THE DEVELOPMENT OF A CONTEMPORARY SET OF PRINCIPLES FOR VOCATIONAL TEACHER EDUCATION

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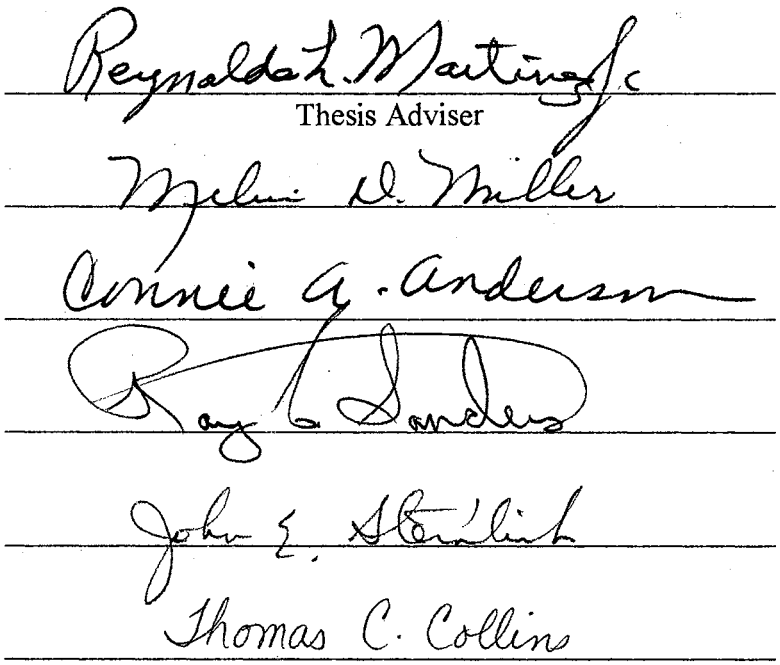

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CHAPTER I

INTRODUCTION

Prosser and Allen's book, Vocational Education in a Democracy (1925), depicted the underlying principles they believed applied to all forms and grades of vocational education, the policies needed by schools and businesses to meet the needs of society, and the methods needed to train the mass of human resources. There were 16 theorems described by Prosser and Allen that were used as guidelines for early development of vocational education programs and practices. According to Miller (1985) these theorems are still utilized in contemporary principles of vocational education. Principles in vocational education reflect past successful practices in vocational education and serve as guidelines for program and curriculum construction. These generalizations that state a preferred practice are reflective of changing times and needs (Miller, 1985). Vocational education has implemented the use of contemporary principles.

Vocational education has had principles to guide its development such as the 16 theorems of Prosser and Allen (1925). On the other hand, vocational teacher education has not had guiding principles from which to base redesign of teacher education.

Dr. Birdie Holder, Chair of the University Council for Vocational Education (UCVE) Teacher Preparation Task Force (personal communication, April 12, 1994), stated that vocational teacher education must develop guiding principles to promote the

renewal of teacher preparation. The Task Force's recommendation led to UCVE's recognition of the need for the identification of broad based principles that can be agreed upon by member institutions.

Principles such as these are usually generated in response to general societal concerns at particular times (Ornstein and Hunkins, 1988). Some members of society are dissatisfied with schools because schools tend to be reactive instead of proactive. Educators need principles to guide their development, implementation, maintenance, and evaluation of educational programs. With guiding principles, institutions could work from the same theoretical framework to develop future models in teacher preparation.

Contemporary Challenges

Teacher education and its relationship to societal change forms the basis for keeping teacher education relevant and has been addressed by several futures researchers. Some new challenges facing the teachers of today include: a change in the role of teachers, shared decision making, teacher empowerment, the professionalization of teaching, mentor teacher programs, merit pay plans, as well as the criticisms from disgruntled students, parents, community members, legislators, and members of the public at large (Gmelch and Parkay, 1995). Other professional skills teachers must possess include: psychological, philosophical, cultural, and social foundations (Alley and Jung, 1995). Seven additional challenges for teachers are: new leadership roles, increased diversity, disruptive behavior and violence, accountability for addressing social problems, inadequate resources, lack of parental support, and expanding partnerships (Gmelch and Parkay, 1995). Another vital

challenge to teachers has been the incorporation of technology in the classroom (Jaderstrom, 1995).

These problems and challenges faced by teachers have been categorized by issues. "The problems identified in the majority of the education reform reports can be summarized as follows: (1) There has been a decline in both student and teacher performance; (2) Many individuals currently in the teaching profession are poorly qualified and it is difficult to attract bright, capable students to the teaching profession; (3) Teaching is perceived as a low-status profession and there is a lack of consensus that teaching is a profession; (4) Teacher salaries are low, and poor working conditions, combined with the inability to make professional judgments, are overwhelming; (5) There is no career ladder for teachers who wish to remain in the classroom" (Johnson and Foster, 1990).

