport, Louisiana. The fledgling vocational school system continued to grow with five additional schools with the passage of the Louisiana Legislative Act 14 in 1938. Schools were constructed in Winnfield, Crowley, Lake Charles, Opelousas, and Natchitoches. Vocational schools continued to be constructed across Louisiana with funding from legislative acts until the 1980's. By 1987, a statewide postsecondary vocational training system had been created to include 53 schools with a total enrollment of over 15,000 students (Montgomery-Richard, 2004; www.theltc.net/ltc_history.htm).

This system of postsecondary vocational schools was governed by Louisiana's Board of Elementary and Secondary Education (BESE). BESE's governing responsibilities also

included oversight of Louisiana's secondary school systems. Most of the organizational and curriculum design of the system emulated recommendations from a report produced by the Public Affairs Research Council in 1977 (Keller, Kidder, Pliner, & Stoneciper, 1977). The report recommended planning of instructional programs within local school jurisdictions, minimal instructional program lengths, and curriculum design that would complement secondary and collegiate level programs. This provided an environment in which the postsecondary vocational schools and secondary school systems maintained very close ties. Instructional curriculum development for postsecondary vocational programs closely paralleled secondary vocational curriculum with the use of clock hour course organization and skills competency student assessment methodologies. Instructional curricula varied in content and program length according to local workforce needs (G. Garrett, personal communication, May 13, 2004). However, very few relationships existed between the postsecondary vocational schools and community colleges or universities.

In 1999, the system of postsecondary vocational schools had been reorganized into one institution that was referred to as "Louisiana Technical College." This technical college was made a part of the newly created Louisiana Community and Technical College System by Section 7 of Act 170 of the 1998 Louisiana

Legislative Session ("Louisiana Legislative", 1998). Since that time, significant reorganization efforts involving administrative, fiscal, and instructional functions have been pursued to redesign Louisiana Technical College. This had been done to more closely emulate the collegial environments of its community college partners in the Louisiana Community and Technical College System and to address the goals and objectives set by the Louisiana Board of Regents' *Master Plan for Public Postsecondary Education: 2001* ("Master Plan", 2001).

Since its early beginnings in the 1930's, Louisiana Technical College has been referred to by different titles. However, with only incidental changes more often occurring because of fiscal reposturing and or political influence, the college's governance structure remained basically the same until 1999. Following the passage of State legislation in 1999, transformational events occurred that contributed significantly to organizational changes in all segments of the system's structure. Nearly all technical program courses that were offered according to contact hours were converted to college credit hours. Instruction that had been self-paced, competency-based and delivered with a required minimum percentage of hands-on activities was converted to a format of separate lecture and lab activities. Previously, academic calendars consisted of year-round instruction divided into quarter-terms. This provided

students with the opportunity to complete their programs at a faster pace than a collegiate academic calendar. Academic calendars for the system were converted to the traditional, collegial format of three semesters with significant time breaks between each semester and less latitude for self-paced instruction (see Appendices I & J).

The initial exposure to these changes prompted me to pursue a course of examination into the actual impact these changes have made at Louisiana Technical College. That examination included a review of literature for potential gaps in research and scholarly analysis. The emerging gaps and the need to address them helped to structure this study of instructors' perceptions and experiences of curriculum change at Louisiana Technical College. Furthermore, an examination of the meaning of changes related to the types of events such as the collegial transformation described above is of significance in addressing gaps in our research knowledge and offering suggestions for the future direction of Louisiana Technical College.

Personal Context of the Study

In the spring of 1992, I obtained employment at a regional vocational institution. At the time, this institution was referred to as "Alexandria Regional Technical Institute". The name of this institution was symbolic of how Louisiana's system

of postsecondary vocational training was organized in the early 1990's. Forty-two institutions of postsecondary vocational training were organized into eight geographic regions. Each region had one main campus with regional clerical and administrative staff to oversee accounting and administrative functions occurring at each of the institutions located within the region. Except for that regional oversight, management of each institution was very much a local issue. Each institution was supervised by a director, with advisory input provided by local legislators and other community leaders. The director had broad powers with budget decisions, personnel issues, and very importantly, the type of instructional programs that were to be offered and the manner in which they were offered. These institutions provided vocational training programs that consisted of hands-on training in occupational fields commonly found in local industries. The instructor to student ratio for the training programs was relatively low and instruction was self-paced ("Louisiana Administrative Code", 1990).

It is within that environment that I developed an awareness of not only student successes in this type of educational system but also shortcomings (i.e., student failures) of this educational system. Student successes were evidenced in the high job placement rates of graduates and numerous, repeat requests by employers for customized and upgraded training initiatives

for their workforce. The shortcomings were made known in the lack of substantive academic preparation offered in instructional curricula that, over several years, had become increasingly hi-tech in nature.

These successes and shortcomings were personal observations I made at my campus. I also worked within that environment as an administrator and was aware of the need to document student success because funding was very much dependent upon it. However, data used to identify the effectiveness of the entire technical college system was considered to be inaccurate. I was aware this was an opinion held by many upper level administrators within the technical college campuses as well as many external stakeholders (legislators, business leaders, etc.). This opinion was validated after consultants were used to evaluate the organizational structure of the technical college (Paul Eisner Associates Report to the Louisiana Board of Regents, 2002).

I became aware of this issue while conducting research for the qualifying exam of my doctoral program. Increased awareness of the challenge of assessing institutional effectiveness at meeting Louisiana's workforce needs prompted me to explore the arena of organizational effectiveness as a research topic for my dissertation study. I eventually narrowed my exploration to indicators of organizational effectiveness that would be most

appropriate to the organizational structure of Louisiana Technical College. However, I came to the realization that an enormous amount of research had been conducted in association with indicators of organizational effectiveness. Furthermore, I realized any research on that topic would probably contain no direct benefits to my educational institution, which was still in a state of transformation.

Knowing I was still without a defined, dissertation research topic, I took the opportunity to conduct a qualitative, preliminary dissertation study as a requirement for my predissertation project. The purpose of the preliminary study was to interview selected informants about their perceptions of recent changes that had taken place in Louisiana Technical College. The preliminary study revealed a common concern for curriculum change in the system. I took the concern for curriculum change, linked it with my prior interest in organizational effectiveness, and developed a dissertation topic that is relevant to the current events occurring in Louisiana Technical College. Hence, my study eventually became focused on curriculum change at Louisiana Technical College.

Theoretical Framework of the Study

Marsh (1997), on her defense of theory, argued that it should be a) sensitive to emerging patterns, b) have the

capability to identify common patterns and issues, and c) relate patterns to one's own teaching experience. Marsh stated, "If theorizing is defined in this way, then it can- and should be – undertaken by all persons with an interest in curriculum, including teachers, academics, and members of the community" (p. 270).

Technical institutes and their predecessors, trade schools, were part of a dual track of higher education- the college bound and the non-college bound career paths. This separation of higher education was established in the United States in the early 19th Century. (Bragg & Reger, 2000; Rosenfeld, 1999; Zehr, 1999). At that time, debate flourished among educational leaders as to the true purpose of vocational education and what its curriculum should consist of. While M.E.B. Dubois and Booker T. Washington recognized its importance, they both argued over the role of vocational education and how it would empower the African American (Gibson, 1978). Behaviorism, Constructivism, and Progressivism were philosophical approaches to curriculum design that other educational leaders, including Frederick Bonser, John Dewey, Charles Prosser, and David Snedden, argued for inclusion in vocational education (Doolittle & Camp, 1999; Griffin, Herren, 1998).

The culmination of these philosophical arguments for vocational education design came in the form of the Smith Hughes

Act of 1917. This was the first vocational education legislative act and it contained specific elements that contributed to the separation of teacher training, teacher organizations, and student organizations of vocational education programs from academic programs. This legislation also led, in many states, to separate governance structures for vocational education (Roberts, 2001). The education community was effectively split into two houses. Behaviorism became the central tenet to vocational education curriculum design with the identification and prioritization of employability skills as the main content. Curriculum designers were able to identify and organize employability skills from analyses of worker roles. This curriculum design eventually became known as "Competency-Based Education" (Elias & Merriam, 1995).

As the American social fabric evolved from an agrarian society to an industrial society, the appearances of modern factories and schools helped to elevate the status of the middle-class (Dewey & Dewey, 1962). A backlash to the behaviorist design of vocational education soon developed as progressivists continued to argue for the social reconstructionist curriculum in vocational education programs that gave students self-determination (Cremin, 1988; Johanningmeier, 1994; Margonis, 1994; Zuga, 1992). In the early years of trade schools, curricula were hands-on, and work skills

specific with little academic emphasis. John Dewey was an outspoken critic of this type of learning experience (Dewey, 1916). Dewey pushed for a critical pedagogy in which vocationally bound students engaged in a work education that contained sociocultural studies (Lakes, 1993). Margonis (1994) viewed this as "Dewey's utopian hope that students might voluntarily develop vocations which simultaneously serve individual and social needs and neatly captures the idealism of the middle class" (p. 2). By engaging in this type of vocational education, it was Dewey's belief that the middle-class could challenge the managerial class and create a community environment in which all classes would benefit; thus, the entire workforce would drive economic and social benefit. Integration of vocational education and academics gained more attention and importance as the century progressed, gaining national recognition as an issue of concern. In a report issued by the Commission on Higher Education in 1947, President Harry S. Truman advocated vocational-academic integration (Hofstadter & Smith, 1968).

Although Constructivism lost out to Behaviorism in the early 1900's, it experienced a resurgence in vocational education curricula through the federally funded programs referred to as Tech Prep, High Schools That Work, and School to Work (Zehr, 1999). While Behaviorism continued to permeate

vocational education, these federally funded programs prioritized learning that occurred in real world environments and pedagogical practice designs to make content and skills more relevant to the learner. Vocational instruction included social negotiation and opportunities for students to be self-regulated, self-mediated, and self-aware.

Today, John Dewey's philosophy of Progressivism has become the basis for making curriculum decisions in vocational education (Bartow, Foster, & Kirkwood, 1994). An emphasis continues to be placed on integrating more academics into technical training. Dewey believed that vocational education should not be restricted to addressing the needs of business and industry technical skills training. Rather than developing a narrow curriculum designed to train students for specific trades, he advocated a broad, transformative curriculum. He believed integrating academics into technical skills training would provide students with a better ability to adapt to changes (Griffen, Herren, 1998).

Johnson (1992) also points out that because technology itself is interdisciplinary, students should attain high levels of knowledge in a variety of areas. He went further with the transformative curriculum approach by advocating an intellectual processes curriculum that includes the development of core

thinking skills, metacognition, and critical and creative thinking skills along with technical skills.

The vocational education needs that have prompted intellectual processes curriculum design have also prompted a change in the relationship of the instructor to the student. Today's vocational educator is responsible for the dissemination of information that is in a constant state of flux. The educator's role is evolving into a facilitator of learning more than a provider of knowledge. Facilitation implies more responsibility for the learner. In the latter part of the 20th Century, Malcolm Knowles developed a philosophy for adult learning known as Andgragogy (Knowles, 1980). While Behaviorism, Constructivism, and Progressivism addressed all groups of vocational students, Knowles' Andgragogy philosophy was directed specifically at the adult learner characteristics. Andragogy is based on five assumptions:

1.   As a person matures, his or her self-concept moves from that of a dependent personality toward one of a self-directing human being.

2.   An adult accumulates a growing reservoir of experience, which is a rich resource for learning.

3.   The readiness of an adult to learn is closely related to the developmental tasks of his or her social role.

4.	There is a change in time perspective as people mature-from future application of knowledge to immediacy of application. Thus an adult is more problem centered in learning.

5.	Adults are motivated to learn by internal factors rather than external ones.

These assumptions are important to note because of their relevance to curriculum design in modern vocational programs. These assumptions are also applicable to curriculum design that is driven by the philosophies of Behaviorism, Constructivism, and Progressivism. Although these philosophical theories have each enjoyed some preeminence over the other at some point in vocational education history, each one is still deeply rooted in vocational curriculum design. Therefore, the theoretical framework for this study includes consideration for the influence of these longstanding philosophies, as well as the emergence of Andgragogy and its influence, on the organizational and curriculum changes occurring in Louisiana Technical College.

Statement of the Problem

Although a review of literature revealed significant research has been conducted on organizational change, very little attention has been directed to how organizational change impacts curriculum change (Gumport & Snydman, 2002). The purpose of this study was to construct a framework of inquiry into the

experiences and perceptions of a select group of instructors to curriculum change. This contributed to existing research literature because the study followed a period during which Louisiana Technical College went through significant organizational change. To achieve its purpose, this study explored the perceptions and expectations of instructors of Louisiana Technical College through a qualitative case study methodology. By examining the experiences and perceptions of these instructors from their own perspectives, insight was gained on how curriculum changes have impacted their ability to conduct instruction in their programs.

The Research Question and Methodology

The central research question was developed from the findings of a predissertation pilot study conducted in the Spring of 2003, gaps identified in the literature review, and my own personal observations of events occurring in Louisiana Technical College. The central research question is:

How do automotive technology instructors experience and

perceive curriculum change in Louisiana Technical College?

This qualitative study utilized a phenomenological approach employing data collection techniques consisting of audio taped individual interviews, observations, and document reviews.

Need for the Study

Researchers have indicated that, while there have been copious amounts of literature written on research conducted about curriculum design, there exists a need to examine the relationship held between societal structures of power (i.e., the politicization of) and curriculum (Ladwig, 1996). Furthermore, a review of literature on organizational change of two-year institutions has revealed a large amount of research and investigation into effects of organizational change on things such as student enrollment, institutional research and planning, indicators of effectiveness, assessment, turf, and shared governance. However, very little literature reflects in-depth reflection or research on two-year postsecondary organizational change and how it impacts the knowledge content of vocational-technical curricula. Gumport and Snydman (2002) are among researchers indicating this is an area for further exploration. Louisiana Technical College is in a transitional mode that includes a change in governance, curricula design, and mission. Rhoda (1985) conducted a case study of the transition of governance structure of Tennessee higher education that was somewhat similar to the events occurring in Louisiana Technical College. One of his recommendations for further study was for studies focusing on specific aspects of transition.

Very little research has been done about actual changes that have taken place in Louisiana Technical College during its transition from an institution governed by a secondary education board (Board of Elementary and Secondary Education) to a higher education board (Louisiana Community and Technical College System). The purpose of this study was to interview selected knowledgeables concerning their experiences and perceptions about the meaning of recent curricula changes that have taken place in Louisiana Technical College.

The first instructional program in Louisiana Technical College to experience significant curriculum change after the college's governance transition was Automotive Technology. This study focused on experiences and perceptions of automotive instructors of that instructional program. Other technical instructional programs have been targeted for future curriculum changes (J. Easley, personal communication, October 7, 2003). The results of this study provide curriculum developers, stakeholders, and policymakers of Louisiana Technical College and other similar postsecondary technical colleges information to assist in designing and implementing curriculum change in postsecondary technical programs.

Definition of Terms

Automotive Service Excellence (ASE) Certification

Certification for automotive technicians awarded by the National Institute for Automotive Service Excellence.

Competency Based Training

Instruction having a focus on the outcome of training. Outcomes are measured against specific standards and not against other students and the standards are directly related to industry.

Curriculum

According to Krebs and Teske (1972):

A body of prescribed, educative experiences under school supervision designed to provide the individual with the best possible training and experiences to fit him for the society of which he is a part, including qualifying him for a trade or profession (p. 57).

NATEF

The National Automotive Technicians Education Foundation (NATEF). It is an independent, non-profit organization with the mission to evaluate technician-training programs against standards developed by the automotive industry.

Organizational Change

       According to McNamara (1999):

       Typically, the concept of organizational change is in

regard to organization-wide change, as opposed to smaller

changes such as adding a new person, modifying a program,

etc. Examples of organization-wide change might include a

change in mission, restructuring operations (e.g.,

restructuring to self-managed teams, layoffs, etc.) new

technologies, mergers, major collaborations, "rightsizing",

new programs such as Total Quality Management, re-

engineering, etc. Some experts refer to organizational

transformation (p. 1).

Phenomenological Case Study

       A phenomenological case study is a qualitative tradition of

inquiry, which describes the meaning of the lived experiences

for several individuals concerning a concept or a stated

phenomenon (Creswell, 1998).

Technical College Campus

       Originally known as a trade school, a technical college

campus is a postsecondary institution that provides vocational-

technical instruction and operates under the jurisdiction of one

of seven technical college districts in Louisiana.

Overview of the Study

This dissertation was organized according to guidelines established by the Graduate School of the University of New Orleans. The first chapter provides the background and purpose for the study. It identifies the theories that have helped to shape postsecondary vocational education as it exists today. The chapter also describes recent events that have occurred in Louisiana Technical College and how those events have impacted my professional experiences.

Chapter Two presents an extensive review of vocational education literature that has been found to be important to this study. This review highlights the existence of gaps in the literature and how the study addresses those gaps. This review also builds context around the initial questions to be posed to the study's participants.

Chapter Three presents a specific description of the research design, the purpose of qualitative research, and the methods of data collection and analysis that were used in the study.

Chapter Four provides an introduction to the participants and a detailed description of findings that have emerged from analysis of the data.

Chapter Five presents the study's conclusions, implications for curriculum change in postsecondary vocational education, and future research recommendations.

Summary

This phenomenological study was framed by changes that have occurred in Louisiana Technical College and a lack of research relevant to my research question. The absence of research, combined with my own experiences as an administrator and educator in postsecondary vocational education, have guided the design of the methodology for this study. The methodology was used to explore the experiences and perceptions of automotive technology instructors as told in their own words. The findings of this study contribute to the sociology of educational knowledge elsewhere and to policymakers and stakeholders of Louisiana Technical College through valuable insight into the experiences and perceptions of a select group of instructional faculty in the college.

CHAPTER TWO

Introduction to the Literature Review

This chapter will frame the study by providing a review of literature related to curriculum change in the postsecondary technical college setting. While there have been numerous studies conducted on phenomena associated with mergers of community and technical colleges similar to the current transformation of Louisiana Technical College, this chapter will also provide indications of gaps in this existing literature that the findings of this study will address (McCall, 2002; Patton, 2002; Rash-Wooten, 1987; State Plan for Postsecondary Vocational Technical Education, 2001; Wallace, 1998).

Every educational organization operates as an open system with interactions of internal elements of the organization and interactions with external forces to the organization. Scott (1987) refers to these interactions in this way: "Organizations are coalitions of shifting interest groups that develop goals by negotiation; the structure, its activities, and its outcomes are strongly influenced by environmental factors" (p. 23). Furthermore, the relationship of these influences is so strong

that they can be described as "reciprocal" (Scott, 1987, p. 138).

