

Developing Occupational Programs: A Case Study of Community Colleges

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Abstract

A progressively more technological and competitive employment environment in today's world economy requires employees to have a firm understanding of critical technical skills to build on when they arrive at the workplace. This study examines how differences in the environmental conditions and organizational factors facing four community colleges contributed to the development of occupational and technical education programs.

This study was driven by one primary research question: What environmental conditions and organizational factors influence the nature of the strategic response in the form of technical education program development within community colleges? To answer this question, a qualitative study of both stakeholders in higher education (which included individuals at four community colleges in the state of Arkansas) and individuals at the Arkansas Department of Higher Education was conducted. The institutions selected represented the widest possible range of organizations.

A conceptual framework was developed that included previous research on normative, regulatory, and cultural-cognitive environments and organizational response processes. The framework served as a guide to identify how external conditions in these processes influence the nature of the development of occupational and technical education programs at community colleges in Arkansas.

Key Words: Program Development, Occupational Education, Technical Education, Case Study, Environmental Response, Organizational Theory

Introduction

Recent decades have witnessed a growing discrepancy in the income of workers with different levels of education. Individuals with high school diplomas or less education saw their earning potential fall throughout much of the 1980s and 1990s compared with those who had more education. Between the years 1979 and 2005, real hourly wages rose for college gradu-

ates by 22%; for high school graduates they remained stagnant, and for high school dropouts, wages fell by 16% (Mishel, Bernstein, & Allegretto, 2005). Fewer than 50% of low-income workers, had more than a high school degree in 2003, and about 20% percent of these were high school dropouts (Acs & Nichols, 2007).

Even before the recent recession people who had minimal skills landed few jobs offering any noteworthy or lasting wage increases over time, fundamentally because they lacked the basic skills and education needed to advance. In a 2005 study, Anderson, Holzer, and Lane found that although low-wage earners experienced some gains in earnings over time, no more than one quarter of them permanently escaped their low-wage status. Several low-skill workers also did not have access to employment opportunities with potential for career progression, particularly in the higher wage segments of the economy, such as health care or manufacturing. The current economic crisis brings a new urgency to these labor market challenges, particularly for the low-skilled individuals competing for a shrinking number of jobs (Anderson, Holzer, & Lane, 2005).

Various experts subscribe to the notion that the severe recession that began in 2008 was the worst since the Great Depression of the early twentieth century. While this situation has had a negative effect on all social classes, it is especially grave for the lesser educated and the lower skilled job holders. Many of these low-skill jobs will not return, because of the transformation of both the American and the global economy (Friedman, 2005). One example of such restructuring is presented in the case of General Motors, where the bankruptcy and restructuring could cause the downsizing of the company by some estimates as much as 90% from its employment levels of the 1970s (Lasic & Bunkley, 2009).

The demand for highly trained and skilled labor is rising in the United States and the world, while the need for low-wage, low-skilled workers is in decline. One example is the trend

for U.S. businesses to outsource the manufacturing of their products to low-wage countries (Gordon, 2005). Such outsourcing allows businesses to maximize their profits. According to the report *America's Forgotten Middle-Skill Jobs* (Holzer & Lerman, 2007), middle-skill jobs still make up approximately half of all employment today. In this report, the author defines middle-skill jobs as those that involve some noteworthy education and training beyond high school but less than a bachelor's degree.

The requirement for America to have more citizens with the technical skills and knowledge who will participate effectively in the workforce of the 21st century is becoming more evident. As a part of this need for a skilled and trained workforce, there is also the need for the workers to have access to skilled jobs. Warren (2000) reported when analyzing organizations' manufacturing needs in the United States that an inescapable focus occurs with employee education and training. Implementing new technologies is reliant on the proficiency of the individuals who use them. The capability to respond to rapid changes in world markets depends on workforces that can rapidly assimilate new assignments and roles by acquiring needed skills. When looking for solutions to issues related to training, many corporations have focused their attention on community colleges.