In relation to one of the challenges, the empowerment of teachers continues to grow. With this empowerment, teachers are being provided more opportunities to exercise their leadership roles via participation in school-based planning, school-based management, and shared decision making activities (Gmelch and Parkay, 1995).

The changing demographic profile of the United States has had a major effect on schools and teachers. By the middle of the next century almost half of the population will be members of ethnic groups, with many students coming from non-English speaking homes (Hodgkinson, 1991). In 1994, 3.7 million teachers taught 64.5 million students enrolled in American schools and colleges (U.S. Department of Education, 1995). However, the diversity of the teaching force does not mirror the degree of student cultural diversity. African-American students comprised 15.9 percent of the student population

with only 8.3 percent of teachers being African-American (U.S. Department of Education, 1995). In 1994, Hispanic students were twelve percent of total U.S. enrollment, but only 3.4 percent of the teachers employed were Hispanic (U.S. Department of Education, 1995). Additionally, non-Hispanic or other minority students comprised 4.3% of the non-Hispanic or other minority student body. Only 1.8 percent of the teachers employed were members of another minority such as the non-Hispanic group (U.S. Department of Education, 1995). The diversity of the student population with a lack of diversity in the teaching force was depicted by the Association of Teacher Educators Commission on the Education of Teachers into the 21st Century in 1991. According to this study, only one in three teacher education graduates were willing to serve or were capable of serving students in urban areas. Urban schools located in populations over 500,000 have one in three students are who: served by a person of color, lives in poverty, and has multiple learning challenges. This condition has increased the recruitment of a more diversified population into teaching plus allowed for college graduates to enter teaching through alternative certification routes (U.S. Department of Education, 1995).

Today's teachers have had to deal with disruptive behavior and violence at an alarming rate. Schools reflected the trend of society being more violent with the increase of students bringing handguns to school (Gmelch and Parkay, 1995).

Teachers were looked upon to address social problems such as drug abuse, poverty, crime and violence, child abuse, teen suicide, sex education and dropout prevention (Gmelch and Parkay, 1995). Phi Delta Kappa/Gallup Polls of the Public's Attitudes Toward the Public Schools from 1988-1995 indicated there was a greater need for drug abuse education in the high schools than there was a need for teaching

mathematics and English. Out of the poll's top four categories, the remaining three were lack of discipline, lack of proper financial support, and fighting/violence. The 1995 poll revealed the biggest problems in education to be lack of discipline, lack of proper financial support, fighting/violence, and drug abuse (Elam and Rose, 1995).

Many schools have been poorly equipped and under-funded. Scarce resources had not been equitably distributed among schools. The needs of the schools far outweighed the available resources (Gmelch and Parkay, 1995). Lack of financial support was number one for the first time since 1971 but shared the number one position with a concern about drug abuse (Elam, Rose, & Gallup, 1992).

Parents were not as involved in the education of their children to the degree as teachers would like them to be. Lack of parental support was as much of a concern as drug abuse or violence (Gmelch and Parkay, 1995). Additionally, two national education goals were added to the original six by President Clinton and the state governors, encouraging parents to become more involved in their children's education. The 1995 Phi Delta Kappa/Gallup Poll reported parental involvement to be an average of 94%. Parents surveyed made sure their children attended school, books were available, homework was completed and discussed, and they met with teachers or administrators (Elam and Rose, 1995).

Teachers were being called upon to develop partnerships with business and industry, institutions of higher education, social service agencies, professional associations, and local, state, and federal governmental agencies (Dede, 1990). New skills of cooperation, leadership, and collaboration were needed to be learned to be able to work with agencies and individuals in the public and private sectors (Gmelch and Parkay, 1995).

These challenges directly impact the preparation of today's teachers for tomorrow's classrooms. Teacher education programs need to provide a platform from which each of the issues can be more effectively addressed so future teachers can develop needed skills to cope and be successful in the classroom. This platform should be based on a list of research-based contemporary principles for vocational teacher education.

Vocational Education Initiative

The elements of the typical teacher education sequence--subject matter, pedagogy, practice teaching--have remained unchanged since the Normal School era (Tafel, 1984). Futures researchers agree there is a need to examine educational institutions, their programs and plans to implement effective change. Educational institutions have been criticized for their lack of attention to the needs of tomorrow's teachers. However, they have been given credit for having the most potential of any institution to become viable social change agents (Tafel, 1984).