Changes occurring within an educational organization are driven by these influences. The mission driving any educational organization has changed from a central tenet of providing instruction to facilitating learning (Dooley & Murphy, 1999; Hennigan, 2001; Lowrie, 1999). Furthermore, Gumport and Snydman state, "Organizational context plays a role in what counts as knowledge" (p. 376). Therefore, any change in the organization will impact learning outcomes to some degree. Additionally, learning outcomes are a central theme in identifying organizational effectiveness since organizational effectiveness has been repeatedly linked explicitly to external referents (Hirsch, 1998).

These factors, identified as internal issues, external issues, learner-centered change, and effective organizational change are intricately linked with an educational organization's curriculum and the ability of faculty to deliver the curriculum content. These factors will be topics of discussion for this literature review. These factors will also be used to develop questions to be addressed in the methodology design of this study. The literature review will begin with a discussion on curriculum change in postsecondary vocational education referred to in the literature as curriculum design and reform.

Vocational Education Curricula Design

While theorists may use different terminology, there are only five basic curriculum design patterns that are utilized in current educational approaches (Hersbach, 1992). These are referred to as a) Academic Rationalist, b) Intellectual Processes, c) Personal Relevance, d) Social Reconstruction, and e) Technical/Utilitarian. All of these curriculum design patterns are utilized in Higher Education but the last design, Technical/Utilitarian is the predominant curriculum design in postsecondary vocational education. The Technical/Utilitarian design is characterized as competency-based in format. It directly links instruction and skills. Instructional content is narrowly prescribed in this design. An emphasis is also placed on student performance rather than subject knowledge. Marsh (1997) provides additional elements of this design that include outcomes that are explicit statements of intended outcomes, contextualized core skills, and assessment based on industry related and driven certification.

Although this core curriculum design maintains its structure, the last element cited by Marsh, industry related and driven certification, creates a demand for constant curriculum reform as a consequence of changes in composition of the workforce, changes in the labor market, and industry technology (Foster & Wright, 2003; Hall, Rajewski, & Sheng, 1996). Marsh

(1997) points to four approaches to reform that are stimulated by these things:

1.   Additive Reform- This is easy to implement because it simply adds content to the existing curriculum and creates no requirements for the educational organization to change significantly.

2.   External Reform- Like the Additive approach, this has little effect on the structure of the educational organization. This approach focuses on teacher qualifications for entering the educational organization and student graduation requirements for exiting the educational organization.

3.   Regulatory Reform- This type of reform seeks changes that emphasize more time and effort to achieve higher student achievement in the educational organization. Courses are extended in length and additional days of instruction are scheduled for the school year.

4.   Structural Reform- This type of reform includes alterations to the structure of the educational organization through merit pay plans, financial aid, and admissions processes and policies.

Marsh (1997) also defines who provides input and influence into the reform of curriculum design. Those who provide input into the reform process include internal stakeholders such as faculty, professional associations, textbook writers, and education consultants. Those who provide influence into the

reform process include external stakeholders who exert direct influence over the educational organization. These external stakeholders include politicians and governing boards, central office staff, faculty, students, and employers.

Internal Issues

Marsh (1997) also expressed that there are additional, contemporary issues to the traditional concerns of curricula-design, implementation, and evaluation. These include internal stakeholder power, interactions, and relationships which are connected and empowered by institutional culture. A review of internal issues will begin first with the impact that institutional culture has in today's two-year higher education institution.

Institutional Culture

Astin, Keup, Lindholm, and Walker (2001) identify culture as "a critical component in understanding the process of planned change and transformation in colleges and universities today" (p. 1). They point out that organizational change alters culture by changing behaviors, processes, and products. Thus, a lack of understanding about an organization's culture creates the potential for failure of organizational change strategies.

Kuh, Smart, and Tierney (1996) studied the relationship of institutional culture, decision-making, and two-year organizational effectiveness, as defined by the mission statement, using causal modeling procedures. They found the indirect influences of organizational effectiveness (external environment, internal decision and managerial approaches to organizational effectiveness) were underestimated in past similar studies because of a corresponding underestimation of the strength of institutional culture. Specifically, they found the interpretation of the relationships between decision approaches and effectiveness was complicated by the possibility that respondents' (of other studies) perceptions of their institution's approach to resource allocation decisions affected their views of effectiveness. While the study provided a good view of the impact of organizational culture, it should be noted that one of the major limitations of Kuh, Smart, and Tierney's study was that only 30 out of 1200 two-year institutions were surveyed.

In another study of institutional culture effects on organizational change, it was found that the effects of culture were so significant that researchers were able to categorize types of culture according to unique characteristics (Alfred, Carter, 1998). A "clan" type of culture within an institution creates focus on internal maintenance, balance, tradition, and

loyalty. A second, and closely similar, institutional culture referred to as "hierarchical" also focuses on internal maintenance and stability, but with greater emphasis on rules, procedures, and job security. A third type of institutional culture referred to as "adhocracy" embraces an openness to change, innovation, responsiveness and a focus on the external environment. The fourth type of institutional culture is referred to as the "market" culture. Like the adhocracy culture, the market culture also focuses on the external environment and also develops strategies of operation (and change) from a long-term perspective. This study provided a look into institutional culture as a complex, but cohesive system of team players operating at several levels within the organizational structure.

Hampton (1997) conducted a study that exposed several organizational and curricula changes impacted by organizational culture factors. In his study at Onkaparinga Institute in Australia, Hampton found changes in the organization-impacted relationships between students and teachers. He also found the ability of teachers to adapt to facilitated learning was related to cultural issues stemming from organizational change.

Additionally, organizational changes produced an increased need for technological skills among the faculty that were met with a variety of arguments from the faculty. These faculty arguments were identified as being related to cultural issues.

These arguments included little or no peer support, expenses related to organizational change that resulted in erosion of teachers wages and conditions, and perceptions to the organizational changes as having a negative impact on student learning. To address these arguments, Hampton provided a recommendation for including the use of effective communication to change attitude and increase commitment of personnel at all levels of the educational institution.

Dooley and Murphy (1999) conducted a similar study at a land-grant university in the United States. In that setting, the emergence of increasing student-centered learning activities, facilitated by new instructional technology, had contributed to a dramatic change in faculty work expectations. The student-learning activities contributed to a learning environment in which the student bore the main responsibility for learning. The faculty felt confident in their technical abilities. However, the new classroom methodologies, distance education technologies, and other changes driven by the organization's evolving mission challenged the faculty's support structure. This created barriers to change that the faculty attributed to a lack of institutional support. The study concluded that those barriers, real or perceived, tended to impede effective organizational change.

Lorelei (1996) found in a case study of a community-technical college merger that the resulting reorganization created confusion about work roles and procedures in a technical college. The study identified this work-related confusion to be related to established cultural frameworks within the technical college.

Chickering and Vermille (1977) provided a slightly different interpretation on this type of cultural phenomenon. They proposed that, because of today's work environment being high-tech and information oriented, the people and the peers within their subunit of work appreciate the effect of each person's work by the amount of energy he or she controls and directs; not according to the direct output of his or her labor. The ultimate effect then becomes a change in the manner in which the person's sense of worth within the culture of the organization is measured. Translated to the postsecondary technical education environment in which accountability has become a major issue in reorganization goals, institutional culture becomes a major force in assuring or preventing effective organizational change.

From the Top Down?

In recent years, administrators of two-year institutions have become increasingly autonomous in orchestrating adaptation

and change (Gumport & Sporn, 1999). Rosenfeld (1999) accounts for this trend because of the two-year institution being the youngest of all education systems, resulting in fewer traditions and a less rigid organizational structure. While Gumport and Sporn acknowledge data on change and expansion of higher education administration are scarce, they point out the increased business-like practices that are being implemented in administrative functions by higher education institutions. Two driving forces for this have been accountability mandates and the necessity to cultivate funds from new sources. These administrative influences on overall organizational change have been the focus of some research also. Stetson (2002) provides an in depth look at practices considered positive to organizational change. Chief among these practices is what is known as "Appreciative Inquiry and Appreciative Process". Quite simply, it is the manner in which leaders look to identify what is good within an organization and exemplify those qualities rather than looking for something wrong and employing traditional problem-solving techniques.

Organizational change orchestrated from the top down has always been more effective if institutional policies and planning are designed to advance a college's mission with a top down approach. This mode of functioning has been accomplished by obtaining feedback through understanding and appreciation,

adapting work to satisfy employee needs, encouraging personal commitment, and skillfully incorporating others in decision-making processes (Kahler & Laird, 2003; Zmetana, 2002).

With the emergence of faculty senates, initially in community college institutions and in recent years in technical colleges, the power relationship between administrators and faculty has been turned upside down (Baker, 2002). Academic professionals now possess the power to make academic decisions without the need to consult with the various levels of leadership in a college. These decisions usually include curriculum development and reform, faculty evaluation, tenure review, and professional development (Nelson, 2003). The benefit of this element of governance is that faculty who are treated as professionals on the same level as educational administrators perform their best in the classroom (Collins, 2002).

This bottom up approach to decision making has not contributed to cohesive organizational change when the institution's administrative philosophy has not included legitimate recognition of faculty senate input. Additionally, the drawback to faculty governance is that often lines blur on areas of fiscal responsibility for these decisions and on areas of responsibility specifically delegated to educational administration (Lucey, 2002). Blackburn and Lawrence attribute these blurred lines to the differences of perceptions between

administration and faculty on common issues (1995). They found stark differences in the perceptions on adequate instructional resources, fair allocation of instructional resources, and the degree to which faculty influence affect institutional policies and procedures. Freed, Kirkland, and Phelan (1993) suggest the incorporation of faculty input into strategic planning as an approach to include faculty governance in all aspects of organizational change.

Much attention has been focused on the power relationships of top down and bottom up organizational structures. As education has evolved, it has also become compartmentalized in its structure (Chickering & Vermilye, 1977). The mid-level compartment of that structure is the academic department. Bolton and Boyer (2003) have analyzed the role that department heads play in organizational structure and change. These consultants have analyzed many departmental settings and identified these three things: a) their efforts are supported by an institution's awareness of rising costs and the need to maximize stagnant resources, b) little attention is placed on adaptive activities at the departmental level- organizational planning, environmental analysis, innovation, and experimentation, and c) there is an easily discernable lack of trust that exists between administration and faculty. Their research indicates the department head can be instrumental in bridging the gap of

mistrust between administration and faculty and creating a positive impetus for change from within an institution's organization.

Resistance to Change

Another internal element of curriculum change is the resistance to change. Change has become an everyday dynamic of every effective organization and employees who resist change cripple the ability of an organization to survive (Bolognese, 2002). Janas (1998) refers to resistance as "the sleeping dragon of the change process" (p. 2). Janas argues that resistance can be disruptive to the change process but also offers three suggestions to utilizing resistance as positive elements of the change process:

1. Resistance is a natural part of any change process. However, if treated as a symptom of deeper problems in the change process it can be used as a mechanism to identify those problems.

2. Sources of resistance are not always clear, in part because on some level, resistance to change is a normal, valued function of existence. In other words, resistance comes from fear of change or the unknown. Once the source(s) of resistance has been identified, establishing effective communication will reduce fear of change.

3.   Recognizing, understanding, and minimizing resistance before it evolves into a barrier to progress is accomplished through the development of specific strategies that utilize proactive approaches.

Liteman and Liteman (1998) have a slightly different definition of resistance:

> Resistance is energy. It represents passion – what people care about. Managed unskillfully (or not at all), it will be an obstacle to change. But by managing it well, organization leaders can tap its energy and use it to fuel significant and beneficial change. (p. 5)

Liteman and Liteman argue that resistance from change results from a feeling of losing a comfort zone. Individuals become temporarily incompetent during the adjustment to a change. Liteman and Liteman also argue that opportunities for creativity and the building of momentum are greatest during times of change. Their strategies for taking advantage of these attitudes include listening to all levels of an organization experiencing change and allowing for considerations of tweaking the originally planned changes to incorporate suggestions. This includes redistributing power of decision-making to all levels within an organization and concerted efforts to build trust.

Jurow (2003) examined the results of several case studies of change in academic libraries at universities that included Indiana University/Purdue University at Indianapolis, CalTech, Wellesley, and Lafayette College. Although there was variety in the depth of changes experienced at the institutions and examined in the case studies, Jurow was able to make two consistent conclusions related to the resistance resulting from changes at the institutions. First, any change should be preceded by an assessment of the need for change and the capacity and capability for change. Second, the assessment should come from a broad range of stakeholders. Otherwise, the indelible nature of resistance will thwart successful change.

Ellis (2000) conducted a qualitative case study of organizational change in a setting where an academic advisement center was moved from a student affairs department to an academic affairs department. This study brought to light the issue of the disparity that can exist between perceptions of individuals about the motives for change and the actual intent for change as determined by policy makers. While Ellis's study is worth examining for the purposes of this case study, there are some shortcomings with it. The organizational change occurred three years prior to his study. A major part of the methodology consisted of personal interviews of participants who had three years to lose the emotional impact of certain change

factors. Ellis also readily admitted that he was part of the population within the case study, which could have contributed to a significant amount of bias in the study. However, these limitations did not prevent the formation of a significant conclusion. Ellis found that without a clear understanding for the purpose of change that is shared by all stakeholders, resistance to change will exist and negatively impact effort for sustainable change.

External Issues

The two-year postsecondary educational institution operates under an organizational structure that can be considered as an open system (Alfred & Carter, 1998). The impact of external factors to organizational change in the two-year educational institution has no less impact than the internal issues previously discussed.

Peterson (1998) provides a description of how organizational studies in the last fifty years have shown there has been a slow but consistent trend in higher education to move from the post World War II educational atmosphere in which higher education had two main, but exclusive missions. One mission, typically followed by four-year institutions, has been to provide a collegial environment for the education of the few and elite. The second mission, typically followed by two-year

institutions, has been to provide job skills training for the masses.

The entire higher education system operated in a Weberian, bureaucratic process with a heavy emphasis on tradition, a historic nature, and a self-serving need to maintain a formal-rational model of organization. This status quo was successfully maintained until the 1970's when the Civil Rights Movement, free speech, and Viet Nam War protests began to threaten the higher education bastions. These social pressures contributed to research efforts, known as "Reputational Studies," that were conducted in 1988 by the Center for Research and Development in Higher Education and funded by the United States Office of Education. These studies provided additional emphasis on the need to consider the social ramifications of organizational structure of higher education, the elitism of the collegial environment, and the need to address education of the masses (Peterson, 1998).

Gumport, Iannozzi, Shaman, and Zemsky (1997) have identified other external factors consequential to the social reform of the 1970's movements that have also affected a change in mission for higher education. The non-traditional student began to emerge as a significant player in the economics of higher education funding at the same time that a slowdown in the number of new higher education institutions began to occur. A

global economy and new technology needs of business and industry prompted organizational change efforts that Gumport, Iannozzi, Shaman, and Zemsky describe as "massification" of higher education. Education for the benefits of community social needs evolved to meet training needs that would benefit the economy (Levin, 2000). Higher education began to operate more like an industry, rather than an institution. This was especially true in the case of two-year institutions. Changes in the industry were accompanied by increasing complexity and competition, which prompted changes in the way higher education institutions operated as organizations (Dickinson, 1999; Ihrig, Lightfoot 2002; Peterson, 1998).

Political and economic factors have contributed to an emphasis for institution mission change also (Anderson, 1996). One of the first federal legislative acts to significantly effect vocational education was the Smith-Hughes Act of 1917 (Zehr, 1999). Lobbied for by Charles Prosser, this act funded vocational education curricula designed to provide basic orientation to specific job skills mechanical applications characteristic of the Industrial Age of that time.

For its time, the Smith-Hughes Act served a wonderful purpose. Subsequent vocational education legislation was designed to improve public access with emphasis on veterans, women, special populations, and at-risk students. This

legislation included the George-Barden Act of 1946, the Vocational Education Act of 1963, the Vocational Education Act of 1976, and the Carl D. Perkins Act of 1984.

Federal and state legislatures, both primary-funding sources of higher education, have been active in demanding more accountability. In an address to the United States Senate in 1997, members of the Labor and Human Resources Committee voiced strong concerns about the relevancy of vocational education policy and practices for the 20th Century. The committee specifically cited the manner in which the Carl D. Perkins Vocational Education Act, the School-To-Work Act, and the Tech Prep legislation under the Carl D. Perkins Vocational Education Act are used in postsecondary education (McNeil, 1997). At the state level, officials viewing data from the Southern Regional Education Board on vocational education have been critical of postsecondary education performance because accountability has been on academics rather than technical preparation (Husain, 1998). Among a diverse number of other factors is the growing market for retraining which has led to a shift in emphasis from undergraduate education to professional education and from liberal arts to vocational training, as Gumport & Sporn point out (1999).

Conrad and Newcombe (1981) proposed four major frameworks guiding research on academic change: the complex organization,

the diffusion of innovations, the planned change, and the political change. They examined the effect of governmental mandates on the implementation of change in learning institutions and identified four stages of activity: a) administrative reaction, b) preparation and policy formation at the administrative level, c) trial and transition (tied closely to the second stage), and d) policy execution (which is sometimes met with resistance and regresses to the third stage). Conrad and Newcombe also pointed out that unsuccessful matriculation through these four stages sometimes resulted in direct governmental intervention to facilitate progress to mandates. They identified key variables that influence an institution's ability to successfully adapt programs, policies, and practices. It should be noted that their study focused exclusively on external factors affecting organizational change and included organizational change at all educational levels.

   Peterson (1998) proposed studying the changing nature of postsecondary institutions as organizations by examining their organization-environment interface. This interface consists of diversity, information technology, academic quality, economic development, new markets, and global networks. Ammentorp and Copa (1998) offer additional elements to that environment relationship in the form of knowledge dynamics, work division, and resource constraints. Gumport and Sporn (1999) offer a

slightly different concept of the postsecondary institution, its external environment, and the organizational adaptation in response to changing needs:

> Organizational adaptation refers to modifications and alterations in the organization or its components in order to adjust to changes in the external environment. Its purpose is to restore equilibrium to an unbalanced condition. Adaptation generally refers to a process, not an event, whereby changes are instituted in organizations. Adaptation does not necessarily imply reactivity on the part of an organization because proactive or anticipatory adaptation is possible as well. But the emphasis is definitely on responding to some discontinuity or lack of fit that arises between the organization and its environment (p. 18).

More recent literature on the issue of organizations changing to meet new expectations takes into account economic feasibility in adapting to change (Johnson, Roueche, Roueche, & Associates, 1997; Kozeracki, 1998; Wicker, 1994). Historically, the typical response by educational institutions to new expectations has been additive in nature. As a new training need arises, budgets have been increased to accommodate additional instructors and other training costs. In the past three decades,

changing economic conditions have restricted this additive approach in favor of other adaptations such as consolidation and replacement (Gumport & Snydman, 2002).