According to the report *America's Forgotten Middle-Skill Jobs* (Holzer & Lerman, 2007), for U.S. workers who do not complete some form of postsecondary education (certificate programs, associate's, bachelor's, graduate, and professional degrees) opportunities will become increasingly limited. Even more persuasive, however, is that occupations which previously required only a high school diploma now require levels of technical skills and knowledge that dictate advanced and continuing education. Students who continue their education beyond high school should realize clear economic benefits (National Center Education Statistics, 2001). The U.S. Bureau of Labor Statistics reported that in 2011 employees who did not finish high school earned \$451 per week, whereas those with a high school diploma earned \$638 per week. The Department of Labor also found that in 2011 a person with some college earned \$719 per week, a person with an associate's degree earned \$768 per week, and a person with a bachelor's degree earned \$1,053 per week (U.S. Bureau of Labor Statistics, 2012). The U.S.

Bureau of Labor Statistics also reported that the unemployment rate for those who attended college was significantly less than for those who did not. For employees who did not finish high school, the unemployment rate was 14.1%; employees with a high school diploma had an unemployment rate of 9.4%; and employees who had some college had an unemployment rate of 8.7%. The greatest differences occurred at the associate's degree level and the bachelor's degree level, where unemployment was 6.8% and 4.9%, respectively (U.S. Bureau of Labor Statistics, 2012).

Statement of Problem

There is a serious lack of literature to assist college academic managers in the development of career and technical education programs. Numerous peer-reviewed articles exist regarding the many aspects of a career and technical program, but a model does not exist to help the practitioner in the development of the program (Rojewski, 2002). The need for career and technical education was clearly expressed as early as 1964 (Doyle, 2011, p. 6)

According to Grubb (1999, para. 1), "In many ways postsecondary occupational education (PSOE) is a stepchild – even a stepchild of a stepchild. The institutions where it takes place – community colleges, technical institutes, some area vocational schools, other public training centers, private proprietary schools – are not well known and are often low status." Grubb declared that "in federal policy, these institutions are often afterthoughts: they do not benefit from the large programs aimed at K-12 schooling; and federal aid for vocational education, one of the few federal programs providing funding to both secondary and postsecondary programs, has always been written with secondary education in mind" (1999, para.1). Rojewski (2002) reported the need for the educational system to prepare workers for entry-level employment in the careers in the current labor market. Rojewski also expressed the need to focus federal funds on high schools and community colleges to be able to assist populations that are less likely to succeed in the labor force.

Research Question

The principal research question that directed this inquiry was:

What environmental conditions and organizational factors influence the nature of the

strategic response in the form of technical education program development within community colleges?

To answer this overarching question five main subareas were developed:

- How are technical education programs developed in community colleges? How does the technical education development process differ within different community colleges? How does the technical education development process differ by the type of technical program being developed?
- How do differences in societal conditions; federal, state, and local governmental requirements; governing board requirements; and administrative actions in the regulative dimension influence the development of an institutional response in the form of technical education programs?
- How do the differences in program philosophy, public expectations, accrediting agency requirements, and student populations in the normative dimension influence the development of an institutional response in the form of technical education programs?
- How do the differences in the curriculum, instructional delivery, and student learning in the cultural-cognitive dimension influence the development of an institutional response in the form of technical education program?
- How do pressures that cause strategic responses, including the need for acquiescence, compromise, avoidance, defiance, and manipulation influence the development of an institutional response in the form of technical education program?

Conceptual Framework

The conceptual framework was derived from a review of the pertinent literature and was influenced by the work of Rojewski (2002). Rojewski's work, used as a basis, is intended as a jumping-off point. It suggests several dimensions that influence the environment of technical education development. Essentially, these dimensions of inspiration were examined according to resource dependency and institutional theories that envisage the nature of the

processes, relationships, and environmental interactions (both external and internal) that embody the technical education development process.

The conceptual framework was then placed into an institutional theory framework. The context for this piece of the framework was addressed by Scott (2001) and Oliver (1991) and was used to refine this conceptual framework. The three institutional pillars: regulative, normative, and cognitive (Scott, 2001) and strategic responses (Oliver, 1991) were critical to the development of the conceptual framework. Focusing this study in this manner enables the researcher to build a case study that will spotlight the why and how things happen more than just if they happen. It will take advantage of the strengths of qualitative research methods to explore the data in a richer, more precise fashion.

The regulative pillar was defined by Scott (2001) as the overt regulative processes, for example, rule setting, monitoring, and sanctioning. It also includes the ability to institute rules, scrutinize or review others' compliance to them, and as needed, direct sanctions in terms of both rewards and punishment to sway future behavior. These processes may operate through informal means, for example, shaming and shunning activities, or the processes may be more formalized for example, through the police or courts.