The University Council for Vocational Teacher Education Task Force on Vocational Teacher Education has finalized a process by which the University Council (personal communication, April 12, 1994) will become proactive in vocational teacher education reform. The UCVE's three areas of concentration for the promotion of the renewal of vocational teacher preparation are:

1. Finalization of the strategies for including vocational teacher preparation in federal legislation;

2. A research agenda for vocational teacher preparation; and

3. Development of a model of vocational teacher preparation for the future to include a philosophical statement with contemporary principles.

Statement of the Problem

The problem at this point in time appears to be that a set of research-based contemporary principles have not been developed to serve as a foundation for vocational teacher preparation institutions to develop vocational teacher education programs that will address the needs of tomorrow's teachers and students.

Purpose of the Study

The central focus and purpose of this study is to develop an agreed upon set of contemporary principles for the redesign of vocational teacher education. These guiding principles will enable vocational teacher educators to take the next step toward the development of new vocational teacher education programs.

Research Question

The following question will guide the research:

1. Which principles should guide the redesign of vocational teacher education?

Assumptions

The following assumptions are made:

1. Recommendations of participants will match the criteria for participants requested by the researcher.

2. Participants will respond according to their best judgment.

Limitations

Limitations of the study include:

1. Participants will be limited by the criteria given in the research design.
2. Participants are limited to faculty nominated by UCVE institution representatives.

Delimitations

Delimitations of the study include:

1. This study will not promote a particular philosophical construct.
2. This study will not promote particular models of teacher education.
3. This study will not develop a set of principles for all teacher education.

Definition of Terms

The following definitions of terms are furnished to provide, as nearly as possible, clear and concise meanings of terms as used in this study.

"A principle is a fundamental truth, a basic rule which serves as a means of evaluating present practices and future action" (Lynch, 1995).

"A teacher educator is an educator who provides formal instruction or conduct research and development for educating prospective and practicing teachers" (Association of Teacher Educators, 1995).

"The University Council for Vocational Education (UCVE) is an organization composed of over twenty major universities which provide research, service, teacher education and advanced graduate studies in vocational and technical education" (UCVE, 1994).

Organization of the Study

Chapter I will provide an introduction and rationale for the study. Included in it is a statement of the problem, purpose of the study, research questions and assumptions, limiitations, delimitations, and definitions of terms used in the study.

Chapter II will provide a review of the literature related to vocational teacher education. It will include a review of teacher education, vocational teacher education, teacher education reform, futures research, and development of vocational teacher education principles.

Chapter III will explain the methodology to be used in conducting the study which will be a Delphi Technique. It will define the population and explain the procedure used in creating a panel of vocational teacher educator experts. It will explain how the information will be analyzed. The findings of the study will be presented in Chapter IV. Conclusions, implications, recommendations and a summary of the study will be given in Chapter V.

CHAPTER II

REVIEW OF LITERATURE

This chapter reviews the literature in the following areas: (1) Teacher Education; (2) Vocational Teacher Education; (3) Teacher Education Reform; (4) Futures Research; and (5) Development of Vocational Teacher Education Principles.

Teacher Education

Some outstanding American educational leaders who influenced the education system and teacher preparation were Carter (1795-1845), Mann (1796-1859), and Barnard (1811-1900) (Pulliam and Van Patten, 1995). The works of Froebel, Herbart, Pestalozzi and Parker also greatly influenced the American leaders.

Pestalozzi viewed education as a mutual effort by the student and the teacher, therefore, producing mutual respect. He believed in the development of a child according to the principle of growth or through natural stages. Pestalozzi based his education on observation instead of books and theories (Pulliam and Van Patten, 1995).

Froebel followed Pestalozzi and developed theories concerning education of the very young. He believed in creating respect for children and allowed them to freely express themselves and develop good relationships with others in kindergarten.

Parker served as a colonel in the Union forces during the civil war. He studied in Germany and became familiar with Pestalozzi and Froebel. One of the school programs Parker experimented with was the core curriculum which related subjects of the curriculum through such interrelated studies as history and geography. Dewey and the progressives derived their work from the background provided by Parker (Pulliam and Van Patten, 1995).

Herbart (1776-1841) took an intellectual approach to education and the learning process. His principles of co-relation and concentration were central to his pedagogy. He believed in the relating or associating of new ideas with previous experiences. Although Herbart's psychology was not rigid, some of his followers developed a rigid educational program based upon his associations and interests. This was the Five Formal Steps of Teaching and Learning. The five steps were: (1) preparation; (2) presentation; (3) association; (4) generalization; and (5) application (Pulliam and Van Patten, 1995).

Dewey was one of the first to cry out against the rigid lock-step school. His influence was toward the end of the 1800s but increased tremendously in the 1930s when the Progressive Education Association was at its peak of popularity. Dewey promoted natural growth and individual differences (Pulliam and Van Patten, 1995 and Wirth, 1992).