Learner-Centered Organizational Change

Regardless of economic factors, managerial approaches, or organizational culture effects, McClenney (1998) offers the criticism that any type of innovative (and potentially effective) change will fall short if the focus for the change is not about improving learning outcomes. This criticism has been addressed by the Southern Association of Colleges and Schools through a revision of its accreditation process (Atkins & Wolfe, 2003). A new quality enhancement component was added in December 2002 that states, "The Commission on Colleges expects institutions to dedicate themselves to enhancing the quality of their programs and services within the context of their missions, resources, and capacities, and creating an environment in which teaching, research, and learning occurs" (p. 1).

The most significant factor that should impact organizational change in the community or technical college is the commodity for which the college exists- knowledge. Prior studies have focused on organizational change due to priority setting and selective reinvestment of resources. But organization context plays a role in what counts as knowledge

with the opposite also being true. In fact, it has been purported that institutional settings and the organization help to legitimize the organization's knowledge offerings. Furthermore, studies have indicated bureaucratic change (schools, divisions, departments, etc.) and programmatic change (degree programs) are connected (Gumport & Snydman, 2002).

A dissertation study by Rash-Wooten (1987) focused on elements of governance change in Georgia's postsecondary system of vocational-technical schools. This is significant in that one of the major recommendations for change in governance structure was to develop a model for more uniform, local governance. It was found that the existing organizational structure of the system contributed to a fragmented delivery of instructional services statewide. One of the recommendations coming from the study was to include input for the design of a new organizational structure that would include not only administrators, governing board members, and political leaders, but also instructional faculty.

Rash-Wooten's recommendation to empower instructional faculty in organizational change processes is not new or without substantial merit. The *National Commission on Excellence in Education's 1983 Report: A Nation at Risk* prompted many national reforms in education. Greenman (1994), McBeath (2003), and O'Bannion (1997) noted that, in studies, which followed these

major reforms, teachers were given little opportunity to provide
input into the reforms. The result was educational processes
that were mechanistic and quantitative which teachers did not
embrace. Dickinson attributed this type of failure in change to
his interpretation of role of faculty in an educational
organization. Dickinson (1999) referred to faculty as "the
technical core" in the organization and attributed to the
success or failure of organizational change in this manner: "For
the needed transformation to occur, leaders of an organization
must examine its structure, operations, and human resources" (p.
1).

Clark (1998) also commented on the effect which faculty
have in exerting influence over organizational change processes.
His central tenet is the engagement of curriculum with the
student. He advocates the study of faculty perception of cause
and effect of organizational change to their organizational role
as a powerful tool in unifying the developing system of
organization. Harvey-Smith (2003) identifies the development of
institutional culture as the approach to engagement of faculty
in learner-centered change within an institution. She states,
"The trend in postsecondary education to embrace more learning-
centered approaches must involve the examination and reshaping
of institutional cultures to truly transform" (p. 1).

A qualitative case study was conducted on the transition of
the governance structure of Tennessee higher education (Rhoda,
1985). Its purpose was to document the considerations, which
impacted and culminated in the transfer of governance of four
technical institutes and twenty-six area technical schools from
the Tennessee State Board of Education to the Tennessee State
Board of Regents.

The setting of that study is significant to this paper
because of its similarity to the transfer of Louisiana Technical
College from the Louisiana Board of Elementary and Secondary
Education to the Louisiana Community and Technical College
System in 1998. In this study, Rhoda conducted interviews with
the governor and legislators of Tennessee, college and
university presidents, and chief executives of various higher
education governing boards. He found the transformation of
organizational and governance structure was a function of time,
issues, circumstance, historical, educational, and other factors
unique to the State. It was also found that the governor played
a significant role in the change process because of his
authority to appoint key individuals in policy-making positions.

Limitations to that study included the twenty-year span of
time the research focused on in the history of the
transformation of the governance structure and the fact that the
researcher chose to address immediate issues as well as long-

term issues. But related to these limitations are the recommendations for further study that came from Rhoda. Along with recommendations of further studies specific to Tennessee's higher education system, he also recommended additional research for specific aspects of organizational change. While the study highlighted the complex forces behind that organizational change, the lack of focus on the impact of the change in governance on curricula in the new system also highlighted an apparent lack of concern for priorities on improvement of instructional delivery.

Of significant interest to this dissertation study is the impact of organizational change on the instructional programs offered by Louisiana Technical College as the organization is transformed into a more collegial setting. Community college vocational curricula can be shaped by employer needs, industry standards, and economic development plans and strategies. Similar in ability to technical colleges, community colleges can also reach students through employer partnerships (Rosenfeld, 1999). However, the occupational teaching styles that dominate technical college settings occur in a variety of settings, involve a bewildering variety of activities, and address a greater variety of competencies compared to the academic instruction and traditional lecture programs of community college settings (Bereiter, 1972).

Another significant aspect of technical college program disciplines versus community college program disciplines is knowledge base permanency. Academic courses (forming the foundation) for most degree and transfer programs in community college settings have comparatively permanent knowledge content in relation to technical course curricula such as the welding, automotive technology, computer technology, etc. (Jacobs, 2001). In technical areas, the doubling time for knowledge growth is decreasing from years to months (Ammentorp, Copa, 1998). These content complexities challenge an educational organization to develop effective teaching methodologies that address improved learner outcomes.

Effective Transformational Change

Tracking statistics related to enrollment, completion rates, and placement rates most often identify effective transformational change of an organization. But underlying this statistical data is curricula change that effectively addresses social and economic needs. Until recent years, postsecondary vocational training emphasized occupational preparation through narrowly defined skills-specific training (Grubb, 2001). Hennigan (2001) has identified a new type of vocationalism that has evolved in response to social and economic trends. This new type of vocationalism consists of career clusters that extend

from entry-level positions through professional levels, a broader base of economic and social structures in curricula, more holistic instruction, more integration into a K-16 educational system, and most significantly- integrated curricula (academic/vocational). This supposedly new type of vocationalism actually has roots in the philosophical context of Dewey (1916) that was referenced earlier. In relation to organizational issues Dewey stated, "educational reorganization cannot be accomplished by merely trying to give a technical preparation for industries and professions as they now operate" (p. 9). Hennigan's identification of the new type of academic/vocational integration parallels Dewey's advocacy that effective transformational change comes through emphasis on development of the individual over work-skills specific training.

The Commission on the Future of Community Colleges (1988) has also endorsed this academic/vocational integration by issuing a strong statement for institutions to stop isolating academic and occupational education. The two major federal legislative acts providing educational funding in recent years, the Carl D. Perkins Vocational-Technical Act and the School-to-Work Act of 1994, emphasize integration of academics and vocational education as a way of improving career preparation in learning outcomes in two-year institution curricula. Subsequent research studies have produced findings on vocational academic

integration that reinforce the success in student performance that can be found through the implementation of integrated curriculum (Baker, 1995; Lake, 1994; Lankard, 1996).

While acknowledging these events, but also realizing the significance of the connection of organizational structure and knowledge content, Bragg and Reger (2000) conducted a study of academic-vocational integration. In a mixed-method study (surveys, document review, telephone interviews) of academic-vocational integration of curricula of Illinois' community colleges, they examined the separation in the existing political and organizational structures for liberal arts departments and vocational-technical education department. While there were efforts made to allow for articulation and transfer of courses between the liberal arts departments and the vocational-technical department, many organizational factors existed to act as barriers to a seamless integration of instructional programs. The study found the traditional distribution of time, space, and money for faculty and other resources was very different; consequently creating a competitive, rather than a collaborative, atmosphere between the departments.

Conroy and Sipple (2001) conducted a case study on the integration of a teacher education program in agriculture with a teacher education program in mathematics and science at a university in New York and found the same schismatic elements

existed. They also found the culture differences existing between the two faculties of the programs were stark and existed because of the relative isolation of each program in previous years. The study was limited in its sampling population and also had the problem in that there were great differences in the backgrounds of the participants (some nearing retirement, the inclusion of tenured and non-tenured instructors, etc.). However, it was able to highlight that differences in organizational structures of the two programs had a direct impact on the integration efforts.

According to Jacobs (2001), some of this separation can be attributed to two significant differences between the manner in which academic instruction is delivered and vocational instruction is delivered. First, the knowledge base of math, history, and English does not fluctuate, having remained relatively unchanged over the years. In contrast, the knowledge base of vocational disciplines (i.e., welding, machining, computer technology), and the manner in which instruction is delivered, changes almost constantly due to technological innovations. Secondly, even when accommodating the consideration of how educational technology has affected all aspects of the education arena, most academic disciplines have always been predominantly delivered through the consistent atmosphere of the traditional, lecture format. In contrast, vocational training

occurs in varied settings, with a bewildering variety of activities, and a greater variety of competencies compared to academic courses. Mayhew & Lewis (1974) identified these differences in instructional process and content as barriers to academic-vocational integration; these differences continue to exist today as barriers to challenge reform efforts in higher education.

Drucker (1990) offers one additional consideration for identifying effective transformational change. As educational organizations are increasingly expected to operate with more business-like efficiency with corresponding measures to identify effectiveness, Drucker points out that business has only one bottom line- turning a profit. He also points out that there is no single bottom line for educational institutions. The statistical data referenced at the beginning of this section might signify amount of activity. However, Drucker asserts current instruments designed to measure educational quality, at any educational level, are ambiguous at best.

Summary

A summary of this literature review reveals there is a large amount of information about various types of change applicable to the education arena. The amount of information on curriculum change in the education arena is significant in

colleges and universities where internal issues relating to
institution mission, faculty governance, and organizational
culture are intricately linked and contribute to resistance to
any type of change. The literature reviewed in this chapter also
explores issues of faculty empowerment and communication as
strategies to promote effective change.

The literature review has also exposed a long history of
external factors influencing organizational change in education.
These external factors include politics, changing societal
complexities, economics, and competition for students.

A third issue explored in this literature review is
learner-centered organizational change. Learner-centered
organizational change can be identified in literature as
curriculum change impacted by evolving technology and knowledge
permanency, their impact on educational programs, and the
consequential restructuring of the organization.

A fourth issue that has been examined in this literature is
effective transformational change and how it is recognized as
such. While various types of change in higher education has been
examined, impacted by, and determined effective by traditional
statistical indicators, literature shows the relationship of
postsecondary vocational education curricula to the rest of
higher education academic curricula is prompting a new

evaluation on what might be considered effective, transformational change.

The issues explored in this literature review address events and dialogue that are occurring across a large spectrum of higher education. Even though learning can be identified as a central theme in every issue explored in this literature review, there is very little discussion that can be found in relation to perceptions about the meaning of curriculum change to learning in the technical college sector. Some studies cited in this literature review have focused on postsecondary technical education but have been conducted primarily in other organizations of higher education. Other studies cited in this literature review have been conducted in technical college settings with a focus on organizational change. However, there has been no significant focus on any corresponding curricula changes. This study, using the literature review as a starting point to design questions, has been directed at identifying experiences and perceptions of a specific group of instructors in Louisiana Technical College on the curriculum changes of their instructional programs.

CHAPTER THREE

Two motives drive truth seeking: simple curiosity and practical advantage. (Goldman, 1995, p.1)

Organization of the Chapter

This chapter focuses on the study's methodological design. It begins with a description of qualitative research and the rationale for its selection as a research methodology for this study. The following sections of this chapter include the purpose of the study, an overview of qualitative research, the research question, participant selection, design of the study, instrumentation, data collection, data analysis, trustworthiness delimitations and limitations. It concludes with a summary and reference to further chapters that discuss findings.

Purpose of the Study

The purpose of the study was to explore the experiences and perceptions of instructors about curriculum changes in the newly reorganized Louisiana Technical College. It also addressed a lack of research on the evolving Louisiana Technical College. I identified, described, and analyzed automotive technology instructors' experiences with, and perceptions of curriculum

change, within a specific timeframe of the transformation of Louisiana Technical College from an institution considered to have a secondary educational mission to a two-year institution of higher education. This study provides suggestions for further research and offers information that may usefully inform policy-makers and stakeholders associated with Louisiana Technical College.

Design and Methodology: Qualitative Research

Langley (1998) has given two purposes for formal analysis within organizations. One purpose is that a researcher is uncertain of phenomena and wants to know more about those phenomena. The other purpose is to legitimize activities that are occurring within the organization. Both purposes coincide with the goals of this study, which have been to identify what activities of organizational change have impacted curricula and explore the experiences and perceptions of instructors to those activities.

To accomplish the goals of this study, a qualitative research approach was selected as the methodology. This methodology was selected because of the nature of my research question. In asking about curriculum change at Louisiana Technical College, I asked the study's participants to describe and share their experiences and perceptions in this area. To

conduct this type of research, I established a direct relationship with the instructors (Creswell, 1998). By utilizing the qualitative research methodology, I was able to provide a description of certain phenomena experienced by the participants (Lincoln & Guba, 1985).

There are many interpretations of qualitative research. However, Imel, Kerka, and Wonacott (2002) provide the following characteristics of qualitative research, which generally find consensus within the research community:

1. Qualitative inquiry occurs in natural settings, typically examining a small number of sites, situations, or people over an extended period of time.

2. Qualitative inquiry has an interpretive character. The data derive from participants' frames of reference and the meaning people have constructed of their experiences.

3. Reporting is rich with quotation, narration, and detail-what is termed "thick description."

4. Researchers are themselves the instrument for data collection and analysis through observing, participating, and interviewing. They acknowledge and monitor their own biases and subjectivities and how these color interpretation of data.

5. Typical techniques are observation, field notes, archival records of events or perspectives (in order to confirm,

supplement, or elaborate on primary sources), interviews, and questionnaires.

6. The process is inductive; data are collected to build concepts, hypothesis, or theories from observations and intuitive understandings.

7. The process is flexible; research designs can be changed to match the dynamic needs of the situation.

8. The research problem typically is related to lack of theory or previous research, may be derived from the notion that existing theory may be inaccurate, may be based on the need to describe phenomena or may involve phenomena that are not suited to the use of quantitative measures.

Each of these characteristics is applicable to this study. Qualitative research has also gained popularity in educational settings because it is context-dependent and the wholeness of the environment can be examined in social settings (Fishman, McCarthy, & Lucille, 1998; Corbin & Strauss, 1998). A specific area of qualitative research, the descriptive case study research methodology was used for this study. The descriptive case study approach was selected because of the characteristics of case study methodology that enable the portrayal of a whole organization in a phenomenological, time-framed picture (Bachor, 2000). The descriptive case study approach was also selected because of its usefulness in exploring participants' perceptions

of issues (Lincoln & Guba, 1985; Rudestam & Newton, 2001; Soy, 1997; Winegardner, 1998).

Research Question

The central research question was developed from the findings of a predissertation pilot study conducted in the Spring of 2003, gaps identified in the literature review, and my own personal observations of events occurring in Louisiana Technical College. The central research question is:

How do automotive technology instructors experience and perceive curriculum change at Louisiana Technical College?

Setting for the Study

The sites selected for this study were campuses of Louisiana Technical College. At the time of the study, Louisiana Technical College consisted of forty campuses spread across Louisiana (see Appendix H). The specific campuses for this study were chosen through the process of identifying the automotive technology instructors employed at those campuses who met selection criteria. Those campuses varied greatly in student population size and instructional programs. However, the automotive technology programs are conducted according to standardized curriculum and industry certification standards.

Sampling

Qualitative research most often consists of two types of non-probability sampling- purposeful and theoretical sampling (Winegardner, 1998). Purposeful sampling was used in this study. In purposeful sampling, the size of the sample population is determined by informational considerations (Merriam, 1998). In this case for example, the informational considerations involved identifying participants who shared similar experiences. It is important to select participants who are regarded as authoritative or knowledgeable in the study area (Goldman, 1995). It is also important to select participants who have shared the same experiences (Patton, 2002).

The protocol for identifying participants for this study was to select automotive technology instructors who met the following criteria:

1.   At the time of this study, each participant worked as a full-time instructor in the Louisiana Technical College.

2.   Each participant had obtained all teaching certifications applicable to their field of instruction. These teaching certifications include all areas of ASE certification and VTIE certification.

Criterion One was set in order to establish a sampling of participants who were employed as full-time instructors in a postsecondary educational organization that has implemented

substantive curriculum change in its automotive technology program at the time of this study. Full-time employment is defined as teaching a minimum of 30 contact hours each week for no less than nine months of a calendar year.

Criterion Two was designed to provide a sampling of participants who had a consistent, technical background. The automotive technology industry developed eight nationally recognized skills standards known as Automotive Service Excellence (ASE) Certifications. The Louisiana Technical College Automotive Technology Program's course content includes instruction in all ASE standards. Only automotive technology instructors possessing certification in all eight ASE standards were invited to participate in the study.

The second area of certification referenced in Criterion Two is Vocational Technical Industrial Education (VTIE) Certification. This was a required teaching credential for all instructors of Louisiana Technical College while the college was under the governance of BESE and during the first years of governance under the Louisiana Community and Technical College System Board of Supervisors. VTIE certification spelled out specific employability criteria for individuals seeking to work as instructors at Louisiana Technical College. This certification required a minimum number of years of work experience in the field related to the instructor's program and

a minimum number of instruction methodology courses required of the instructor.

Design of the Study

Qualitative researchers are concerned with understanding a social phenomenon from participants' perspectives (Gregson, 1998). The pilot study that was conducted for this study indicated a common concern for curriculum change that existed at several levels within Louisiana Technical College. A review of literature also indicated a need for research to be conducted on how organizational change impacts curriculum change (Gumport & Snydman, 2002).

This study was designed to establish how the participants experienced and perceived curriculum change in the automotive technology program of Louisiana Technical College. The study consisted of two sets of individual interviews to collect data that was then analyzed for common experiences and perceptions held by the study's participants. By exploring and investigating the personal experiences and perceptions of the participants in this study, insight was gained into the nature of the curriculum change and its impact on the participants' overall experience and ability to provide instruction in an automotive technology program.

The data gathering techniques used for this study consisted of audio taped, individual interviews. The list of potential participants for the interviews was identified by contacting the Louisiana Technical College's Office of the Chancellor for screening criteria information described in the section entitled *Sampling.* The person at the Chancellor's office responsible for coordinating automotive technology programs provided a list of instructors currently employed in the college at the time of the study.

Twenty instructors were contacted by telephone at their respective campus. If I did not establish dialogue with an instructor on the initial call or voice mail was not available to leave a short message, one more phone call was placed to the instructor within one week of the initial phone call. If contact was not established with an instructor after two phone calls, the instructor was considered to be non-responsive as a participant of the study. Of the twenty instructors contacted for the study, telephone contact was established with fourteen instructors. Of the fourteen instructors I was able to contact by phone and provide a brief description of the study and their role as a potential participant, ten instructors agreed to participate in the study.