The normative pillar is characterized by placing emphasis on normative rules that introduce a narrow, evaluative, and essential dimension into social life. Normative systems include both values and norms. Values are models of the ideal or the desirable together with the interpretation of standards to which existing structures or behavior can be compared and assessed. Norms specify how things should be done. Norms identify how things should be done and describe legitimate means to pursue valued ends. This pillar defines goals and objectives and the best way to pursue them (Scott, 2001).

The cognitive pillar emphasizes the importance of cognitive elements for institutions and the rules that compose the nature of reality and the structure through which meaning is made. Symbols (e.g., words, signs, and gestures) have an effect by shaping the meaning attributed to objects and activities (Scott, 2001).

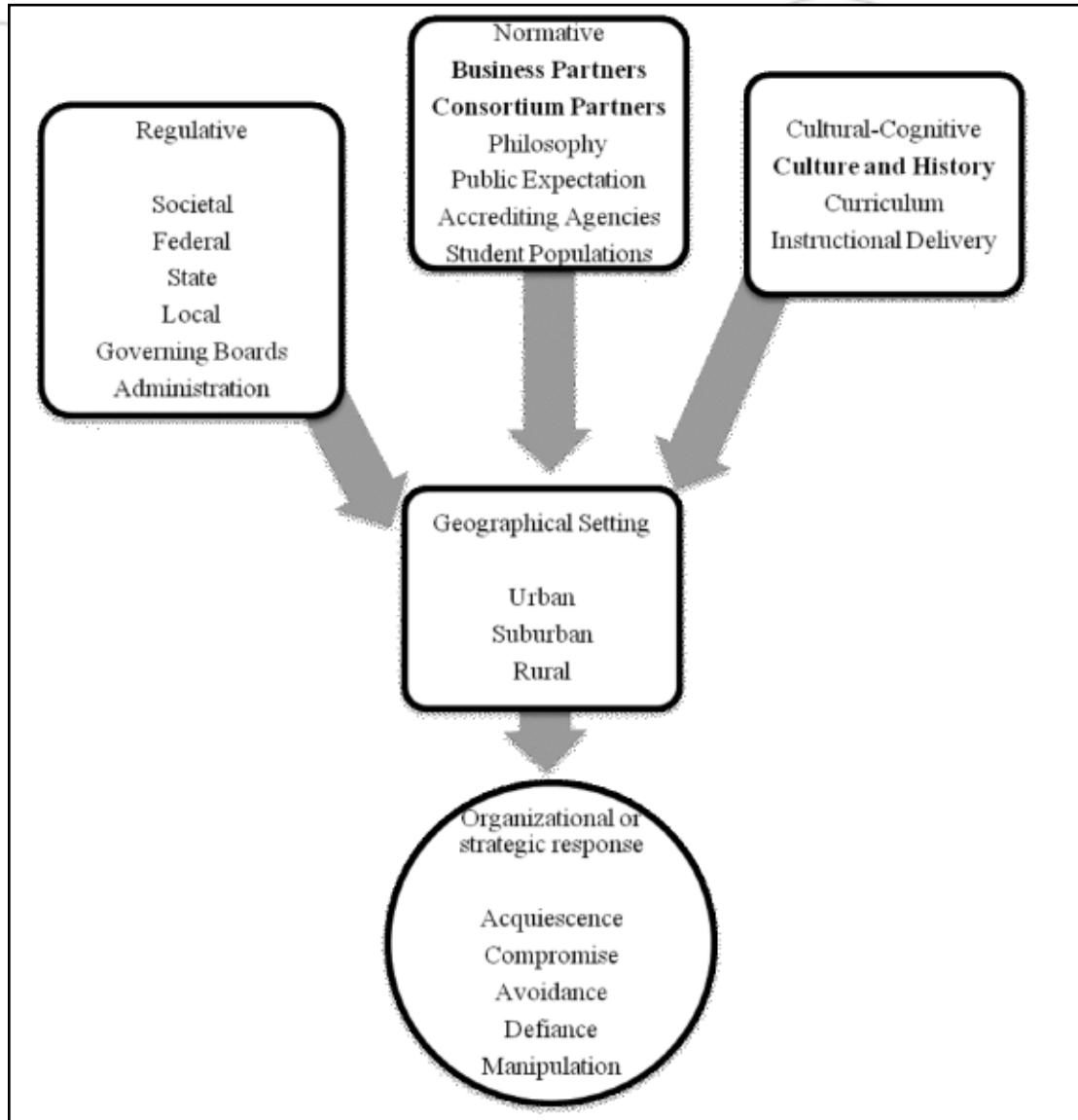


Figure 1. Revised Conceptual Framework Guiding the Study of four Arkansas Community Colleges (Adapted from Rojewski, 2002 and Scott, 2001)