Mann (1796-1859) worked with Carter (1795-1845) to persuade the Commonwealth of Massachusetts to establish a board of education (Pulliam and Van Patten, 1995). "The purpose toward which Horace Mann and his fellow-reformers redirected the decadent common school was not literacy alone, but rather universal enlightenment as the hope and salvation of a democratic social order" (Bagley, 1928). From 1839 to 1840, Mann organized three of the first normal schools in the country. He

also worked for improvement of teaching methods and for a better curriculum for the common schools (Pulliam and Van Patten, 1995).

The normal schools championed by the Massachusetts State Board of Education became the center of a great movement in its early stages. With the public control and tax-support for the training of teachers establishing precedents, the first condition of public school efficiency would be fulfilled and the broader policies of public control and tax-support for universal, secular education would be strengthened (Bagley, 1928). In Concord, Vermont, in 1823 the first known normal school movement for the training of teachers was established. A three-year seminary was started by S. R. Hall, a Congregational minister, for the explicit purpose of training teachers for America's schools. In 1834, action was taken in New York state to establish publicly supported normal schools throughout the state. The first tax-supported normal school was opened in 1839 in Massachusetts (Hopke, 1990).

Mangun in 1928 compiled the historical records that comprised the development of the American Normal School in Massachusetts. The discussion in the Massachusetts Legislature in 1831 declared that for improvements in the schools to be secured it could only be done by providing competent teachers through the development of Seminaries for Teachers. The Resolutions of the American Institute of August, 1836, published that the business of teaching should be performed by those who have studied the subject as a profession (Mangun, 1928). Mann, Barnard, and the Reverend Brooks began a campaign for state normal schools in Massachusetts in 1835 using the Prussian model of teacher education as a guide (Pulliam and Van Patten, 1995). Only twelve normal schools were created in the United States before the Civil War. Barnard began the teacher's institute

which was a meeting of a group of teachers for instruction and usually lasted only a few weeks (Pulliam and Van Patten, 1995).

Early in the twentieth century, many normal schools were more like secondary schools than colleges. For several years, the teacher shortage created a reluctance to enforce general standards of certification (Pulliam and Van Patten, 1995). Certificates were given to a large number of rural teachers based upon their passing examinations or on the strength of a year or two of college.

As early as the 1800s, education and the qualifications of those who provided it were becoming important issues. Education was used as the main instrument for assimilating the foreign born into the mainstream American life and culture. The thirty-five million immigrants that came to America in the nineteenth century were Americanized by the public schools. Discrimination due to haves and have-nots was not the only issue. Black education was almost nonexistent before the Civil War and was very limited in the northern states. The Fourteenth Amendment ratified in 1868 specified states could not deprive any person of life, liberty, or property. Black land grant colleges created by the 1892 Second Morrill Act helped to improve the quality of teachers but funds were still lacking and progress was slow (Pulliam and Van Patten, 1995).

The urban and industrial growth in the early 1900s was accompanied by a vast growth of high schools. This growth of industry brought changes in the needs of society. In 1918, "Cardinal Principles" to guide public education curricula were developed from the Commission of the Reorganization of Secondary Education. These seven principles were: health, command of fundamental processes, worthy home membership, vocation, citizenship, worthy use of leisure time, and ethical character (Pulliam and Patten, 1995).

There was a general attitude of support by educators toward vocational education after the turn of the century. Business and industry had a need for well-trained, intelligent workers who were able to derive new and better ways of doing work. Therefore, schools set out to satisfy the needs of society by promoting continued progress and meeting the demands of society (Mays, 1948).

The first over supply of teachers occurred during the depression years which gave rise to higher minimum standards. By the 1940s, there were approximately 185 colleges preparing teachers for classrooms (Pulliam and Van Patten, 1995).

The teaching profession was used for purposes other than preparing students for the future in the 1950s. Segregated education was challenged in the 1950s by court cases such as Brown v. Board of Education concerning the issue of "separate-but-equal" formula. The Supreme Court ruled segregation in conflict with the Fourteenth Amendment and ordered it to cease within a "reasonable time" (Pulliam and Van Patten, 1995). Southern states tried to delay integration by integrating the teaching staff and participating in token integration through bringing in a few minority group students to all white schools to legally comply (Pulliam and Van Patten, 1995).

The passage of the Civil Rights Act in 1964 put desegration into a new phase. With the Civil Rights Act, federal funding could be withheld from school districts or states that failed to adopt reasonable and acceptable plans for integration. The act specified that no person could be discriminated against on the basis of race, color, sex, or national origin in any program that received federal assistance (Pulliam and Van Patten, 1995). This applied to both students and teachers.