Upon verbal confirmation of the instructors' willingness to participate in the study, interview dates were tentatively set,

and introductory letters (see Appendix A) were faxed to the participants according to a timeline that allowed for receipt of the letters approximately one week prior to the first scheduled interview. The content of the letters included an introduction, discussion of the purpose of the study, contact information on the researcher, and written confirmation of interview meeting time, date, and location (as discussed through the initial phone conversation). I also included copies of the individual interview questionnaire (see Appendix C) with the introductory letters to alleviate participant anxiety and allow the participants time to stimulate thinking before the interview. Two instructors who agreed to participate in the study during the introductory telephone conversation declined to participate in the study after reading the faxed materials. The instructors did not give a reason for declining to participate after initially agreeing to participate in the study. This left a total of eight participants for the study. After verifying these eight participants, I contacted the campus administrators of these participants to inform them of their instructors' participation in the study and to gain the approval required to visit their campus.

Instrumentation

Sharan Merriam (1988) asserts an assumption of qualitative research in regards to instrumentation: "The researcher is the primary instrument for data collection and analysis and it is primarily interested in meaning – how people make sense of their lives, experiences, and their structures of the world" (p. 19). Acting as the primary research instrument, it was necessary for me to utilize good communication skills that included listening and writing (Glesne, 1999; Merriam, 1998; Yin, 2003). It was also necessary to establish a good rapport with the participants early in the study to ensure they were comfortable in sharing their experiences and expressing their perceptions of the phenomena under study. This required an ability to be sensitive, patient, and intuitive for the dynamics of the qualitative data collection approach (Yin, 2003).

At the beginning of each interview and during the first round of data collection, I provided a consent form (see Appendix B) for the participant's review and signature. I also engaged in unrecorded conversation with the participant. I used this time to discuss their background. I also provided compliments on the reception given to me by staff who had greeted me as I arrived at the campus and compliments on the participant's instructional department. It was only after I felt a sense of comfort on the part of the participant that I offered

to begin the formal part of the visit, which included the tape-recorded interview.

With qualitative research, the analysis is subject to interpretation (Suri, 1999). My interpretations, and subsequent narration of those interpretations, were based upon a general, sociological perspective of the study's environment, as described in the personal context section of this study. With this consideration, I had to acknowledge the importance for ensuring my own biases and perceptions did not cloud the data collection and analysis. I had to ensure the accurate development of findings originating with the study's participants. I addressed these concerns by keeping a journal that documented my own self-reflective thoughts during the case study as is consistent with activities to establish and audit trail and promote trustworthiness in qualitative research (Patton, 2002).

Interview Questionnaire

The use of an interview questionnaire is an important aid to the researcher in guiding the flow of information collected in interviews (Glesne, 1999; Hull, 2004; Merriam, 1998; Patton, 2002). Each participant was initially interviewed with an interview questionnaire (see Appendix C). Question content for the questionnaire was developed from the literature review

conducted for this study. Question format followed qualitative research interview guidelines that encouraged contextual and specific questioning (Glesne, 1999). Specifically, the interview questions posed for this study were designed to identify how the instructors generally felt about curriculum change in the Louisiana Technical College Automotive Technology Program and what they attributed as factors driving the change.

Upon development of the draft of the initial interview questions, I submitted the draft to fellow researchers for feedback and revision by email communiqué. While the initial interviews were being conducted, I also began to develop a second interview questionnaire (see Appendix D). The first interview questionnaire had a format of neutral, descriptive questions that allowed me to establish a foundation for development of the second interview questionnaire (Merriam, 1998). Questions for the second interview questionnaire were developed around findings that helped to narrow the focus of the study. In order to ensure my own biases would not taint the development of the second questionnaire, the dissertation committee's chairperson and methodologist were consulted during the development of the second interview questionnaire. I also reviewed notes I documented in my journal to identify thoughts or reflections from the first round of interviews.

Data Collection

Typically, a case study includes multiple ways of collecting data. Along with interviews, a case study can include observations, field notes, and focus groups (Vaughn, Schumm, & Sinagub, 1996). This allows for triangulation techniques that help to build validity in the study (Glesne, 1999 & O'Lawrence, 2001). The primary techniques for data collection for this study were audio taped, individual interviews using questionnaires to guide the dialogue of the interviews.

The individual interviews were approximately 60 minutes in length with open-ended questions designed to solicit information about the participants' experiences and perceptions. The interviews were conducted at locations preferred by the study participants. All participants preferred to be interviewed in their instructional departments.

Some logistical concerns for conducting the individual, tape-recorded interviews were the scheduling of the interviews according to the study participants' availability and my own job responsibilities as well as meeting room accommodations for the interview sessions. These issues were discussed and agreed upon in the initial telephone contacts and confirmed in the introductory letters. The tape-recorded interviews were transcribed to paper form immediately following the interviews by a professional transcriber.

A second form of data collection was a review of all available documents related to curriculum developments of the Automotive Technology Program since 1998. Most of any available documents were solicited from Automotive Technology Curriculum Development Committees, the Chancellor's Office, and from the participants' own records.

A third form of data collection was notes taken during the audio taped, individual interviews. These notes were used to document body mannerisms, changes in tone of voice, or other physical observations that were used during analysis of the transcribed recordings.

Finally, most of the interviews were conducted at a substantial driving distance from my home. I took the opportunity of the solitude when driving back after the interviews to tape record my thoughts and observations about each interview. I transcribed these recordings from my audio and included them in my written journal.

Data Analysis

Data analysis is the process of coding strands of information, identifying significant bits of data, and then interpreting those bits of data to establish meaning (Creswell, 1998; Glesne, 1999; Merriam, 1998). Analysis of the data began with the transcription of audiotapes from the individual

interviews. Data analysis also occurred as data collection activities were still being conducted. Immediately after each interview was completed, transcription of the tape-recorded interview was conducted. I read each transcribed interview to develop expectations of what themes the following interviews might contain. This prepared me to develop questions for the second set of follow-up interviews.

Between interviews, I reread the transcripts and applied a coding and highlighting procedure to identify phrases or bits of data according to the research question. The concepts and themes that developed as a result of the coding and highlighting of data bits were organized through utilization of the *Who, What, When, Where, Why, and How Analysis* (Spillet, 2001)(see Appendix E).

Findings from the first set of interviews helped in the development of interview questions for the second set of follow-up interviews. I read the transcripts and applied a coding and highlighting procedure to identify phrases or bits of data according to the research question.

Through repetitive reading of the individual interview transcripts meaningful chunks, or strands, of information were identified. This information, which included quotations and examples to expose the reader to the flavor of the raw data, has

been provided in Chapter Four, along with a descriptive summary of each participant.

Trustworthiness

The remaining issue is to ensure validity in the research findings. In qualitative research, validity is referred to as "trustworthiness." According to Lincoln and Guba (cited in Seale 2002), "trustworthiness is always negotiable, not a matter of final proof that readers are compelled to accept" (p. 98). This has been viewed as one of the greatest limitations to qualitative research (Langley, 1998). However, given the growing use of qualitative research as a method to conduct research, it is evident the research community acknowledges the practicality of qualitative research in the right setting.

A key approach in developing trustworthiness lies largely on the skills of the researcher who is the primary instrument of data collection in qualitative studies (Glesne, 1999). To build trustworthiness between the participants and myself in this study, protocol for participant confidentiality was strictly adhered to with the use of pseudonyms in place of proper names. To establish an acceptable comfort level, participants were given the freedom to choose interview locations. While the participants were encouraged to fully express their ideas, perceptions, and experiences, they were not pressured into

speaking about issues in which they expressed discomfort.
Building this type of trustworthiness between the participants
and myself established a setting for the study in which the most
accurate information was solicited from the participants.

A second type of trustworthiness for the study was
addressed with the use of a personal journal. My own personal
biases had the potential to contribute to subjectivity in data
analysis. Patton (2002) argues that the researcher's
subjectivity is simply perspective that must be made explicit,
as must any other tradition or perspective brought to bear when
interpreting meanings. Glesne (1999) suggests the use of a
journal as a tool through which self-reflection on my
perspectives and interpretations can be used to control
subjectivity. My journal reflected a self-awareness of my own
biases. It was that self-awareness of biases that I constantly
attempted to temper in my interpretations during data collection
and analysis.

An open line of communication was maintained with the
participants at all times during the study to allow them to
provide additional feedback between interviews. This gave the
participants the opportunity to provide feedback as they
experienced their own self-reflections on the dialogue exchanged
in the interviews. Upon completion of the first draft document
of Chapters Four and Five (findings and discussion), I mailed

that document with a cover letter (Appendix F) to the participants for their review and feedback.

In conclusion, data analysis relies greatly on the perceptions of one researcher in qualitative research (Glesne, 1999; Patton, 2002). Therefore, I utilized a neutral reader to review the data findings as they were compiled. I also provided excerpts from my journal for their review. The study's methodologist and dissertation committee chairperson were solicited to provide questions and comments as the study progressed. This practice, along with the practices listed above, provided the internal and external elements of trustworthiness to the study.

Delimitations of the Study

The participants in this study consisted of a group of postsecondary, automotive technology instructors who provided instruction for automotive technology programs of Louisiana Technical College. This study focused on the experiences and perceptions of those instructors to events of curriculum change in Louisiana Technical College within a specific timeframe and instructional program. The timeframe began with the merger of Louisiana Technical College into the Louisiana Community and Technical College System in 1998 to the present time of this study, which occurred in the Spring and early Summer of 2004.

The instructors were also selected for participation in the study by their industry certifications; specifically ASE certification, which identified high levels of expertise. The participants taught at separate campuses and had very little interaction among each other. The number of participants was limited according to their availability to the interview schedules during the specific timeframe identified above.

Limitations of the Study

Although confidentiality issues were adhered to, it was expected there might be some reservations, even if only subconscious in nature, on the part of the participants to voice any viewpoints or opinions that might reflect negativity to issues discussed about Louisiana Technical College. With qualitative research methodology, case studies are used to describe a setting or paint a picture of some phenomenon (Glesne, 1999; Merriam, 1998; Patton; 2002). If certain viewpoints were not expressed because of participants' reservations, the described picture or identification of certain events might have been misleading to the researcher. Another researcher might also have found something different (Glesne, 1999; Merriam, 1998; Patton; 2002).

Because of time constraints for this project to be completed by the end of the Fall Semester of 2004, a tight

schedule for conducting interviews was constructed. By October

of 2003, there was a total of thirty-three automotive technology

instructors employed at Louisiana Technical College whose

instructional programs were listed as meeting all recent

certification and accreditation requirements. This population

was scattered throughout Louisiana so there were distance

considerations that limited the number of instructors invited to

participate in the study. It was also anticipated that less than

half of this population would be available, and consent, to

participate in the data collection phase of the study because of

work schedules and other commitments. Therefore, the number of

participants involved in this qualitative study could not

generate the breadth of data required to represent all

automotive instructor instructors' perceptions of curriculum

change at Louisiana Technical College.

A third limitation to this case study was my own close

proximity to the setting of the study. I have been employed in

the system for fourteen years and experienced many of the same

curricular changes experienced by the participants. However, my

experiences were accumulated as an administrator in the same

college. This created biases in me that affected the study,

regardless of the measures I pursued to build trustworthiness in

the findings. This could also have contributed to the

participants being more responsive and eager to share their

experiences with someone else whom they felt would be more empathetic than an administrator to their situations.

Summary

This study explored the experiences and perceptions of automotive technology instructors to curriculum change in Louisiana Technical College. I collected information for the study by using an interview process on a select group of automotive technology instructors. The primary issues guiding the study were the experiences and perceptions of these individuals. A rigorous process of data analysis, through coding of significant bits of information and common themes detected among the participants' dialogue, was conducted on the information collected from the study's participants.

The results of the data analysis will be presented in Chapter Four. Discussion of the results and conclusions of the data analysis will be presented in Chapter Five. Chapter Five will conclude with recommendations for future research, policy, and practice.

CHAPTER FOUR

Findings

The major thrust of this study was to explore the experiences and perceptions of curriculum change by automotive instructors at Louisiana Technical College. A primary goal of the study was to identify and document those experiences and perceptions in a manner that would allow the study's participants to tell their own story (Glesne, 1999; Hull, 2004; Merriam, 1998; Patton, 2002).

Two series of interviews were conducted for this study. Both series of interviews were guided by interview questionnaires. The first questionnaire (Appendix C) used in the study was developed through a review of current literature on postsecondary technical education. The questionnaire (Appendix D) used in the second series of interviews was developed from findings in the first series of interviews.

This chapter begins with a section that provides a brief description of the participants. The description includes participants' age, number of years of work experience, number of years teaching experience, and type of automotive industry background. Data analysis focused on identifying common themes

that emerged from the interview narratives with the participants. This chapter is also divided into several sections to identify the themes that emerged from the interview narratives. These themes were identified by the participants to have an impact on their instructional programs and the manner in which the participants provided instruction of automotive technology to students. They include instructional delivery, instructional resources and industry standards/expectations.

The Participants

Before each interview, I spent several minutes in an informal discussion with each participant. In this informal discussion we talked about the participant's classroom and lab area arrangement and characteristics of the participant's campus. I also took the opportunity to solicit the participant's background information.

The participants in this study were automotive technology instructors employed at Louisiana Technical College in the Spring and Summer of 2004. Each participant worked at a different campus of Louisiana Technical College. Each participant possessed industry certifications applicable to automotive technology and teaching certifications required of Louisiana Technical College. These certifications included the automotive industry Automotive Service Excellence (ASE)

Certification and the Louisiana Technical College Vocational Technical Instruction & Evaluation (VTIE) teaching certification. The manners in which the participants obtained their automotive technology expertise in automotive technology varied and will be described in the following narratives. Additionally, the participants possessed varying lengths of work experience as instructors and as automotive technicians working in industry. Table One provides a depiction of the diverse age ranges, work and teaching experiences, and educational and industry backgrounds of the participants.

Table 1

Participant Demographics

Participant	Age	Years of Work Experience	Years of Teaching Experience	Auto Tech Educational Background	Industry Background
Calvin	52	19	15	High School Program	Ford Dealerships
Ben	56	35	4	Military	Military and Small Business Owner
Lucas	49	27	5	High School Program	Oil Industry
Larry	50	20	13	On the Job Training	Independent Automotive Businesses
Richard	57	27	12	Public Technical College	Military
Winston	59	34	8	Military	Military
Tony	29	7.5	2.5	Proprietary Technical College	Nissan Dealership
Harry	55	21	17	University	Fleet Vehicle Maintenance

Calvin

Calvin is a 52-year old male Caucasian. He had been teaching at Louisiana Technical College for fifteen years at the time of this study. Prior to his tenure at Louisiana Technical College, Calvin worked at different Ford dealerships, first as a line technician and then gradually getting promoted to

supervisory positions. Calvin did not attend any formal
schooling in automotive technology other than short seminars
hosted by automotive manufacturers. He developed his technical
expertise through on the job training, and gradually acquired
industry certifications. Calvin was able to bring some prior
teaching experiences with him to Louisiana Technical College. He
taught several continuing education automotive maintenance
programs at the University of Louisiana at Lafayette.

Calvin's campus is located in South Louisiana and
surrounded by industries consisting of agriculture and
oilfields. A typical enrollment for Calvin's instructional
program was ten to twelve students per semester.

Ben

Ben is a 56-year old male Caucasian. He had been teaching
at Louisiana Technical College for four years at the time of
this study. Prior to his tenure at Louisiana Technical College,
he operated an automotive repair business for twenty years. This
business, located in the same community as the technical college
campus where Ben was employed, served an economic area that was
primarily agricultural in nature. Consequently, automobiles
(including commercial and heavy vehicles) designed to serve this
type of industry were a major part of the repair and maintenance

service Ben was exposed to through his automotive repair business.

Ben's formal training in automotive technology began at a vocational high school in Chicago. However, Ben's exposure to the automotive industry and acquisition of automotive technology occurred prior to his high school attendance. Ben took advantage of opportunities to work in and around race car tracks while still very young. He attributed this early exposure to the racing segment of the automotive industry as his primary motivation to enter the career field of automotive technology. After graduating from high school, Ben spent several years in the military where he received formal training in automotive technology and also acquired experience as an instructor.

Ben indicated that his reason he for teaching at Louisiana Technical College was unrelated to an intrinsic desire to teach. Rather, His teaching resulted from outcomes related to his business. Ben explained that he had depended on his son coming to work with him at his business; the son decided to pursue a different career path. So the business that was supposed to grow as a family business did not mature as such.

Ben's instructional program carried an average enrollment of 15 students per semester.

Lucas

Lucas is a 49-year old male Caucasian who had been teaching at Louisiana Technical College for five years at the time of this study. Prior to his tenure at Louisiana Technical College, he worked for oil refinery companies in South Louisiana maintaining and repairing fleet vehicles. Lucas acquired formal training in automotive technology through high school automotive classes. He enhanced his technical expertise through on the job training and industry-sponsored workshops, gradually acquiring industry certifications.

Lucas taught at a technical college campus located in one of the larger metropolitan cities in the State. He was part of an automotive technology program that included two other instructors and an average program enrollment of 30 students per semester.

Larry

Larry is a 50-year old male Caucasian who had been teaching at Louisiana Technical College for thirteen years at the time of this study. Prior to that, he worked as an automotive technician for several independent automotive repair businesses, and managed his own small automotive business for a limited time.

Although Larry had no formal education in automotive technology, he had an extensive resume of specialized

certification workshops and short courses. Larry brought no instructional experiences with him to Louisiana Technical College.

Larry taught at a technical college campus located in a mid-sized metropolitan area. His average instructional program enrollment was 15 students per semester.

Richard

Richard is a 57-year old male Caucasian. He had been teaching at Louisiana Technical College for ten years at the time of this study. Prior to this, he taught automotive technology at a local high school. Richard initially received formal training in automotive technology after being drafted into the military during the Viet Nam War. Richard worked in the automotive technology field while serving in the military and remained in the military long enough to retire.

Richard used his educational benefits (earned through military service) to enroll at the Louisiana Technical College campus in the automotive technology program that he would eventually come to as an instructor. Richard obtained a two-year diploma in Automotive Technology and then began employment in the high school setting as an automotive technology instructor.

After leaving the high school setting, Richard was employed at the technical college campus as a diesel mechanics

instructor. The diesel mechanics program began to experience low enrollment problems at the same time the instructor of the automotive technology program retired. Richard was then appointed as the instructor of the automotive technology program at that campus.

Richard taught at a technical college campus located in a rural area. The primary industry for the area was timber. Richard's average program enrollment was 15 students per semester.