Method

The basis for this research was to examine the development of career and technical education programs in a community college using a qualitative case study approach. The conceptual framework was derived through a review of the literature, and it serves to focus and direct this study. The aim of the research is to assist decision makers in understanding both how Career and Technical Education (CTE) programs are developed and what makes them work. In order to achieve useful data, the researcher must stress to the participants to give open and honest answers that are more helpful than adulations and to abstain from providing signals of positive acceptance to feedback so that respondents will not be swayed to provide answers that would be perceived as positive.

Summary of the Study

This study was driven by one primary research question: What environmental conditions and organizational factors influence the nature of the strategic response in the form of technical education program development within community colleges? To answer this question, a qualitative study of four community colleges in the state of Arkansas was conducted. The organizations included the University of Arkansas Community College at Hope, Pulaski Technical College, National Park Community College, and Mid South Community College. These institutions, because of their geographical locations and student populations, were selected to represent the widest possible range of institutions.

A conceptual framework was developed that encompassed previous research on normative,

regulative, and cultural-cognitive environments and organizational response processes. The framework, adapted from Rojewski (2002) and Scott (2001), served as a guide to identify how external conditions in the normative, regulative, and cultural-cognitive environments and organizational responses differently influence the nature of the development of programs.

Data were collected by interviews of administrators, division chairs, and instructors of technical programs from April 2010 to June 2010. Twenty-two individuals were interviewed. The interviews were recorded digitally, transcribed verbatim, and coded for analysis using the variables on normative, regulative, and cultural-cognitive environments and organizational responses from the conceptual framework. Documents and other archival data were used in combination with the interview data to describe and explain the factors that influence the occupational program development in the colleges.

Table 1. Participants of the study

Title	Participants
Vice-President or Vice Chancellor of Academics	4
Dean or Division Chair	6
Instructor	12

Review of Findings

This study presents a primary effort to scrutinize a key element in the occupational program development to determine how external conditions and internal organizational characteristics cooperate and combine to influence the nature of organizational response that manifests itself in the process of technical program development. Tentative evidence suggests that program development examined through the institutional response filters is a useful framework for explaining the development of technical programs. It also indicates that organizational characteristics play a fundamental part in the nature of the development of occupational programs.

Regulative Factors

Regulative factors play a major role in the development of all programs, including occupational programs. Each of these variables has a direct relationship with the institution and how the programs are developed. Some of these relationships are direct and some are consequential. For example, in most case study institutions, the administration involves students, faculty, staff, community members, and many others when

developing the institutional strategic plans. From the strategic plans, the administration makes priorities for the institution and puts forth directives that program developers must follow.

The regulative variable the participants mentioned as having the most direct influence on the development of technical programs is the administration. The administration makes priorities for the institution, and it is the information exchange for most business and industry leaders. The priorities set by the administration provide resources, such as money to buy supplies or equipment, and employees to be able to work the program. From these priorities also spring many real properties like buildings, offices, classrooms, and laboratory space available for program use.

Each of the case study institution participants mentioned another major direct influence to occupational program development, the state government. The state governor meets with potential businesses and industries that want to locate within the state. These discussions can provide the institution with possible resources through the legislative system of the state. Another direct influence from the state government comes from the Arkansas Department of Higher Education (2005, p. 12). This Department initially influences a program through the guidelines it has established for the approval of a program. More directly, the Arkansas Department of Higher Education also influences development stages through the approval process, and if this Department wants to change a program, the program developer is asked to consider a change before it will be approved and the institution is allowed to offer the degree (Arkansas Department of Higher Education, 2005, p. 14).

The participants declared the variable with the most indirect influence is the federal government. Although the federal government provides some direct regulations or policies, most of its influence is provided in an indirect way in the form of money either to students or for programs. This influence provides the federal government with a very subtle mechanism to direct both programs and higher education institutions. Most higher education institutions could not survive without the students being able to obtain some federal financial aid. This one fact is paramount in the discussion and development phases of the program.