The latter part of the sixties, as well as the 1970s, brought new challenges to teachers. In 1967, a common practice was to test children and place them in a fixed curriculum according to the ability group into which they fell. This was called the "tracking system", creating the teacher responsibility of identifying the appropriate track for each student. The 1970s dealt with accountability of teachers. The Supreme Court ruled the National Teacher's Exam was not discriminatory and some districts required their new teachers to pass a competence exam to be hired. The demand for accountability of teachers continued throughout the 1970s (Pulliam and Van Patten, 1995).

The teaching profession was given a major challenge, according to the report from the National Commission on Excellence in Education (1983), which stated that society had lost sight of the basic purposes of schooling along with the high expectations and discipline needed to achieve them. The global needs from education consisted of the new raw materials of knowledge, learning, information, and skilled intelligence.

The National Board for Professional Teaching Standards was established in 1987 for the development of standards for the advanced certification of highly skilled veteran teachers. These standards would be similar to what professional certifying agencies used in assessing physicians, architects, accountants, and others. A program of the Council of Chief State School Officers entitled the Interstate New Teacher Assessment and Support Consortium (INTASC) was developed to increase collaboration among states interested in rethinking teacher assessment for initial licensing, preparation, and induction into the profession (CCSSO Draft Standards for Licensing Beginning Teachers, 1995).

The past preparation of teachers used apprenticeship training or practice teaching. Justification was grounded in the arguments that apprenticeship was effective, simple, and

commonsensical (Stones, 1987). Teacher education today still reflects its nineteenth-century origins as does vocational training based on the apprenticeship model of education (Britzman, 1986). The National Commission on Excellence in Education's (1985) report followed five themes: supply and demand for quality teachers; programs for teacher education; accountability for teacher education; resources for teacher education; and conditions necessary to support the highest quality of teaching. "To secure the future of the nation's children, a new generation of teachers is needed, teachers who are competent in their subjects, skilled in teaching, informed about children and their development, knowledgeable about cognitive psychology, schooled in technology, informed about the latest, most relevant research, able to work with peers and others in diverse environments, and confident of their roles and contributions" (National Commission on Excellence in Education, 1985).

One view was that teaching was caught not taught. The best way to become a teacher was to watch teachers at work and then go and do likewise (Stones, 1987). Another view was that teachers were born and not made. It was impossible to teach anyone to teach. Then, teaching was viewed by some to be easy or simple, therefore, teaching teachers to teach was trivial and unnecessary (Stones, 1987). In spite of all these various points of view, schools and teacher training had been essentially the same for the past ninety years and tended to be resistant to change (Hankey, 1990).

Current teacher education programs included a rigorous base of academic content plus teaching methodology. The new generation of teachers needed to possess knowledge of how to teach students diverse in age, background or culture (Magrath, 1987).

Conventional teacher education involved activity performed on college and university campuses with a slot for student teaching added on. By contrast, teacher education to Goodlad (1994) involved a collaboration of schools and colleges or universities who would, as a team, provide the essential ingredients of teacher preparation: general, liberal education; the study of educational practices; and the guided exercise of the art, science, and skill of teaching.

Another approach was developed by the Committee for Alternative Programs in Teaching and Learning (CAPITAL) was developed as an alternative teacher education program. This committee formulated a list of basic beliefs intended to guide program planning decisions: "People learn best how to teach when given an opportunity to teach, taught the way they were expected to teach, surrounded by a supportive peer group, expected to make decisions reflecting current research on teaching and children encouraged to take risks rather than conform, and engaged in curricula mirroring the curricula they are expected to teach" (Condon, Clyde, Kyle, and Hovda, 1993, pp. 273-274). The framework for the CAPITAL program was the constructivist philosophy. Providing an opportunity for students to discover and construct meaning from their experiences in the environment was one of its basic principles. Another was that teacher educators construct an understanding of best roles and practices.

According to the theories of constructivism, responsibility for induction into and success in the profession should be shared by university faculty and school colleagues. The preparation and professional development of teachers was never complete. The constructivist framework was appropriate for all collaboration, interaction, and growth in

the understanding of what it meant to develop as a teacher continues in their professional career (Condon, et.al., 1993).