Winston

Winston is a 59-year old male Caucasian. He had been teaching at Louisiana Technical College for eight years at the time of this study. Prior to his tenure, Winston served in the military in many different technical fields, as well as in the automotive technology field. While in the military, Winston received formal training in automotive technology. Winston also received formal training in teaching methodologies during his military service.

Winston taught at a technical college campus located in a small town. The primary industry in the area is timber. Winston had an average program enrollment of 17 students per semester.

Tony

Tony is a 29-year old male Caucasian. He had been teaching at Louisiana Technical College for two and a half years at the time of this study. Prior to his employment at Louisiana Technical College, Tony worked at a Nissan dealership, achieving the unique "Nissan Masters' Certification". Tony began his work experience in automotive technology by working for independent automotive repair businesses. Tony received formal training in automotive technology by attending the nationally recognized "Nashville Auto Diesel Academy". He graduated from there in 1994.

Tony did not bring any instructional experiences with him to Louisiana Technical College. As part of his employment requirements at the college, Tony began to take vocational technical industrial education (VTIE) courses in teaching methodologies. While discussing his background prior to his first interview, Tony expressed great appreciation for the knowledge of pedagogy and instructional techniques that he acquired from those courses. Tony was the only participant in the study to indicate the VTIE courses had an impact on his instructional abilities.

Tony taught at a technical college campus located in a part of the State that had a large oil industry. Tony had a

relatively large program enrollment that averaged 30 students per semester.

Harry

Harry is a male Caucasian, approximately 55-years old. He had been teaching at Louisiana Technical College for seventeen years at the time of this study. Prior to this, Harry worked in the segment of the automotive industry that consists of a variety of businesses large enough to have automobile fleets that require in-house maintenance and repair.

Harry began a narrative of his background by first stating, "he grew up in a family of automotive technicians." Harry attended automotive courses in high school and then obtained a Bachelor's Degree in Industrial Technology.

Harry came to work at his campus, first teaching a variety of non-automotive technical courses (required of other instructional programs) along with automotive technology courses. It was only in recent years to this study that Harry began to teach as a full-time automotive technology instructor.

Harry taught at a technical college campus located in a rural area. There few industries in the area. However, there was a sugar mill located in the area that had a significant economic impact on the community. The area was also experiencing moderate population growth due to its proximity to a large metropolitan

area. Harry had a program enrollment that fluctuated between seven and twenty students per semester. At the time of the study, the enrollment was seven students.

The participants, as presented in these descriptions, lived and worked in a variety of settings. Their educational backgrounds were also diverse. However, all of the participants possessed certifications and work experiences commonly recognized to be master technicians in the automotive industry and required as instructional credentials at Louisiana Technical College. Three major themes, Instructional Delivery, Instructional Resources, and Instructional Standards/Expectations, emerged in this study, and are now presented.

Instructional Delivery

Program Structure

A description of the participants' experiences and perceptions to curriculum change should begin with a description of past experiences with instruction of automotive technology at Louisiana Technical College. Automotive Technology was originally taught through a competency-based curriculum outline known as a "Student Competency Record" (SCR). Courses were offered in a free-flowing, random order and students completed

course work in a self-paced manner with few completion deadlines. Calvin described this environment as:

> The State provided a little curriculum that you followed and it was pretty loose. It was just kind of a fix it shop back here. Just make sure the students got some experience working on some cars for when they went out there to get a job. We figured out some way to give them a grade for it.

Richard's comments were very similar. He stated, "There was no sequence in the way your training was achieved, it was just put out there and basically hands on."

In comparing that method of instructional delivery to the current curriculum design of Automotive Technology, seven of the eight participants voiced positive opinions about the current curriculum outline in a manner similar to Richard's statement. He stated, "That's what I like about the new curriculum. It includes everything beginning with wearing safety glasses when they get in the shop. Every step that they take I grade them on it and I think that's great." Larry's references to the new curriculum outline included: "the students know where I'm at because I hand them a syllabus on it and day by day they know what they need to do".

The curriculum had evolved from a free-flowing, pick something to learn on any given day design to courses that had prerequisites, identified start and end dates, and stated objectives. This new, structured teaching method provided guidance in course competencies that previously was not available to the participants. It provided them with the ability to set realistic instructional goals for students and the ability to put into place better methods of evaluation to document student progress. Under the previous curriculum design, very little guidance existed to set instructional goals or document student progress.

Course Length

In contrast to positive reports of the new program's structure, several criticisms were voiced over other elements of the new curriculum design. Six of the eight participants expressed concern for the amount of time scheduled for instruction of individual courses within the curriculum. A primary change to Louisiana Technical College's Automotive Technology curriculum is the collegial approach to course scheduling. Previously, the automotive technology curriculum consisted of competency-based units of instruction that followed very loose time constraints for the completion of instruction for those units ("Vocational-Technical Program and Course

Standards: Bulletin 1822", 1987). Courses are now formatted according to credit hour guidelines. These guidelines have affected course lengths by reducing the original course lengths into smaller blocks of time without reducing the original course contents.

Participant perspectives illustrate the challenge of adapting to this new format. Ben stated, "More. More. We're having to put more in to less time". Lucas stated, "They've changed some hours and stuff in there just to make it fit".

Tony expressed a stronger viewpoint by stating, "It has personally made me a liar. It has made me into a teacher where I have to teach a 900 page book in 30 hours, which is impossible".

The instructors expressed concerns with providing adequate instruction within the new course lengths. The overall number of days of instruction within each academic year of Louisiana Technical College had also been reduced The collegial academic year (see Appendix J) consists of 204 academic days available to conduct instruction. Previously, Louisiana Technical College's academic year (see Appendix I) provided 218 academic days available to conduct instruction. This shortened academic year created additional challenges for the instructors to schedule courses for instruction.

Block Scheduling

Another element of the instructional delivery that surfaced in the interview narratives with automotive technology instructors involved concern for the new type of block scheduling. Previously, instructors were required to conduct class six hours per day, five consecutive days a week ("Louisiana Administrative Code", 1990). The participants have now been required to schedule individual courses in the Automotive Technology instructional program according to Monday-Wednesday-Friday and Tuesday-Thursday schedules, similar to the schedule of course offerings by many colleges and especially Louisiana Technical College's companion community colleges of the LCTCS.

The instructors viewed block scheduling as breaks in the flow of instruction. For example, a course on automatic transmissions requires a significant amount of preparation time on the instructor's part to set up and then restore equipment and tools for students. In answering a question on how to prepare classes with these logistical concerns, Tony stated:

> Work overtime. Number One, you have to put in more hours and get yourself ready because the amount of time provided when you're instructing six hours a day (besides your lunch break) leaves you with an hour to get everything

ready. In automotive technology that's hard. I can't go put

bugs in a car in an hour and have it ready for the (30)

guys the next day… I'm out of time.

Tony's reference to "bugs in a car" involved the practice of disabling automotive components of, or inserting faults into, automobiles to provide students with hands-on, troubleshooting skills designed to promote critical thinking skills. This was viewed by the instructors as a time-consuming practice, not only for the initial time of disabling components or inserting faults, but also for the time required to return automobiles to their original conditions.

Along with the concerns for adequate preparation time for instruction, Larry expressed a concern for the impact of collegiate block scheduling on student learning. He stated:

Before, you taught a subject and you continued

teaching it for five days (or) until you actually got the

thing finished and then you go on to another subject. That

worked out good because it kept the guys focused on one

thing. Now it's harder because they come in on Mondays and

take automatic transmissions at 9:00 a.m. to 10:00 a.m. and

they don't come back until Wednesday. They might forget

some stuff. It's the everyday repetition that makes a good

technician out of them.

Larry viewed the breaks in covering course content as detrimental to the learning process that would produce good automotive technicians who possessed critical thinking skills.

Tony's comments about block scheduling were very similar to the comments on course length as it related to the perceived stress in preparing and providing instruction in given time periods. Larry's comments reflected a concern for the de-emphasis on mastering course competencies in favor of simply achieving satisfactory progress of learning outcomes. Both comments were also related to the transformation of the automotive technology program away from the learning environment that closely simulated the automotive repair workplace to the structured, collegial lab environment.

Live Work

All of the participants made several comments on the relevance and importance of "live work" as it is used for instruction in automotive technology. Live work is defined as private or public owned vehicles brought into the instructional program with real-life problems or maintenance needs. Calvin's comments on live work provided a good representation of the other participants' comments. He stated, "It is my belief that a

student can best benefit from live repair work with some supporting theory and practical application".

Lucas compared live work to other educational technology used for automotive technology instruction by stating:

> I think it's real good for the students. It's a real headache for the instructor. Without it, I don't think they (students) would get good instruction. We don't have enough trainers… The trainers are great but they still don't show you real life, real world problems on a car.

However, there was consensus among the participants that recent curriculum changes have mandated that students be enrolled in their courses in such a way that stipulates instruction occurs only on specific topics at specific times. The participants pointed out that live work occurs on a sporadic basis. If no courses in air conditioning have been scheduled for a particular semester, no vehicles made available for live work in that area can be utilized for instruction. Then there is the opposite scenario. For a particular semester in which an air conditioning course has been scheduled, the instructor might be totally dependent on limited instructional resources if no live work is available for air conditioning instruction.

Harry provided an additional perspective on using live work as a training aid:

You have to really maintain a control on it, or if
not, you allow yourself to get into a job shop situation.
And you have to always remember you're using it as a
training device, not as a repair shop.

Harry's phrase, "as a training device, not as a repair
shop," referred to live work being viewed as an opportunity to
conduct cheap repairs and maintenance on privately owned
vehicles. Live work was viewed as a definite benefit and
important training activity by the instructors. However, it also
was viewed as a potentially abusive situation in which the
instructional process could take second place to conducting
cheap repairs on automobiles.

The participants expressed positive opinions about the use
of live work in automotive technology programs. The real-life
applications provided through live work projects were viewed as
valuable training activities to support learning objectives.
Vehicles brought in for live work projects were viewed as
valuable opportunities to make up for shortages in specialized
trainers. However, the participants expressed concerns that
recent curriculum changes were restricting the availability of
this training approach.

Instructional Resources

Changes in curriculum impact the manner in which available instructional resources are used in the classroom or lab. They give rise for the need to acquire new or more effective instructional resources to provide faculty the ability to meet instructional objectives. The nature of automotive technology instruction includes a heavy dependence on current educational technology and equipment by faculty. All of the participants expressed varying degrees of concern in meeting instructional objectives with existing educational technology and equipment in their programs. The following sections describe the participants' experiences and perceptions of how these resources affected their abilities to meet the instructional objectives in the automotive technology curriculum.

Educational Technology

My journal notes included observations of the instructional classrooms and lab areas and many of those details will follow. In those observations I saw extensive VHS videotape and/or CD libraries located in the instructional classrooms and lab areas at every site. However, as the interviews progressed several participants voiced comments about these libraries similar to this comment by Richard:

Well, (we have) outdated training aids and videos. We've got some good stuff, good quality training aids and we've got some bad ones also. I've got videos that date back to '78 and the early '80s. I also have some current ones that were made in 2002. I just got some preview CD's and I sent them back to the company… I looked at them and there were several errors in them. I called, emailed them and typed a letter to them that they need to look at them (CD's).

I noted that some automotive technology programs included two or three computer stations while other automotive technology programs contained more than a dozen computer stations located in classroom and/or lab areas. However, my observations of computer technology noted only older model computers with outdated CPU's, poor graphics, and very little capacity for sound. Winston explained his computer lab in this manner, "The computer lab looks good. However, those are office occupation hand-me-downs that don't work (with current software)". Tony stated, "In the automotive field you have to get new product and new information every year to keep up, to get these kids ready". Their comments addressed the computer technology required for current automotive industry-specific training software. This software includes *GM Service Technical College 2003, Ford Global*

Multimedia Training, and *Mitchell OnDemand 5 Repair & Estimator.*
These training software packages all require current Windows
operating systems running from new generation computers
containing Pentium III processors and hard drives with 20
gigabytes of memory.

In the automotive industry, current automotive product
information is distributed by a "Technical Service Bulletin"
(TSB). The most effective and efficient means of distribution
for TSBs is via the Internet. Winston's evaluation of this
technology in his program included these statements:

> We don't have enough of the latest technology. Not
> enough technology infrastructure to support some of the
> things that are out there… There's some new stuff that's
> available via the Internet for delivery that's not
> available (to us).

Training Equipment

The participants indicated there was a heavy reliance on
automotive training equipment and tools, as well as educational
technology, in meeting the instructional objectives if their
curriculum. Some training equipment has a lengthy service life.
Examples of this type of training equipment include car lifts,
floor jacks, and hand tools. Other types of equipment have
shorter service lives because of automotive technology upgrades.

An example of a technology upgrade in the automotive industry impacting the usefulness of training equipment includes automotive onboard diagnostic equipment (OBD). Larry identified the impact of this equipment to the automotive technology curriculum and his ability to provide instruction of that curriculum in these words, "Beginning in 1996, all manufacturers went to a new generation of computer systems. They call that Onboard Diagnostic II. It's the second generation of computer systems. We only have one 1998 Chrysler car".   Tony echoed this concern by stating, "You have to get new cars every year. You have to get updates to teach the students every year… without that we're behind."

Along with current model cars, the participants expressed a concern for the lack of specialized equipment needed to provide effective instruction of their curriculum. Tony provided the following example:

> All dealerships, due to the Firestone (tire explosions) episode have gone to a new wheel balance machine. It's actually a drum that comes out and pushes against the tire and puts 1600 pounds of pressure against the tire like a car would be loaded on it. It balances the tire and makes sure there are no deformities in the tire. This (equipment) is a standard across the board. The machine costs $15,000. When will we get them? I need to

train that student to use that machine so that when he goes out he can be effective on that machine. Yes, I can train him on mine, which will give him an idea. But I'm not keeping up with industry to really have this guy ready the day he leaves to go out and be a technician.

Tony's comments were based on a rash of accidents resulting from defective tires that occurred in the United States (Bott, 2000; Hauxwell, 2004). The recent incident was followed by significant upgrades in tire equipment technology in the automotive industry.

Finally, Ben provided a compelling picture of the degree to which he had to go in order to obtain training equipment for his program. He stated, "I go around to different mechanic shops picking up broke pieces that you can see there's something wrong and bring it back over here for show and tell". Ben indicated this was a common practice necessary to follow because of a lack of funding to provide satisfactory learning experiences for his students.

Industry Standards/Expectations

Every participant referenced aspects of the automotive industry as directly influential upon how the automotive technology curriculum has changed. Those aspects included

National Automotive Technicians Education Foundation (NATEF) program standards and automotive employers' expectations for graduate skills. The participants' descriptions of those aspects are provided in the next two sections.

NATEF

NATEF stands for the National Automotive Technicians Education Foundation. It is an independent, non-profit organization with a mission to evaluate technician-training programs against standards developed by the automotive industry. The automotive technology programs conducted by the participants of this study were all NATEF-certified. There were mixed reactions among the participants as to the impact that adherence to NATEF standards had on their curriculum. Winston commented:

> NATEF, for instance, is a double-edged sword. Number One, it gives us all something standard to work towards. And in that respect, it's a good thing. The bad part about NATEF standards is that in certain places and times, they get a little bit more extensive than what we need to teach entry-level technicians.

Several participants referenced difficulties in recent curriculum development efforts that occurred at the same time all automotive technology programs were mandated to become NATEF-certified at Louisiana Technical College. The participants

indicated their programs benefited in terms of new instructional equipment and supplies in comments similar to Ben's assertion that "NATEF was a help with money for equipment and books and tapes. It helped out a lot for tools".

NATEF requires instructors to document tasks as students complete them. Calvin pointed to NATEF task lists (used to document student performance) as beneficial to his program by stating, "With NATEF standards, because you document what you're teaching them on, everyone knows they did it". Larry indicated NATEF also provided motivation to instructors to pursue continuing education training by commenting, "NATEF just keeps you updated. The Automotive Service Excellence (ASE) certifications and all that stuff is required; 20 hours of training (annually). You've got to stay on top or you're in trouble… NATEF is good". The instructors viewed NATEF as a useful aid in documenting instruction and validation for maintaining industry certifications.

However, along with those benefits described by Calvin, Ben, and Larry, another side of NATEF was described as the other edge of Winston's sword. Winston stated, "In Automotive Technology, our curriculum is actually the NATEF task list". Tony stated, "NATEF standards are competency-based standards. We are not competency-based anymore". These comments are related to the comments in the earlier section disclosing findings about

the changes in course length. Winston pointed out the mandated NATEF standards for instruction (i.e., competency-based) were difficult to adhere to in the current, automotive technology curriculum design.

Lucas expressed a degree of exasperation as he made these more specific comments on conflicts between NATEF standards, course length, and changes made to the curriculum in efforts to make it fit existing instructional needs:

> They've changed some hours and stuff in there just to make it fit (in the curriculum). We're going by NATEF standards and so they have to meet the NATEF standards. NATEF standards are great. It gives us something to shoot for but it can't be accomplished. You can say you're doing it but you can't really do it. They've got tasks in there you have to do and there's only so many hours in a day to do those tasks with 25 students. You start adding the hours that it takes to do those tasks and the tasks that are required can't be done in the length (of time) we have with the students. It's just impossible.

Tony provided one additional thought about the conflicts that existed with the curriculum and NATEF standards:

> Look, they went ahead with the NATEF, in my opinion, before they had the curriculum straight. They should have

done one or the other. They should have went NATEF and then went curriculum or we should have went curriculum and after we had the curriculum straight we should have done NATEF. We tried to bite off too much, too much.

These comments reflected the instructors' experiences of fitting industry-based program standards into a curriculum design consisting of course lengths insufficient for the tasks required of the standards. NATEF was perceived as being an imperfect fit with the current curriculum design.

Another additional issue was brought out about how NATEF impacted the automotive technology curriculum. Initially, the mandates for all automotive technology programs at Louisiana Technical College to become NATEF-certified were accompanied by significant funding for instructional equipment and supplies required to upgrade the automotive technology programs to NATEF standards.

To remain NATEF-certified, these instructional programs have to continuously upgrade curriculum to evolving automotive technologies. Curriculum upgrades have to be accompanied by upgrades in training equipment. A practical concern was voiced by Richard on this issue. In considering the budget for new instructional technology, he stated:

> I don't see any funding yet -as far as because we're
> NATEF certified- we're getting X amount of dollars. I don't
> see that… How do you keep it up (NATEF certification)?
> We're talking expensive; minimum of $10,000 a year for new
> equipment, updating of equipment, new technology, and the
> resources that you need to keep it up.