Normative Factors

The normative factors play a major role in the development of occupational programs. Each of the case study participants had many similar views about the normative factors, but there were interesting differences.

The case study participants listed similar traits when discussing philosophy and accreditation agencies. In the matter of philosophy, each participant mentioned the overarching philosophy of essentialism. In this study, essentialism was defined as a teacher-centered system, where the teacher takes the leadership role and sets the tone for the classroom. This philosophy is strengthened by the inclusion of an advisory committee and the ideas of the committee. Though most of the participants believed that the program should be a blend of all the educational philosophies and include the good traits from each one, they agreed that the main alignment occurred with essentialism.

The accreditation agencies are another variable about which the case study participants have agreed. The participants felt that the required accreditations must be accomplished. The participants thought it was also a good idea for programs to be included in the voluntary accreditation and match the requirements. When a program was built around the requirements of a voluntary accreditation agency, it made the accreditation a smoother process and the application and the subsequent accreditation yields a degree of instant credibility for the program.

The case study participants differed in their opinions of the impact of public expectations. The perception about the influence of public expectation ran the gamut between having very little influence on the development of a program and having an intense influence on the development of occupational programs and should be included in the model of occupational development.

Another disagreement occurred with the factor about the projected student population. Some of the participants believed that the projected student population played almost no role in deciding whether or not to develop a technical program. These participants thought it was incumbent upon the administration and the faculty, once the program was developed, to advise students how to get started in the program and

how to handle any developmental course the student might need. Other participants mentioned the projected student populations did influence the development of occupational programs because to attract diverse students takes planning for their needs.

Cultural-Cognitive Factors

The case study participants held similar thoughts about the cultural-cognitive factors, especially the variable instructional delivery. Instructional delivery turned out almost unanimously in the response because the participants all mentioned that it was best to start a program in a classroom and get a glimpse how the program works as the faculty works through the curriculum with students in a classroom. This live teaching opportunity allows a faculty member to adapt the program to the students at hand, and it will provide important data to enable the faculty to provide the coursework in other media.

Although the participants agreed on the need for some basic curriculum subjects, they did not agree on how the student should receive those subjects. In some cases the research participant suggested that subjects like mathematics, English, or sociology should be contextualized in the technical coursework. Others suggested that these subjects should be taken from the college's normal array of courses, and the technical students should be a part of the typical college experience. For example, the mathematics requirement for all other programs is college algebra, and so the technical programs should also require it. During the interviews the majority of the participants mentioned that the curriculum for the program should include subjects that would enable students to further their degree plans and not be a hindrance to them. Most research participants felt that students who decided to continue their education should not be penalized by taking general education courses that would have to be repeated because these did not fulfill the degree requirements of future undergraduate degrees.

Findings

In addition to the basic findings of the conceptual framework, some additional issues emerged that have implications for program developers and other stakeholders. One significant finding related to the normative dimension is the population located around the college. The more urban the setting, the easier it becomes to

develop and offer programs. The larger the population center the college is situated in, the larger the prospective pool of students that helps to bolster the requisite numbers to support the program. This finding illustrates the disparity between programs that are started in large population centers and those begun in smaller areas. This finding illustrates that rural and even suburban colleges can have difficulties with some programs finding requisite numbers of students that are needed and necessary for viability, but an urban college may not have trouble with attracting them.

Also a variable in the conceptual dimension geographic setting is college density. College density is the saturation of similar college degrees in a given geographical area (Doyle, 2011). This is exemplified by the city of Little Rock. The metropolitan area includes Little Rock, North Little Rock, Sherwood, Jacksonville, and Maumelle. There are over 583,845 people in the Little Rock area. The public colleges for Little Rock include Pulaski Technical College, University of Arkansas at Little Rock, and University of Arkansas Medical Sciences. The private colleges in Little Rock include Arkansas Baptist College, Philander Smith College, Remington College, and Webster University. This list does not include the numerous online colleges. This list yields four private colleges, three public colleges, a host of online colleges, and a multitude of specialty schools (e.g., beauty colleges, barber schools and many specialty trade schools). While there are several opportunities for students to attend postsecondary institutions, the overall college density is light. The result of this college density is a significant student enrollment over the last several years in beginning-level courses.

Program duplication is a dimension within college density. The term program duplication can be defined as saturation of similar competing college degree programs in a given geographical area. This competition would include a nursing program that awarded a diploma from an educational hospital, and a one-year practical nursing program at the local community college where a technical certificate was awarded.