Goodlad (1994) in Educational Renewal, developed nineteen postulates deemed necessary for exemplary programs for the education of educators. These postulates were similar to principles and might be used for program review and renewal. These were as follows: Programs for the education of educators:

1. Needed to be viewed by institutions offering them as a major responsibility to society and were to be adequately supported and promoted and vigorously advanced by the institutions's top leadership (p. 72);

2. Enjoyed parity with other professional education programs, full legitimacy and institutional commitment, and rewards for faculty geared to the nature of the field (p. 74);

3. Were to be autonomous and secure in their borders, with clear organizational identity, constancy of budget and personnel, and decision-making authority similar to that enjoyed by the major professional schools (p. 76);

4. There was to exist a clearly identifiable group of academic and clinical faculty members for whom teacher education was the top priority; the group was responsible and accountable for selecting diverse groups of students and monitoring their progress, planning and maintaining the full scope and sequence of the curriculum, continuously evaluating and improving programs, and facilitating the entry of graduates into teaching careers (p. 77);

5. The responsible group of academic and clinical faculty members described above were to have a comprehensive understanding of the aims of

education and the role of schools in our society and be fully committed to selecting and preparing teachers to assume the full range of educational responsibilities required (p. 80);

6. The responsible group of academic and clinical faculty members needed to seek out and select for a predetermined number of student places in the program those candidates who revealed an initial commitment to the moral, ethical and enculturating responsibilities to be assumed, and made clear to them that preparing for these responsibilities was central to this program (p. 82);

7. Whether elementary or secondary, were to carry the responsibility to ensure that all candidates progressing through them possessed or acquired the literacy and critical-thinking abilities associated with the concept of an educated person (p. 82);

8. Were to provide extensive opportunities for future teachers to move beyond being students of organized knowledge to become teachers who inquired into both knowledge and its teaching (p. 82);

9. Were to be characterized by a socialization process through which candidates transcended their self-oriented student preoccupations to become more other-oriented in identifying with a culture of teaching (p. 83);

10. Needed to be characterized in all respects by the conditions for learning that future teachers were to establish in their own schools and classrooms (p. 84);

11. Were to be conducted in such a way that future teachers inquired into the nature of teaching and schooling and assumed that they would do so as a natural aspect of their careers (p. 85);

12. Were to involve future teachers in the issues and dilemmas that emerged out of the never-ending tension between the rights and interests of individual parents and interest groups and the role of schools in transcending parochialism and advancing community in a democratic society (p. 86);

13. Were to be infused with understanding of and commitment to the moral obligation of teachers to ensure equitable access to and engagement in the best possible K-12 education for all children and youths (p. 87);

14. Were to involve future teachers not only in understanding schools as they were but in alternatives, the assumptions underlying alternatives, and how to effect needed changes in school organization, pupil grouping, curriculum, and more (p. 88);

15. Needed to assure for each candidate the availability of a wide array of laboratory settings for simulation, observation, hands-on experiences, and exemplary schools for internships and residences; they should admit no more students to their programs than could be assured these quality experiences (p. 89);

16. Were to engage future teachers in the problems and dilemmas arising out of the inevitable conflicts and incongruities between what was perceived to work in practice and the research and theory supporting other options (p. 91);

17. Were to establish linkages with graduates for purposes of both evaluating and revising these programs and easing the critical early years of transition into teaching

(p. 91);

18. Required a regulatory context with respect to licensing, certifying, and accrediting that ensured at all times the presence of the necessary conditions embraced by the seventeen preceding postulates (p. 92); and

19. Were to compete in an arena that rewarded efforts to continuously improve on the conditions embedded in all of the postulates and tolerated no shortcuts intended to ensure a supply of teachers (p. 93).

From colonial times to present day the preparation of teachers has been a major concern of society, educators, and the government. A variety of educational programs have been developed and tried. Reformers in teacher education were faced with lack of funding and support from the community but they were persistent in the endeavors to develop special educational programs for the preparation of teachers. How students were taught and treated in school impacts society and the economy. Therefore, the education, preparation, and certification of vocational teachers should be crucial to the development of a skilled workforce.

Vocational Teacher Education

Vocational teacher education must be examined with the consideration of the development of vocational education in America. When literary and religious education were the only prerogatives of the school, vocational training was available only by apprenticeship, but by 1820, a few mechanics' institutes for technical instruction were found in eastern cities. There were some manual labor schools built along the guidelines of Pestalozzi and Fellenberg. Manual training demonstrations were given in Philadelphia in 1876 and some cities had manual and vocational courses in high schools by 1890 (Pulliam

and Van Patten, 1995). The Morrill Acts of 1862 and 1890 resulted in establishing agriculture and mechanical arts to the college level (Pulliam and Van Patten, 1995).

In the late 1800s, the basic objectives of a public school vocational education program were: meeting society's needs for workers, increasing the options available to each student, and serving as a motivating force to enhance all types of learning (Evans & Herr, 1978). The Smith-Hughes Act in 1917 established the basic framework of federally financed vocational education in the U.S.A. (Wirth, 1992). Federal aid was provided for the states by paying vocational teachers salaries in the high schools and aiding teacher training institutions in the education of such teachers through this law.