Winston made similar comments about his experiences with efforts to maintain NATEF certification of the automotive instructional programs:

> Technology on the cars changes a whole lot faster than
> our system changes… That (technology) drives the whole
> train. You know, to be NATEF accredited, we are not
> supposed to have anything in our program over six years
> old; texts, service manuals, cars. However, I think when
> you look around you will see that is not quite the case.

Richard and Winston pointed out the need to continuously upgrade automotive technology programs, both in curriculum design upgrades and with instructional equipment. Unless the automotive technology programs were continuously upgraded, according to NATEF standards, the programs would lose the NATEF accreditation. Richard pointed out the upgrades could not be accomplished without significant, and continuous, funding for instructional resources. Several of the participants of the

study expressed very pessimistic expectations for funds to maintain NATEF accreditation.

The participants described benefits to their automotive technology through NATEF accreditation. These benefits included improved structure of activities and the evaluation documentation of those activities. The automotive industry's recognition of NATEF meant better recognition of graduate credentials. The participants saw NATEF as a motivation for maintaining or improving their own individual credentials. While it was very significant in the perception of the participants, the only problem with NATEF was the conflict in it being competency-based and not fitting easily within the current curriculum design of their instructional program. Regardless of positive or negative impacts on the automotive technology curriculum, an expectation among the participants existed about the future demise of NATEF accreditation because of insufficient funding.

Graduate Skills

The participants expressed very similar thoughts about the existence of misperceptions or lack of appreciation by the public and other educators for the highly technical content of the automotive technology curriculum and skills levels of their graduates. These thoughts were expressed on the misusage of the

titles of a "mechanic" and a "technician". Ben stated, "They think everybody can fix everything, that there's nothing hard about this; if you're a mechanic you can fix it. And mechanics can't fix these new vehicles; it's got to be technicians. Similarly, Winston commented, "I get irritated when somebody calls me a mechanic… We're not just old mechanics that you can teach how to do brake jobs and go out there and hit the streets". The participants defined a mechanic as someone who simply swapped broken parts for new parts on an automobile; a process that required very few critical thinking skills. A mechanic changed oil and filters, installed new tires, or replaced fan belts. In contrast, the participants defined a technician as someone who troubleshot problems and identified solutions using problem-solving skills. A technician was identified as someone who had a thorough knowledge of electronics theory and could apply that knowledge through the use of diagnostic equipment on the many electronic systems of the newer model automobiles.

Tony elaborated on how those differences between a mechanic and a technician impacted the instruction of automotive technology. He said:

My main emphasis as an instructor here is to make sure my students, before they leave me, know everything that they possibly can about engine performance and electrical.

The other courses, as far as brakes, heating and air
conditioning and things such as that, I don't spend a lot
of time with because that's a mechanic's job; it's not a
technician's job and in today's world you have to be a
technician.

Larry's perspective on the advanced technology of the automotive
industry provided elaboration on Tony's remark. Larry explained:

The electronics in the car is just unbelievable.
They've (automobiles) got 27 computers, up to 35 computers,
on a car and people don't realize it. They just don't
realize how much technology, how much reading of books;
over a million pages we have to read every year to try to
keep up with the cars.

These comments reflected a perception that the electronics
technology of the industry was an overwhelming force to contend
with in an automotive technology instructional program.
Consequently, for the limited amount of time provided for the
instruction of their courses, the instructors put emphasis on
electronics-related course competencies. Thus, participants
perceived that their higher-order challenge involved the task of
producing graduates who could function as technicians rather
than as mechanics.

Many of the participants also commented about a concern for the public's perceptions of a mechanic versus a technician. A problem related to this misunderstanding of how advanced the automotive technology curriculum has become and how recruitment and counseling processes directed, or misdirected, aspiring automotive technicians to the industry. Winston stated, "The perception of high school and college counselors is that anybody can be a mechanic, which might or might not be true. However, not everybody can be a technician".

Winston's remarks underscored the difficulties that some interview participants had experienced with students advised through the counseling and matriculation process to enroll in automotive technology programs. In some negative cases, students entered the highly evolved automotive technology programs with inadequate literacy skills and academic preparation. For example, Winston pointed out that most automotive repair manuals are written at 10th to 13th grade level. In contrast, the minimum reading level required for entrance into an automotive technology program at Louisiana Technical College is at the 8th grade reading level. He stated:

The antiquated method of going to developmental studies to build your skills as you go along (in the automotive program) doesn't work. That's because the people making these decisions (entrance standards) don't know what

we do. They don't know how complex it is, nor do they care. They just think that we are the square peg. The system is the round hole. They have a big hammer and they're going to nail us down.

This incongruence between admission requirements and curriculum demands left instructors with the difficult task of trying to provide academic remediation to the students, while at the same time, trying to keep the students on satisfactory progress with their technical studies. Ben proposed a solution to the problem of inadequate preparation of many students directed to automotive technology programs. He commented on the need to improve entrance standards as a way of addressing that issue:

I would like to see the students tested for mechanical ability where, you know, where they can come in and learn without struggling real hard. Not just to make my job easier. I am just saying so that they can comprehend and learn.

The participants' comments reflected a common concern for more effective counseling to enhance student success as well as improve retention and completion rates for their programs.

Future Outlooks

Each participant provided comments about their expectations for the future of automotive technology programs at Louisiana Technical College. While there were diverse opinions provided about how the curriculum would look in terms of content (i.e., emphasis on various areas of automotive technologies), the participants generally agreed on several points.

One point of agreement was safety. The participants were aware of a new enrollment policy that stipulated a minimum of fifteen students per class. It was previously noted that, prior to the curriculum changes in recent years, very little structure existed in the automotive technology program. Students could be assigned to a variety of tasks that resulted in a combination most easily supervised according to the instructor's capabilities, complexity and safety concerns for those tasks. Most of the participants provided positive comments on the curriculum changes that provided more structure. However, that same structure also restricted the flexibility of the instructor to coordinate lab activities with safety in mind. While a lecture class would be easy to conduct with fifteen or more students, the same class size would be potentially unsafe in a lab environment. Richard stated:

> Yeah, you can have 30 people in the classroom, no
> problem. But once you get into a lab environment it's

different. People are doing different things; working with

hydraulic equipment, pressure, electrical, heavy lifting

equipment, moving engines around. Anything can happen.

Ben voiced a similar comment:

What I worry about more than anything is somebody gets

hurt out there where one set of eyes are on 15 or 20

students. It's hard to keep up with what everybody's doing.

I can see danger pretty good. But a lot of these kids, they

can't see danger.

The participants perceived the new, minimum enrollment policy as

a potentially dangerous mandate by creating overcrowded lab

areas that would be difficult to properly supervise.

Another point of agreement among the participants was a

concern for the student to come first. This is reflected in

Winston's definition of himself, "A dedicated individual that

has a true desire to make a difference and help teach those

students who come through here to be successful". Tony added, "I

find it more rewarding because now I am putting people to work

and I can see the difference in their lives. It's extremely

satisfying".

Finally, Calvin summarized it best by saying:

I've always tried to do what's best for the student

and in my mind it's getting more opportunities and of

course the more he learns to do in the variety of car lines

and types of work the more opportunities he will have.

Generally, the participants expressed similar thoughts about their obligations to students. They also had positive expectations for the future of automotive technology as a viable and sustainable program of instruction for their students at Louisiana Technical College. However, those expectations were framed by the previous comments about the need for increased funding for equipment and other instructional resources in order to provide students with a realistic and advanced learning environment.

However, one participant expressed a significant level of dissatisfaction with recent curriculum changes and how those changes impacted his ability to teach students. Calvin stated:

For the most part, I have learned through experience

to not be the first one to jump on the changes. I am

somewhat resistant to the changes. I continue to do pretty

much what I feel is necessary in my individual shop to see

that students learn what they need to know. Regardless of

the curriculum changes, I've also become pretty adaptive at

making sure the paperwork looks like it should for those

who want to see it a certain way, whether it truly reflects what is actually happening in the shop. I'm speaking for myself but I can promise you I am speaking for the majority of the instructors. This has distracted from the time I could spend doing what I really need to be doing which is serving as a mentor to students engaged in live work in the shop.

Calvin viewed many changes as being implemented just for the sake of change. He also described his experiences as an instructor as being sincere with the student but skeptical with policymakers. Calvin also strongly expressed the opinion that his views were shared by many other instructors of the college.

Summary

In this chapter, the "lived experiences and perceptions" of a group of automotive instructors at Louisiana Technical College were described in detail. The data revealed three key themes around which these experiences and perceptions are intertwined. The participants described their experiences and perceptions to curriculum change according to a somewhat new, complex structure (to them) of instructional delivery. That structure included changes in curriculum according to course length, block scheduling, and live work training.

Second, the highly evolved technology of the automobile has also created demands for instructional resources in an automotive technology program. The participants are being challenged to update to expensive educational technology with limited funding. Expensive (but lacking) training equipment required for current technologies in the automobile is also challenging the participants as they attempt to provide the minimal quality of instruction expected of them.

Third, the participants' instructional programs are affected by the automotive industry through accreditation requirements that seem to clash with the current curriculum design. The clash comes from accreditation standards that are competency-based and require course content lengthier in time to cover than existing curriculum design allows. There also exist misunderstandings of how the current curriculum design should be producing graduates expected to perform as mechanics or technicians.

Finally, the participants expressed sincere concerns for the welfare of their students and their responsibilities in preparing their students for the world of work. The participants cited new minimum enrollment mandates as contributing to overcrowded laboratory environments to the point of creating safety hazards. The participants also showed a strong concern for providing the best possible instruction for their students.

In Chapter Five, a discussion of these findings will explore the theoretical context and shed light on future implications related to research, policy, and practice for automotive technology programs at Louisiana Technical College.

CHAPTER FIVE

Discussion

This study investigated curriculum change through the experiences and perceptions of a group of automotive technology instructors at Louisiana Technical College. The literature review conducted for this study provided an overview of curriculum change and factors that influence curriculum change. The issues explored in the literature review concerned events and dialogue that are occurring across a large spectrum of higher education. However, there exists very little discussion about the meaning of curriculum change to learning in the technical college sector. This study addressed that gap in the literature by giving voice to a group of instructors in a technical college setting. Any research that is conducted on instructional delivery in technical colleges can provide useful information for curriculum developers as curriculum is upgraded to new technologies.

This study's findings are significant for two reasons. First, technical colleges are becoming increasingly important in providing workforce development training for business and industry. This training is important in keeping American

industry competitive in a global economy. Any research that is conducted on instructional delivery in technical colleges will provide useful information for curriculum developers as curriculum is upgraded to new technologies.

A second reason that this study is significant is specific to the automotive industry's needs. This study focused on curriculum change. The technology of the automotive industry changes on an annual basis as new models of automobiles are introduced to consumers each year. Changing technology of the industry requires corresponding changing curriculum- in content and pedagogical practice. Research on the experiences and perceptions of automotive technology instructors to this phenomenon can provide important information to assist automotive technology instructors assimilate curriculum change into their instructional programs.

Using the case study approach, I elucidated those experiences and perceptions of eight automotive technology instructors through narration of their comments in a series of individual interview settings. The interviews took place over a time span of two months. They were conducted at the campuses where the instructors taught automotive technology. During, and after the interviews, the instructors were provided opportunities to communicate any afterthoughts. The instructors were also provided a summary of the first series of interviews

and then a combined summary of the first and second series of interviews for comments and corrections of my communication or depiction of findings.

The findings suggest the study's participants were impacted by curriculum change through three major factors. Those three factors are the manner in which delivery of instruction occurred, the availability of appropriate instructional resources, and industry standards and expectations. There was a general consensus among the participants that their curriculum design had improved through better structure of content and evaluation. However, the structure made it more difficult to utilize traditional instructional resources such as live work. Live work consisted of training activities on vehicles brought in with real-life problems. This type of training was very cost effective but could only be conducted as opportunities became available and could not be planned for according to the new manner in which classes were scheduled.

Very little funding accompanied recent curriculum change. The result was a situation in which the participants found themselves challenged with conducting quality instruction in a highly technical training program with inadequate instructional resources. Finally, the participants were also challenged with maintaining NATEF industry accreditation standards for their

programs; standards that clashed with the design of the curriculum.

This chapter will present an overview of the study followed by a reflection of the theoretical context of the findings. A discussion will be offered on the factors associated with curriculum change by the participants. The chapter will conclude with implications for policy and practice and topics for future research.

Overview of the Study

This dissertation research study was organized according to guidelines established by the Graduate School of the University of New Orleans and directed by a dissertation committee. The background and purpose for the study are described in Chapter One. Chapter One identifies theories that have helped to shape postsecondary vocational education as it exists today. The chapter also describes recent events that have occurred at Louisiana Technical College and how those events have impacted my professional experiences.

An extensive review of vocational education literature was conducted prior to designing the research methodology for the study. This review highlighted gaps in the literature. A research methodology was designed to conduct a study to address those gaps in the literature review. Data was collected through

audio-taped, individual interviews of eight participants over a two month period. An analysis was conducted and the findings discussed with suggestions for future research and implications for policymakers.

An overview of this study should be framed with a description of the setting within which the study was conducted. That description was documented by a personal journal I kept during the study. The participants of the study worked at different campuses scattered across Louisiana. This meant I spent several hours driving to and from the various campuses. I utilized the driving time to audiotape my reflections (on each interview) and then transcribe the recordings to a written journal at a later date. The journal's description of the study's setting includes a description of each campus and automotive technology instructional department I visited.

Campus Settings

I found a very friendly reception as a first impression at each of the campuses I visited. Both faculty and administration offered this friendly reception. Each of the campuses I visited also appeared to have well-maintained buildings and grounds; although, all campus buildings appeared to be in excess of twenty years of age.

As I worked to establish access to the participants during the early stages of the study, I contacted each campus administrator to ensure I followed proper protocol during my visits with the participants. Part of this protocol included notifying the administrative office upon my arrival to the campus. This usually resulted in a friendly escort from the administrative office to the automotive technology program area. During these escorts, I noted the hallways were very clean and student activity areas very neat. I also noted the same clean and neat settings in the class and lab areas I walked past as I was escorted to the automotive technology department. There appeared to be an equal distribution of class and lab facilities on most of the campuses. On some campuses, I observed instructional program settings in which it appeared the original architecture did not include any classroom or lecture facilities. Walls were constructed in lab areas to convert some of that space into classrooms, leaving the impression that in earlier years little or no lecture was conducted in those instructional programs. This was indicative of the efforts put forth by the instructors to modify existing facilities to accommodate a new curriculum with greater emphasis to lecture activities than had been the practice in past years.

Instructional Settings

    All of the automotive technology programs I visited were located in the rear of the campus. The general layout of the participants' lab facilities was typical of any automotive repair facility. The lab facilities of the participants were well organized in terms of placement of training equipment and storage of instructional resources. Yellow safety lines clearly delineated areas of work and pedestrian lanes. Automotive equipment, such as car lifts, exhaust systems, and alignment machines, appeared to be well-maintained and operational. Each of the participants' instructional equipment inventories included several automobiles.

    Classrooms were generally located directly adjacent to lab facilities. Many of the classrooms had large glass windows in the adjacent walls to the lab facilities. This made it possible for the study's participants to conduct instruction in the classroom while simultaneously monitoring students engaged in hands-on activities in the lab areas. Other consistencies I observed in the participants' classrooms included bookshelves storing copious amounts of VCR tapes and automotive repair manuals. Very few of these instructional resources appeared to be new. Computer stations were located in the classrooms. At some automotive technology departments I visited, classrooms included only a few computer stations while at others,

classrooms contained more than a dozen computers. However, I observed none of the computers appeared to be current models.

I noted one exception to the antiquity generally found in the lab and classroom facilities. As it was stated earlier, only instructors who possessed current industry and teaching credentials were invited to participate in this study. These credentials, along with program credentials (such as NATEF) were prominently displayed on or around the desks of the participants or wherever an appropriate wall or bookshelf would better accommodate the display of the credentials. This was an indication of the participants' perceptions about the importance of connecting their instructional programs to the automotive industry's recognized credentials.

Theoretical Framework

Earlier, Behaviorism was discussed as the basis for making curriculum decisions in vocational education until the latter part of the 20th Century (Zehr, 1999). The behaviorist approach to curriculum design consisted of competency-based instructional delivery (Elias & Merriam, 1995). The competency-based curriculum became less of a central tenet to instructional design in vocational education and was replaced with a progressivist curriculum designed to give students greater opportunities through self-determination (Cremin, 1988;

Johanningmeier, 1994; Margonis, 1994; Zuga, 1992). Progressivism has been discussed as the increasingly popular design for making curriculum decisions in today's postsecondary vocational education environment (Bartow, Foster, & Kirkwood, 1994). The participants of this study have described changes in their instructional curriculum attributable to the progressivism philosophical approach. What was a relatively narrow curriculum designed to train students for a specific trade has now evolved into a very broad, instructional program. This is consistent with Dewey's idea of a broad, transformative curriculum (Bartow, Foster, & Kirkwood, 1994). The participants of this study repeatedly spoke of how the increasingly complex technology of the automotive industry has produced the need for automotive technology graduates with better critical thinking skills. Their comparisons of the mechanic who was described as merely a parts changer to the technician who was described as a troubleshooter with problem-solving skills highlighted their perceptions of the importance for effective curriculum transformation.

However, other organizational changes impacting curriculum design were perceived as having a negative impact by the participants. These changes included mandatory program certifications, collegial academic calendars, and credit hour course format that reflected the liberal arts academic environment of community colleges (Vo, 1996). These changes were

also identified as more closely aligned with a progressivist approach to instructional delivery (Griffen, Herren, 1998). They were expected to more effectively address the needs of a quickly and constantly evolving, industrial technology through an interdisciplinary, collegial format of instruction (Johnson, 1992).

In this study, Andragogy has also been identified along with the philosophy of Progressivism as having elements of relevance to the curriculum changes experienced by the participants. Those elements include self-direction of an individual, life experiences to learn through, maturity, problem-centered learning, and internal motivation (Knowles, 1980). These are all human elements important in the consideration of the relevance of the curriculum to the adult learner. Consequential to the curriculum changes identified as findings in Chapter Four, the relationship of the participants as instructors to students is changing. The participants saw these changes as positive in that better opportunities could be utilized in drawing on life experiences to frame instruction.

Andragogy redefines the educator's role as one of mentoring and facilitation of learning in an adult student environment (Knowles, 1980). The participants expressed a strong responsibility to their students. There were several concerns expressed about high instructor to student ratios. Safety was

one reason given in defense of smaller classes. Quality instruction was a second reason given by the participants. The lab settings of an automotive technology program make it extremely difficult to work with a large group of students. Instructors have to teach, as much as possible, on a one-to-one basis with students. My personal observations upon arriving at each participant's program confirmed this type of mentoring instruction was occurring. I always arrived to see two different instructional activities. Either the participants were working with individual students or small groups of students in the lab area or they were observed working with individual students or small groups of students on hands-on projects in the classrooms. I never observed formal lectures with large groups of students during my visits with the participants. This indicated mentoring and facilitation, primary philosophical canons of Andragogy, were cornerstones of instructional delivery to the participants' instructional styles.