A finding related to the normative dimension is the strength of a program when a business or industry partner is involved. Each partner adds a part to the program and helps the program to develop in a unique manner within

that location. This kind of relationship with a business partner provides many opportunities for students, and these students spread the word about the outcomes and opportunities that the program afforded them. A program with a strong relationship to a business or one from which graduates are recruited by one industry will be seen as a gateway program to employment, and this helps to promote the program.

The addition of the variable consortium partners to the normative dimension was needed. The variable consortium partners is defined as the factors that deal with the interaction of the colleges as they work jointly to put career and technical programs together as a collective group. Consortium partners deal with multiple administrations, governing boards, communities (public expectation), and more. This variable also has an added factor in that students will transfer between member institutions, and this movement provides a new element to the relationship because programs must be comparable.

Discussion

During the interviews the participants held some reluctance about assigning characteristics from the strategic response dimension. This reluctance led the investigator to blend terms together to allow the participant a little more comfort with the terms. The terms acquiescence and compromise were seen as the same response just at different levels called negotiation resolution. Most participants viewed these terms as part of the negotiations that an institution goes through. This would define compromise as the working out a plan where both parties receive some benefit from the pact. Acquiescence would be defined as one party weighing the situation and determining the course of action required for this negotiation is to accept the other party's method or plan. The terms avoidance and defiance were also seen as terms within a single variable that could be called policy disagreement. The definition the participants used for avoidance was if the procedure of not participating in a policy or regulation that was not formally adopted. Defiance was defined as the manner of working against a policy or procedure, to bring about change to the policy or procedure. This change in the policy or procedure was usually accomplished by means of working through the regulative body that issued the policy or procedure, but it may involve taking the issue to a court for a ruling.

Implications for Theory

This study contributes to organizational theory, specifically, in task environment and the organizational response. The environmental factors of normative, regulative, and cultural-cognitive dimensions adequately describe the task environment, but this study identifies one factor that influences what the institutions do to adjust themselves to carry on. This factor is geographical setting. Understanding the strengths and weaknesses of a college's geographical setting will allow the program developer to know how to begin an approach to the program development process. These strengths and weakness provide a set of boundaries for the administration when deciding which programs to begin. This study also identified the factor of business and industry partners. Business and industry partners provide the institution with insight into the career path that the college would not necessarily have.

Examining program development as Rojewski (2002) proved to be slightly problematic. The main discrepancy was in the sense of confidence the administrators had when approaching the development of a program. The addition of an environmental factor called geographic setting and the addition of the variable business and industry partnership in the normative dimension gave the study clarity and a more complete explanation of the development of technical education programs.

The strength of this study was the conceptual framework, which pulled together information from reputable theories. As mentioned, the framework demonstrated an effective lens through which to inspect the occupational program development process. It also made the cross-case comparisons on the environmental conditions and organizational response simpler and more understandable.

One closing thought relates to organizational response issues. Some of the variables held by organizational response were ones that participants were uncomfortable in attributing to their organization. For example, most of the participants, when first questioned about the variable avoidance, replied that their institution did not exhibit anything like this response. When pressed and given examples, the participants changed their answers and confirmed that their institutions did exhibit this response and gave examples from their institution. Another aspect

of this concern is that most of the participants felt that the responses were part of the process, for example, an institution might exhibit avoidance until it was able to work out another solution that might fall into the variable of manipulation. So to the observer it was the process the institutions followed.

Suggestions for Future Research

This study was designed to be comprehensive in viewing the development of occupational programs in terms of normative, regulative, and cultural-cognitive dimensions and organizational responses. This study should be replicated in other states because Arkansas community colleges are relatively young in the history of higher education. This would verify the transferability of the results of the study of occupational program development to other institutions and states within similar context.

Another good addition to this scholarship would be to include the thoughts and views of state administrators, state two-year college association directors, and regional economic development directors. These individuals will have insights into the need for trained employees for businesses and industries and could help gather a more complete picture of the process of occupational development.

Finally, it would be good to address the development of occupational programs from a perspective of grouping according to matching as many descriptors as possible (i.e., rural community colleges, with student populations approximately the same size, and with similar programs). Holding these factors constant would provide for a more unified look at the colleges. This approach would allow the researcher to fully examine how each specific type of college develops occupational programs and would further aid the practitioners at those institutions.

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