Under Smith-Hughes, vocational education was to be administered by state boards of vocational education responsible to the federal board directing it. The focus was toward developing skill courses designed to meet the vocational needs of an emerging industrial society but also included such areas as agriculture, home economics and commercial education (Wirth, 1992). The demand for vocational skills and scientific information was great among the farmers, which led to an increased interest in agricultural education on both the high school and the college levels.

The historical approach of trade and industrial vocational teacher education has been to recruit seasoned practitioners of an occupation and transform these persons into teachers. This transformation was completed by the courses delivered by university/college teacher educators. This traditional preparation model was the heritage found in the provision of the 1917 Smith-Hughes Act. Since that time adjustments in certification requirements and teacher education courses have been mandated and

regulated at the state level (Frantz, 1993). Different federal vocational education acts had money available for teacher education.

According to the National Commission on Secondary Vocational Education (1984), vocational education needed to play a significant role as part of a quality high school education. Vocational education prepared young people for life at work, home, and during their leisure time. Schwartz and Turner (1990) proposed that the need for the training and retraining of American workers was caused by the increase in global competition and America's inability to develop a productive, well-trained workforce. The labor force of the nation was developed mainly through the vocational education system which depends on well-trained teachers to maintain quality.

Teacher preparation for vocational education continued to become a major concern in the 1990s. There was a need for computer literate vocational teaching staffs due to the rapid change in technology, therefore, causing the need for change in teacher preparation. The influx of technology in the schools at all levels through the use of microcomputers has had an impact on their use and availability in vocational education. The role of the microcomputer in the early days was for drill and practice and to teach programming. Currently microcomputers were used in the learning community to boost learning in all areas of the curriculum, manage a learning environment tailored to fit an individual student's needs, and develop higher-order thinking skills. Vocational educators have had to recognize and meet the challenge of the microcomputers impact on changes in career and work patterns (Yuen, 1988).

It also seemed important to identify how vocational teacher preparation programs address the needs of society. Lynch in 1994 provided three reasons for the difficulty in

determining how many United States colleges and universities offered baccalaureate degrees to prepare teachers of vocational and technical education. The first reason provided was the phrase "vocational teacher education" was not always used to describe or identify such programs. The second reason was that vocational teacher education programs were administered in eight different colleges or schools and in six departmental administrative structures. The third problem was the lack of an agreed-upon conceptual framework or knowledge-base related to education for the workplace and workforce development that professionals or professional associations found to be important in the preparation of teachers for secondary, postsecondary, or adult vocational and technical education programs. Contemporary programs in vocational teacher education included agricultural, business, home economics, health occupations, trade and industrial, technical, industrial arts/technology, industrial, and marketing teacher education.

Vocational teacher education has been influenced by the research and discussion of University Council for Vocational Education (UCVE) Task Force. UCVE was an organization of representatives from institutions offering doctoral programs in vocational education which represented the amplitude of undergraduate teacher education that made up higher vocational education in the United States.

Frantz (1993) reported that the type and quality of vocational education had a direct influence on the labor market performance of high school graduates. Well prepared and educated teachers produced by high quality teacher education programs, directly impacted the quality of the employees entering the workforce and labor market.

The works of Pestalozzi, Fellenberg, and Dewey provided the foundation needed for the development of vocational education and vocational teacher education. The Smith-

Hughes Act of 1917, those that followed in subsequent decades, and the Carl Perkins Act of 1990 provided the funding necessary to establish vocational education programs. Vocational teachers were trained by colleges and universities to teach practical skills to students in the secondary, post-secondary, and adult vocational and technical schools. Due to the changes in society in general, industry in particular, and technological advances at the workplace, vocational education and vocational teacher education need to maintain a contemporary curriculum.

Teacher Education Redesign

Soltis (1987) noted that no other social agent outside the family and home could claim to have a greater impact on the intentional shaping of the character and mind of the children and youth in society than its teachers. Teachers socialized and educated, changed and shaped lives, instilled standards of shared cultural values, created opportunities for individual growth, and provided the knowledge and perspective needed for future citizens to be able to participate effectively in society. Additionally, Soltis claimed that the better a teacher was educated, the better an education that teacher potentially provided. Also, the better the teaching environment and resources provided, the better a teacher's chances of success in helping students obtain a worthwhile and meaningful education (Soltis, 1987).