Discussion of Findings

The findings of this study are identified as three themes. Those themes are the manner in which delivery of instruction occurred, the availability of appropriate instructional resources to accomplish learning objectives, and industry standards and expectations of automotive technology

instructional programs. These themes will be described and discussed in the following sections.

Instructional Delivery

The literature review included descriptions of basic curriculum design patterns found in higher education. Those design patterns included a) Academic Rationalist, b) Intellectual Processes, c) Personal Relevance, d) Social Reconstruction, and e) Technical/Utilitarian (Hersbach, 1992; Marsh, 1997). The participants commented on the manner in which their instructional curriculum had been restructured. The restructured curriculum closely emulated the technical/utilitarian design described in the literature review. That design focused on student performance rather than subject knowledge. The benefit to this curriculum design can be attributed to the issue of knowledge permanency as discussed by Jacobs (2001). Jacobs pointed out that today's technology-oriented curriculums consisted of instructional content that was constantly changing. This study produced findings that provided specific examples of Jacob's theories about technology-oriented curriculums. Automotive technology is evolving on an annual basis because of manufacturers' competition in producing better models of automobiles each year. Providing better structure to a

curriculum of constantly changing content was considered an improvement by the majority of the participants.

However, the participants expressed some discomfort with how the automotive technology course content was repackaged into credit hour courses that stipulated specific amounts of time to cover course objectives. By comparing their prior experiences in teaching automotive technology to their present experiences, most of the participants expressed a strong concern for the reduced amount of instructional time allocated under the collegial approach of course design. One participant relatively new in the college (and lacking that background experience to compare) also expressed the same concern. The amount of time given to provide quality instruction for all curriculum content was perceived as insufficient by the participants.

A related concern of course scheduling was brought up about the manner in which block scheduling of courses occurred. Some participants liked the structure of block scheduling because it provided them with the ability to give students a calendar of instructional activities to expect and prepare for. Other participants perceived the block scheduling as a hindrance in creating a free flowing and smooth learning environment. Logistical issues with setting up automotive technology lab activities were also expressed in dialogue about block scheduling.

Finally, live work was repeatedly discussed by the participants. This finding fits in the paradigm of John Dewey's Progressive approach to learning. Almost one hundred years ago, Dewey argued about the importance of bringing real life experiences into the classroom. The participants favored live work because of the real life experiences afforded by this type of instructional activity. Live work consisted of real life problems associated with automobile technology. Breakdowns in mechanical and electrical systems of automobiles in current use on highways occurred in a natural manner and in a natural frequency that could only be simulated in a superficial way with bench trainers. But again, the participants' recent experiences with block scheduling reflected additional difficulty with providing live work settings for the participants. Breakdowns and problems of automobiles brought in under live work status rarely coincided with relevant course topics scheduled under the recently established collegial format.

Instructional Resources

The literature review included a discussion of how institutional culture affected perceptions about the effectiveness of an institution's approach to resource allocation (Kuh, Smart, & Tierney, 1996). Instructional resources were repeatedly referenced as the participants spoke

of curriculum change. There were two primary types of instructional resources utilized in the participants' automotive technology programs. One type of instructional resource was educational technology that consisted of conventional electronic materials. These included VHS tapes, CD's, and information downloaded via the Internet.

The participants relied heavily on these types of instructional resources for two reasons. One reason was to keep their programs updated to current automotive technologies. The other reason was to provide instruction on automotive technology concepts for which the existing department's inventory of instructional equipment was not adequate. The inadequacy might have been because of being outdated to current industry standards or because there was simply not enough equipment for the number of students enrolled in the program.

The participants' evaluation of these instructional resources in meeting curriculum objectives was very pessimistic. The participants' comments indicated their existing electronic libraries of VHS tapes and CD's were quickly becoming outdated, with little expectation for future funds to upgrade the libraries. The participants' also indicated many discrepancies and misinformation that could often be found in new releases of materials.

The other type of instructional resource referenced by the participants was automotive-specific training equipment. Some types of training equipment required for an automotive technology program have many years of serviceable life. Car lifts, engine stands, and hand tools are examples of equipment with long service life in an automotive technology program. There are many other types of automotive equipment that quickly become outdated because of evolving technology in the automobile. Examples of this equipment include electronic diagnostic test equipment, electronic wheel alignment equipment, and fuel injection systems. Without funding to continuously upgrade these types of equipment, the participants indicated students could only expect to obtain rudimentary skills that probably wouldn't meet current automotive industry needs. The consequence of restricted funding for technology would be a restricted capacity for the automotive technology programs (at Louisiana Technical College) to only produce graduates with skills more aligned to the job classification of a mechanic. With sufficient funding to upgrade technologies, the automotive technology programs would have the capability to produce graduates with skills more aligned to the job classification of the automotive technician.

Industry Standards/Expectations

The literature review included a discussion on external issues known to impact change in higher education. It was pointed out that changes in industry prompt changes in higher education (Dickinson, 1999; Ihrig, Lightfoot 2002; Peterson, 1988). This study has added to the existing body of literature by highlighting the impact of the automotive industry on automotive technology instructional programs through NATEF. NATEF obviously is a major influence on how the automotive technology curriculum has evolved. Generally, the participants expressed positive opinions on its impact on their instructional programs. However, it is also obvious the participants experienced some conflicts with the implementation of the competency-based standards of NATEF into the present automotive technology curriculum design. Changes to automotive technology course lengths and semester schedules equated into less instructional time. The participants expressed the opinion that there was insufficient instructional time to satisfactorily meet course objectives.

NATEF program accreditation standards also require continuous updates of equipment and automobiles. These updates require more funding than the participants expect to receive for their programs. The probable consequence for not maintaining up-to-date equipment and automobiles is a loss of NATEF

accreditation. Losing the NATEF program accreditation could mean losing industry recognition for an automotive technology program to be viewed as operating at current industry standards.

The participants also spoke about another issue of recognition. The participants shared the feeling of being under appreciated for the level of technical skills that their graduates carried with them into the automotive industry. Louisiana Technical College's automotive technology curriculum is designed to produce entry-level technicians. The participants expressed resentment to the use of the term "mechanic" in reference to themselves and for their graduates by the general public. The participants viewed the definition given to mechanic as "a parts swapper". Whereas, the participants viewed a technician as one who had a sound theoretical background of automotive systems that provided them with the ability to troubleshoot, identify, and then correct a problem. The interchangeable use of the terms mechanic and technician by the general public created a perception of being under appreciated by the participants. The participants especially identified this perception of under appreciation by the descriptions of how students were counseled, assessed, and then advised to enter automotive technology programs.

Implications for Policy and Practice

Automotive Technology at Louisiana Technical College is needed to meet workforce needs of the automotive industry. It is also an instructional program that provides a lucrative career path for its graduates. The success of this instructional program hinges on faculty resolve for program quality and as well as commitment of the college to the acquisition of appropriate resources. Findings of this study have implications for policy and practice that should ensure that success. Implications have been grouped according to three categories: curriculum development, industry relations, and policymakers.

Curriculum Development

The findings of this study highlight the fact that curriculum content should be revised on an annual basis due to the nature of the automotive industry in producing new automobile models each year. New automobile models contain new electronic, fuel injection, and hydraulic systems. New automobile models are also constructed with new materials. These materials include synthetic lubricants, metal alloys, and plastic alloys.   Automotive technology faculty should be provided with better access to these automotive industry developments. The most effective means to access this information is through electronic media; the same approach used

by the automotive industry in disseminating technical information updates. Given the present state of information technology noted in the participants' instructional programs of this study, this would mean directing additional funds to improve Internet access for all automotive technology programs.

A second benefit will be derived in upgrading the information technology infrastructure of automotive technology programs. Not only will faculty have improved access to automotive industry developments, the same information technology infrastructure can be used to post information in instructional form as it is developed into course content.

This approach to improving curriculum content will not be effective unless automotive instructional faculty are given more input into the development of this initiative. Automotive instructional faculty will also have to be provided the opportunity to improve their information technology skills. This will promote faculty support and sustainable change for a constantly evolving curriculum design process.

Another implication to curriculum development is the conflicts between NATEF accreditation standards and Louisiana Technical College's automotive technology curriculum as described by the participants. The two are not a perfect fit. NATEF representatives in partnership with the college's automotive technology curriculum committee should conduct a

thorough evaluation on what accreditation standards are not being properly met and how programmatic revisions should address shortfalls.

Finally, the evolving technology of the automobile requires constant automotive technology curriculum upgrades. Increased funding for automotive technology programs will be required to keep equipment and other resources up to date. Louisiana Technical College's automotive technology programs have always had to compete with other instructional programs at the college for funding. Traditional funding sources (i.e., tax dollars) for all postsecondary technical education programs are not expected to increase. Initiatives should be pursued to go outside of the college for increased funding of the automotive technology programs. These initiatives should best take form as enhanced partnerships between local automotive businesses as well as the major automobile manufacturers.

Industry Relations

This study's findings identify a lack of sufficient instructional resources, training equipment, and current model automobiles with anticipations by the participants for more deficiencies of these things in the future. It has already been suggested, that to address these needs, Louisiana Technical College might look to the automotive industry whose needs the

Automotive Technology programs serve. The industry should also
be looked at for assistance in other areas also.

Each automotive technology program at Louisiana Technical
College should already have an advisory committee composed of
local employers. This committee typically acts in an advisory
capacity only. Louisiana Technical College also has a statewide
program director who oversees automotive technology programs at
the college's campuses. This person coordinates contacts with
industry at the college level. The current degree to which
automotive industry relations are cultivated by Louisiana
Technical College might be insufficient considering the findings
of this study. Efforts should be made to solicit contacts
through the major manufacturers. Establishing these contacts can
lead to networking opportunities and partnerships built to
provide benefits to the industry as well as the college's
Automotive Technology programs.

Dispelling the confusion of the mechanic vs. the technician
should become the central tenet of a marketing plan to improve
not only the public's perception of today's automotive
technology but also policymakers who have influence over
Louisiana Technical College. This should also be a goal to work
toward in improving industry relations by identifying the
efforts at maintaining program accreditation under NATEF as well

as the efforts of the instructional faculty to maintain industry certifications.

Policymakers

The participants have a perception that the importance of their instructional program in meeting workforce needs and the manner in which those needs should be met are not fully understood. The term "they" was often used by the participants to identify policymakers influencing changes in the automotive technology curriculum. The term was seldom used in conjunction with an identified individual or entity. This might imply that the participants were not fully aware of who actually influences change in the automotive technology curriculum above the program or campus level. This might also implicate the existence of an invisible barrier of communication between the instructional program and the administrative hierarchy responsible for supporting the instructional program.

A perception of policymaker misunderstanding by automotive technology instructors and barriers to communication can only exacerbate the issues of concern identified in this study. Obviously, policies impacting instructional faculty in their ability to adapt to curriculum change should be developed only after solicitation of advisement at all levels of the college.

It has only been in recent years that a faculty senate has been installed at Louisiana Technical College. As this faculty senate evolves and becomes more empowered, it has the potential to become an effective bridge between faculty and policymakers (Liteman & Liteman, 1998). The faculty senate should be consulted more often by Louisiana Technical College's academic program directors and central office administration in making academic recommendations to the LCTCS Board of Supervisors. For example, this study's findings included criticisms from some of the participants about Louisiana Technical College's admissions process and the appropriateness in the current process for identifying academic skills levels, planning remediation instruction, and scheduling new students into technical courses. As Louisiana's postsecondary educational reforms sets higher admissions standards in place for four-year universities, a greater number of students will be coming to Louisiana Technical College with remediation needs. The faculty senate has the potential to provide valuable insight and advice into admission policies. That insight and advice may be used by policymakers to construct admission processes that will more effectively serve students.

Future Research

This study provided insight into the experiences and perceptions of a group of automotive technology instructors to curriculum change at Louisiana Technical College. The findings provide information useful to stakeholders and policymakers at local and statewide levels. This study has also exposed topics upon which further research may prove useful.

For example, this study focused on one instructional program at Louisiana Technical College. Each of the instructional programs at Louisiana Technical College have technologies unique to only their industry. The findings brought out in this study of automotive technology instructors and curriculum change might be completely different from a study conducted in the setting of a welding instructional program or a forest technology program. Industry needs for qualified graduates are different for these programs. Industry certification standards are different. Instructional resources required for the programs are different. Consequently, there are different factors that probably would impact the experiences and perceptions of instructors of these programs.

It has been pointed out that while curriculum outline structure might remain relatively unchanged, the yearly changes in automobiles have a huge impact on curriculum content. The literature review included a discussion of knowledge base

permanency (Jacobs, 2001). Curriculum change is essentially an ongoing process if automotive technology programs are kept abreast of industry technology. Therefore, follow-up research (to this study) focusing on how constant curriculum change impacts the ability of faculty might have the potential to produce significant findings.

Furthermore, it was implied that information technology infrastructures should be improved to assist automotive instructors in staying current with industry technologies. As this form of electronic collection and dissemination of information becomes more prevalent in automotive technology instructional programs, it will impact the manner in which instructors conduct their programs. This will be an interesting area of research also.

It was noted in the participant profiles that very few of the participants had formal teacher education training prior to being employed at Louisiana Technical College. Their prior teaching experiences consisted of very little more than mentoring of younger technicians in the work environment. Research would be very appropriate to identify how individuals with these backgrounds adapt and embrace teaching methodologies, classroom management, and student performance assessment.

The participants commented on the student admissions process at Louisiana Technical College as being a process that

allows students to be enrolled in technical courses while also being enrolled in developmental courses designed to address academic skills deficiencies. The participants perceived this type of course scheduling as detrimental to those students enrolled in highly technical courses who are needing academic remediation. The Board of Regents' Master Plan for Higher Education ("Master Plan", 2001) stipulates selective admissions for four-year universities will be in place beginning in 2005. It should be expected that an increased number of students will turn to Louisiana Technical College as an education alternative because of selective admissions at four-year universities. These students will be the same students this study's participants identified as being simultaneously scheduled into highly technical courses as well as developmental courses. Thus, an already existing problem could be exacerbated by the selective admissions plan. Research on how Louisiana Technical College copes with the increased enrollment of academically weak students in highly technical instructional programs would produce findings that have the potential to positively impact student success at this college as well as in other similar educational settings.

Finally, how does the automotive industry view the quality of graduates coming from postsecondary technical college programs? This study's findings highlighted the participants'

definition of an automotive mechanic versus an automotive technician. Does the automotive industry make that same differentiation? The participant profile section of this study indicated all of the participants had lengthy histories in the industry prior to their employment at Louisiana Technical College. If automotive instructors differentiate between an automotive mechanic and an automotive technician, it would stand to reason the automotive industry should have the same interpretation of the two terms. This interpretation might be an interesting area of research to explore in identifying what the automotive industry defines as a quality graduate of a postsecondary technical college.

Conclusion

Findings of this study revealed the participants' experiences with curriculum change centered around challenges with the manner in which delivery of instruction occurred, the availability of appropriate instructional resources to accomplish learning objectives, and the industry's influence on curriculum change. The participants' had perceptions that there was a general misunderstanding of how automotive technology instruction should be conducted, with existing resources. The perception of that misunderstanding was also closely associated with the participants' perception of a general misunderstanding

for their responsibilities in producing graduates capable of working as automotive technicians versus automotive mechanics.

As was noted in the literature review, there is a natural resistance to any type of change (Bolognese, 2002; Janas, 1998; Liteman & Liteman, 1998). This study did not detect any significant resistance by the participants to curriculum change; only concerns with effective implementation of curriculum change. This study provides several recommendations in addressing curriculum change in automotive technology programs at Louisiana Technical College. These recommendations were offered in the form of curriculum development through faculty empowerment, improved information technology infrastructure, and better industry partnerships.

Finally, the participants of this study represented themselves as dedicated faculty willing to work with available instructional resources in the best manner possible to prepare their students for careers in the automotive industry. They described their experiences and perceptions to curriculum change in a holistic and accurate manner. That description provided this study with useful information that should be used by policymakers at all levels of Louisiana Technical College for future consideration of curriculum change.

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APPENDICES

Appendix A: Introductory Letter

Appendix B: Consent Form

Appendix C: Individual Interview Questionnaire

Appendix D: Individual Interview Questionnaire (2)

Appendix E: Analysis of a Participant Concept

Appendix F: Follow Up Letter

Appendix G: Human Subjects Approval Form

Appendix H: Louisiana Technical College Map

Appendix I: 2000 Student Academic Calendar

Appendix J: 2001 Student Academic Calendar

UNIVERSITY OF NEW ORLEANS

DEPARTMENT OF
CURRICULUM AND INSTRUCTION

Appendix A

Introductory Letter

Date:

XXXXXXXXXX
XXXXXXXXXX
XXXXXXXXXX
XXXXXXXXXX

Dear XXXXXXX:

You are invited to participate in a research study designed to
identify, describe, and analyze automotive instructors' experiences
and perceptions to curriculum change in the Automotive Technology
programs of Louisiana Technical College. Specifically, I am interested
in identifying your experiences and perceptions of how the
transformation of governance of Louisiana Technical College, and its
associated organizational structure change impacts your curriculum.
Information collected from this study will be used to develop a
dissertation that documents perceptions of automotive technology
instructors to the resulting curriculum changes. This research is
being done as part of my program as a doctoral student at the
University of New Orleans.

I am asking you to participate because I believe that your experience
in postsecondary vocational education settings will help me to
identify the significance of curriculum changes. The benefits to you
in doing this study are that you will have the opportunity to share
your wisdom and thoughts about curriculum change and their impact on
students. In addition, your participation in this study may help
others to develop research methodologies that can be applied uniformly
to other postsecondary technical colleges.

I have already secured the permission of my major professor, Dr. Jim
Killacky, Associate Professor of Education in the College of Education
and Human Development at the University of New Orleans (UNO) to
conduct an interview of key personnel for this project. This project
has also been approved by the UNO Institutional Research Board. As
part of your participation in this study, I will conduct an
introductory, one-hour interview with you, and later, I will conduct a
follow up interview. If it is acceptable to you, I will conduct the
interview at your office. If you feel another place is more
appropriate, I will be glad to accommodate your request. As a

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your tuition dollar."

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New Orleans, Louisiana 70148
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diversity."

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participant of this study, I will use the information you give me in a confidential manner by identifying you with a pseudonym (if you would like you can decide what name I use for you). When I interview you I would like your permission to tape-record our interviews and take notes to remind me what we talked about. I will be the only one who listens to these tapes and notes and when I am not using them I will keep them in a locked cabinet, for which I will have the only key. After I have finished with this study, all of the tapes will be destroyed.

Enclosed is a list of questions to be covered in the interview. During the interview, you may volunteer any information pertinent to the study that is not addressed by the questions. The most important thing for you to remember while you are participating in this study with me is that there are no right or wrong answers to the questions I ask you. All I am looking for are your perceptions or ideas and if I ask you to tell me more, or explain your answer it is because I want to be really sure I understand what you are telling me. Always remember that in this situation you are the expert, or teacher, and you are educating me.

You should also know that you could decide to not participate in this study, or stop doing it at any time after you have started. If you decide to stop doing this study, your decision will not affect our professional relationship in any way.

I hope that you will choose to be a part of this important work and I look forward to an opportunity to talk with you. I believe that sharing your experiences will make a valuable contribution to this research. I will contact you within two weeks to determine if you will participate in this study and schedule a convenient time for an interview. Until then, if you have any questions or concerns regarding this project you may contact me at the Alexandria Campus at 318-487-5446. Thank you very much for your time and considerations.

Sincerely,

John Martin
Doctoral Candidate
Department of Curriculum and Instruction
College of Education
University of New Orleans

Appendix B
Consent Form

1. **Title of Research Study**
   A Case Study of Automotive Technology Instructors' Experiences
   and Perceptions of Curriculum Change in Louisiana Technical
   College

2. **Project Director**   **Faculty Advisor**
   John Martin   Dr. Jim Killacky
   Doctoral Candidate   Assoc. Professor of Education
   Email: jmartin@theltc.net Email: ckillack@uno.edu
   Phone: 318-899-5283   Phone: 504-280-6449

3. **Purpose of the Research**
   The purpose of the study is to identify, describe, and analyze
   automotive instructors' experiences and perceptions to curriculum
   changes within Louisiana Technical College. This study is part of
   course requirements of a dissertation project supervised by Dr.
   Jim Killacky, Associate Professor of Education in the College of
   Education and Human Development at the University of New Orleans.

4. **Procedures for this Research**
   The study will consists of two series of individual interviews
   that will last approximate one hour each. These activities will
   be audio taped for transcription purposes. Audiotapes will be
   erased upon completion of this research project.

5. **Potential Risks of Discomforts**
   It is possible that participants can become bored, impatient, or
   fatigued during the interviews. They will be allowed breaks if
   necessary. The possibility exists also that participants can
   become distressed over a particular negative experience. The
   participants will be given an opportunity to debrief the issue or
   other issues brought up in the course of the interviews. If you
   wish to discuss these or any other discomforts you may
   experience, you may call the Project Director listed in #2 of
   this form.

6. **Potential Benefits to You or Others**
   Participants will be able to provide information that may be
   useful for future curricula upgrades/revisions for Automotive
   Technology Programs and other similar technical programs in
   Louisiana Technical College. A better informed decision-making
   process will positively impact instructors' ability to facilitate
   learning and benefit students matriculating through the
   instructional program.

7. **Alternative Procedures**
   There are no alternative procedures to this particular research
   study. Your participation is entirely voluntary and you may

withdraw consent and terminate participation at any time without consequence.

8. **Protection of Confidentiality**
   Participant confidentiality will be strictly maintained during the course of this research study and after the study is complete. Any information derived from this research study which personally identifies a participant will not be voluntarily released or disclosed without separate consent of the participant, except as specifically required by law. All data collected for the research study will be kept in a locked drawer. Audio tapes will be erased upon completion of this research project.

9. **Signatures**
   I have been fully informed of the above-described procedure with its possible benefits and risks and I have given permission of participation in this study.

   _____
   Date

   _____   _____
   Signature of Subject   Name of Subject (Print)

   _____   _____
   Signature of Person   Name of Person Obtaining
   Obtaining Consent   Consent (Print)

   _____   _____
   Signature of Project   Name of Project
   Supervisor   Supervisor (Print)

Appendix C

Individual Interview Questionnaire

1. Tell me about your experience of teaching automotive technology at Louisiana Technical College.

2. Describe your specific role as an instructor of automotive technology curriculum in a postsecondary vocational classroom.

3. What things assist you in providing the instruction of your curriculum to students?

4. What things prohibit you in providing the instruction of your curriculum to students?

5. Over the past few years, the automotive technology curriculum at Louisiana Technical College has changed. How would you describe the change? What do you think brought about the change and how do you feel about the change?

6. How might your peers (other automotive technology instructors in the college) describe the change?

7. How have you changed as an instructor as a result of the curriculum changes? How do you feel about how you have changed?

8. From your perspective, how do these curriculum changes help or hurt student learning?

9. Do you have questions for me to offer in the second round of interviews? What would be interesting to discuss?

Appendix D

Individual Interview Questionnaire (2)

1. There are a lot of diverse opinions about how automotive technology should be taught at LTC. From your perspective, why does that diversity exist?

2. Describe how curriculum changes have impacted your responsibility to the students.

3. What do you identify as the main reasons for the apparent lack of public/professional recognition for the highly evolved technology of your instructional program?

4. Describe how the collegial approach to course scheduling has impacted your ability to provide instruction of automotive technology programs at LTC.

5. Comment on the various factors (such as NATEF) that have driven changes in the automotive technology curriculum.

6. How do you adjust/adapt to the recent curriculum changes in automotive technology at LTC?

7. How would you improve the way in which instruction of automotive technology is provided to students at LTC?

8. Is there anything else you would like to say about your experiences in teaching automotive technology at LTC?

Appendix E

A TOOL FOR ANALYSIS OF A PARTICIPANT CONCEPT

Goal: To explore the terms used by participants

TOOL: THE WHO, WHAT, WHEN, WHERE, WHY, HOW ANALYSIS

Who?	
What?	
When?	
Where?	
Why?	
How?	
What is the outcome of ….?	

UNIVERSITY OF NEW ORLEANS

DEPARTMENT OF
CURRICULUM AND INSTRUCTION

Appendix F

Interview Follow Up

Date

XXXXXXXX
XXXXXXXX
XXXXXXXX

Dear XXXXXXX:

Thank you for your participation in this study. Our visits were very enjoyable to me and I have gained a deeper appreciation for your profession.

I have completed the two series of interviews with you and the other participants for this study. All interview tape recordings were transcribed. I conducted an analysis of the transcribed interview recordings. The analysis consisted of reading and rereading (several times) the transcribed interview recordings in order to identify bits of information that (collectively) described the experiences and perceptions of the study's participants to curriculum change of the automotive technology programs of Louisiana Technical College.

Enclosed in this correspondence is a draft of the findings I have identified as significant to this study and a discussion of those findings. If you have the time to read this draft document, please do so and then communicate to me your impressions of it. This will provide me with important feedback information I can use to edit or revise the study so that it will most accurately document your participation in the study.

Again, thank you for your participation in this study.

Sincerely,

John Martin
Doctoral Candidate
Department of Curriculum and Instruction
College of Education
University of New Orleans

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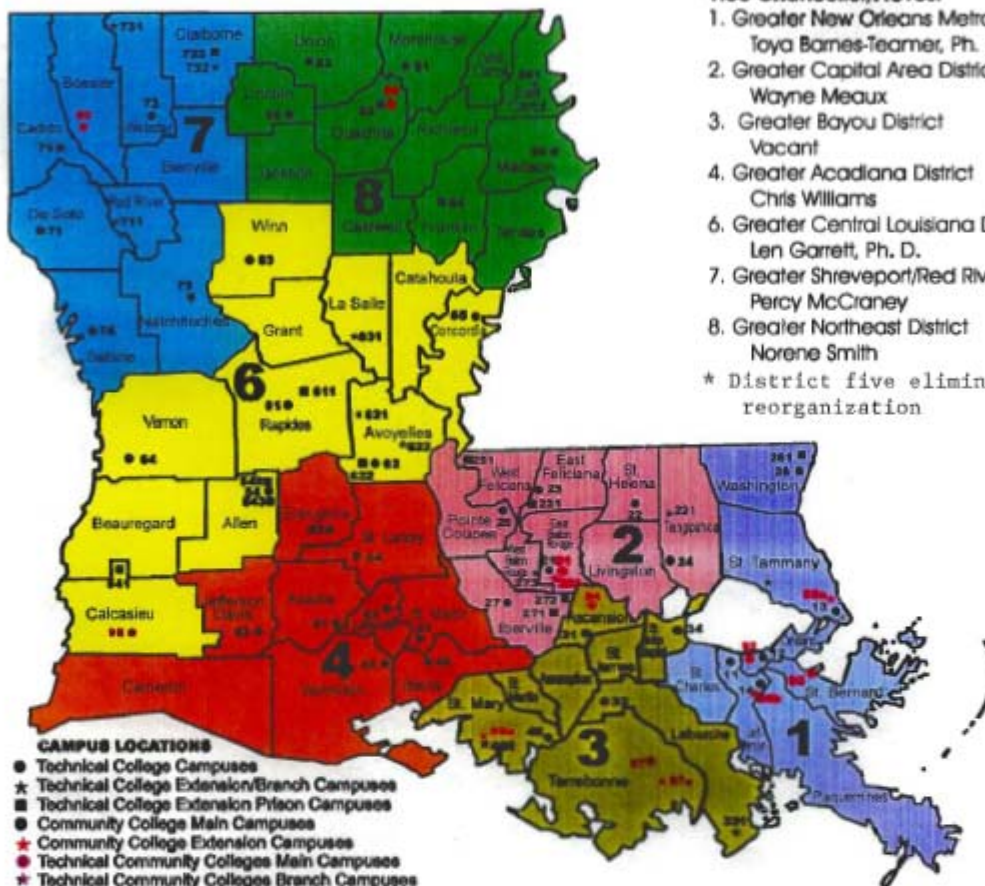– Kaplan/Newsweek College Catalog 2002

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Appendix G

UNIVERSITY OF NEW ORLEANS
COMMITTEE ON THE USE OF HUMAN SUBJECTS

Form Number: 5JUN04 *(please refer to this number in all future correspondence concerning this protocol)*

Principal Investigator: John Martin **Title:** Graduate student

Department: C&I **College:** Education and Human Development

Name of Faculty Supervisor: Jim Killacky _____ *if PI is a student)*

Project Title: A case study of automotive technology instructors' experiences and perceptions of curriculum change in the Louisiana Technical College

Date Reviewed: May 18, 2004

Dates of Proposed Project Period: From 6/04 to 6/05
*approval is for one year from approval date only and may be renewed yearly.

Note: Consent forms and related materials are to be kept by the PI for a period of three years following the completion of the study.

☐ **Full Committee Approval**

☒ **Expedited Approval**

☐ **Continuation**

☐ **Rejected**

☐ The protocol will be approved following receipt of satisfactory response(s) to the following question(s) within 15 days:

_____

_____

Committee Signatures:

_____ Scott C. Bauer, Ph.D. (Chair)

_____ Anthony Kontos, Ph.D.

_____ Betty Lo, M.D.

_____ Jayaraman Rao, M.D. (NBDL protocols only)

_____ Laura Scaramella, Ph.D.

_____ Richard B. Speaker, Ph.D.

_____ Gary Talarchek, Ph.D.

Appendix H

Louisiana Technical College
Campuses by District

Vice Chancellor/Provost

1. Greater New Orleans Metropolitan District
   Toya Barnes-Tearner, Ph. D.
2. Greater Capital Area District
   Wayne Meaux
3. Greater Bayou District
   Vacant
4. Greater Acadiana District
   Chris Williams
6. Greater Central Louisiana District
   Len Garrett, Ph. D.
7. Greater Shreveport/Red River District
   Percy McCraney
8. Greater Northeast District
   Norene Smith

* District five eliminated after
  reorganization

CAMPUS LOCATIONS
- ● Technical College Campuses
- ★ Technical College Extension/Branch Campuses
- ■ Technical College Extension Prison Campuses
- ● Community College Main Campuses
- ★ Community College Extension Campuses
- ● Technical Community Colleges Main Campuses
- ★ Technical Community Colleges Branch Campuses

TECHNICAL COLLEGE CAMPUSES
1–11—Jefferson Campus
1–12—Sidney N. Collier Campus
1–13—Slidell Campus
1–26—Sullivan Campus
    261—Washington Correctional Institute
    263—Sullivan (Covington) Instructional Service Center
1–14—West Jefferson Campus
2–21—Baton Rouge Campus
    221—Frazier Extension Campus
2–22—Florida Parishes Campus
    221—Amite High School Instructional Service Center
2–23—Folkes Campus
    231—Olson Correctional Institute
2–24—Hammond Area Campus
2–25—Jumonville Memorial Campus
    261—Angola Prison Correctional Center
2–27—Westside Campus
    272—Hunt Correctional Center
    271—LA Correctional Institute for Women
    273—Port Allen Extension Campus
3–31—Ascension Campus
3–33—Lafourche Campus
    331—Lafourche South Extension Campus
3–34—River Parishes Campus
3–46—Young Memorial Campus
    461—Franklin Branch Campus
4–51—Acadian Campus
4–52—Charles B. Coreil Campus
4–41—Evangeline Campus
4–42—Gulf Area Campus
4–43—Lafayette Campus

4–53—Morgan Smith Campus
4–44—T. H. Harris Campus
4–45—Teche Area Campus
6–61—Alexandria Campus
    611—Camp Beauregard Correctional Center
6–62—Avoyelles Campus
    622—Avoyelles Correctional Center
    623—Avoyelles Women's Correctional Center
    621—Hessmer Extension Campus
6–63—Huey P. Long Campus
    631—Rod Brady Extension Campus
6–64—Lamar Salter Campus
6–64—Oakdale Campus
    543—Allen Correctional Center
    542—Federal Correctional Center
    541—Phelps Federal Correctional Center
6–66—Shelby M. Jackson Campus
7–71—Mansfield Campus
7–72—Natchitoches Campus
7–73—Northwest Louisiana Campus
    732—F. A. "Red" Davis Extension Campus
    733—Wade Correctional Institute
    731—Springhill Extension Campus
7–74—Sabine Valley Campus
7–75—Shreveport-Bossier Campus
8–81—Bastrop Campus
8–82—Delta-Ouachita Campus
8–83—North Central Campus
8–84—Northeast Louisiana Campus
8–85—Ruston Campus
8–86—Tallulah Campus
    861—Margaret Surles Branch Campus

COMMUNITY COLLEGES
90— Bossier Parish Community College
91— Baton Rouge Community College
    221 - Frazier
92— Delgado Community College
    92a - Slidell Learning Center
    92b - West Bank Extension
93— Nunez Community College
94— River Parishes Community College
95— South Louisiana Community College
    95a - Franklin Extension
    95b - New Iberia Extension
96— Louisiana Delta Community College

TECHNICAL COMMUNITY COLLEGES
97— L. E. Fletcher Technical Community College
    97a—LA Marine & Petroleum Inst. Branch
98— SOWELA Technical Community College
    541—Phelps Federal Correctional Center

9/17/03

Appendix I

LTC-ALEXANDRIA CAMPUS
P. O. BOX 5698
Alexandria, LA 71307-5698

2000-2001 Calendar
5-Day School Week

APPROVED COPY

DIRECTIONS

1. Return completed form via UPS mail.
2. Fill in all applicable blanks.
3. Indicate the following closures:
   a. (C) Closure days
   b. (V) Vacation days for campuses not on staggered vacations.
4. Classified and Unclassified personnel will follow Civil Service and the LCTCS rules for work schedules of 40-hour work week.
5. Campus Administrative Office hours must be maintained on a daily basis from 7:30 a.m. to 4:00 p.m. at a minimum.
6. Each Term a campus must schedule a minimum of 51 school days (30 MWF's and 21 TTH's) to meet COE requirements for Associate Degrees.
7. Campuses may exercise the option to select different closure dates; however, the new closure dates must balance with the 30 MWF's and 21 TTH's rule.
8. Campuses must schedule a minimum of 208 teaching days.
9. Campuses must provide for 20 administrative days.
10. Enrollment census for the term will take place on the 14th day of each term. Any enrollee who enrolls after the 14th day of the term will be counted in the next term's census.

MWF's classes meet 80 min/class; TTH's classes meet 120 min/class.

7/13/00 1:29 PM

NOTE:
A - Administrative Days
C - Set Closure Days
CH - Civil Service Declared Holiday
L - Last Day of Term
V - Vacation Days
R/T - Registration Day and First Day of Term
EC - 14th Day Enrollment Census

NOTE: For Associate Degree Programs
Each Term must provide a minimum of 30 MWF's and 21 TTH's
Each MWF Class Period must be a minimum of 75 minutes.
Each TTH Class Period must be a minimum of 110 minutes.

SEMESTER	DATES	DAYS
Fall Term	Aug. 21 - Nov. 3	54
Winter Term	Nov. 13 - Feb. 9	51
Spring Term	Feb. 19 - May 11	54
Summer Term	May 21 - Aug. 10	59
	Total	218

Campus Director's Signature _____ Date: 7/21/00   Office of the LTC Registrar _____ Date: 7/18/00

c:/calendars/Alexandria

Appendix J

VITA

John Martin was born in Orlando, Florida in 1959. He grew up in Central Louisiana and graduated in 1977 from a rural high school in Grant Parish. After completing four years of military service in the United States Marine Corps, he began undergraduate studies at Louisiana State University at Alexandria. John transferred to the University of Southwest Louisiana and graduated in 1989 with a Bachelor's Degree in Industrial Arts.

John's career in education began in 1989 at Dry Prong Junior High School where he taught Math for three years. In 1992, he obtained employment at Alexandria Regional Technical Institute (now known as Louisiana Technical College Alexandria Campus) in a newly funded federal grant program referred to as "Tech Prep". John worked as the coordinator of this program for two years. During that time, he worked with a variety of secondary and postsecondary educational institutions in Central Louisiana. His work included the authoring of articulation agreements, coordination of a variety of staff development workshops, and organization of curriculum development meetings for faculty of the institutions involved in the program.

In 1994, John was promoted to assistant director at Alexandria Regional Technical Institute. Although he continued to stay indirectly involved with Tech Prep, John also assumed administrative responsibilities including faculty and staff supervision, facilities maintenance supervision, grant writing, and workforce development.

It was during this time that John also began graduate studies at Northwestern State University in Natchitoches, Louisiana. He was awarded a Master's Degree in Educational Administration in 1995. In 2000, John began doctoral studies at the University of New Orleans.

Currently, John is employed at Louisiana Technical College Alexandria Campus. He still assumes most job responsibilities described above, but has also been charged with other job tasks associated with the district organization under which the Alexandria Campus is placed. John plans to graduate from the University of New Orleans in the Fall of 2004 and continue a career in the postsecondary technical education arena.