Johnson and Foster (1990) discussed teacher education reform with concerns that no real reform had taken place during the past fifty years. The teacher education reform movement included the following: The Commonwealth Teacher-Training Study-1929, Commission on Teacher Education-1940, Bowling Green Conference-1948, Bowling Green Conference-1958, Teacher Education: A Reappraisal-1962, The Education of

American Teachers-1963, Teachers for the Real World-1969, and Educating a Profession-1976. None of these, however, have had a significant impact on teacher education.

Education reform in the 1980s was described by two phases or waves. The first wave of reform consisted of calls for centralized controls and higher standards. The two assumptions that emerged were: (1) The poor quality of teachers and methods accounted for poor student outcomes; and (2) Teacher quality was to be improved through mandated, top-down initiatives preferably from the state level. The second wave called for a restructuring of the educational system (Boyer, 1988).

Research suggests that there have been more changes in education since 1990 than in the previous fifty years. Major developments in schools after the Education Reform Act in 1988 have included the introduction of a National Curriculum, new assessment and reporting arrangements, and financial accountability delegated directly into schools according to Bridges and Kerry (1993).

Another subsequent development was the publication of the Holmes Group report. Sedlak (1987) noted the first public report of the Holmes Group, Tomorrow's Teachers, stated the following five goals and assumptions:

> 1. To make the education of teachers more intellectually sound; to make prospective teachers thoughtful students of teaching and its improvement (p. 5);
>
> 2. To recognize differences in teachers' knowledge, skill, and commitment, and in their education, certification work, and career opportunities by distinguishing among novices, competent professional teachers, and high-level professional leaders (p. 5);
>
> 3. To create standards of entry to the profession--examinations and educational requirements--that are professionally relevant and intellectually defensible (p. 6);

> 4. To connect institutions of higher and professional education with schools in order to make better use of expert teachers in the professional education and induction of other teachers and in research on teaching, and to build demonstration sites where new career opportunities, working conditions, and administrative arrangements can be developed and refined (p. 6); and
>
> 5. To make schools better places for teachers to work and for students to learn by altering the professional roles and responsibilities of teachers (p. 6).

It was recognized by the Holmes Group that teaching's traditional structure must be changed if the quality of teaching and teacher education was to be improved (Holmes Group, 1986). Increased stress on the job and a decrease in purchasing power had encouraged the attrition of competent teachers from the profession and discouraged promising prospective teachers from ever entering it. The potential shortage of qualified teachers made the teacher education response more critical toward recruitment, preparation, induction, and retention (Holmes Group, 1986).

Murphy (1990) stated to a large extent teachers were prepared to teach in traditional schools. If the reform or restructuring movement was to progress beyond issues of governance and control to improve teaching and learning in the classroom, teacher educators were to revise their programs in ways that ensured that prospective teachers had the knowledge and skills to work more effectively with their peers and students.

The importance of teachers and education was stressed by education reformers during the past several years. The need for change in education and teacher education had been addressed in a variety of studies and reports such as the Holmes Group, the National Commission for Excellence in Teacher Education, and the Carnegie Forum on Education and the Economy. One important issue was to not continue to reinvent the wheel. Issues

pertaining to teacher education included teacher certification, collaboration between schools and universities, teacher preparation programs, and teacher quality.

Futures Research

Research revealed four major areas of consideration for futures research. The four areas are: General Futures, Educational Futures, Social Futures, and Workplace Futures.

General Futures

Alley and Jung (1995) espoused that the study of the future was crucial if future teachers were to adapt to an ever-changing, dynamic society. It was increasingly more difficult to keep workforces productive, competitive, and current due to the rapid global change in business, industry, and government. Training that workers currently received became obsolete within three to five years after they received it (Chute, Hancock, Balthazar, 1991). Key economic and social trends included the rapid change in the job market requiring adults to retrain every five to ten years. A shrinking work week (32 hours in 1990) allowed more adults to pursue education and leisure, and increased the need for child care. Demographic changes included the aging of the American population while its younger ranks were being increasingly filled with minority youth. Telecommunication was to impact global interaction and made possible a new range of individual experiences (Cetron, 1985). Other factors affecting change that educators needed to be knowledgeable about and drew implications from according to Shane (1989) were:

1. Problems related to nuclear power and weaponry;
2. The increasing inhabitability of the planet;

3. Rapid population growth--a UN estimate of 8 billion humans by 2025--that increased the chances that the planet would not be able to provide a suitable standard of living for all;

4. The AIDS epidemic, with a 72 percent annual increase in the U.S. in 1988 reported by the World Health Organization;

5. The foreign-financed "invasion" of the U.S., with $165.5 billion of property purchased as of 1987 by Japan, Britain, and other countries;

6. Increasing debt--the U.S. government, corporations, and consumers owed approximately $7 trillion;

7. Pension and Medicare costs for the aging population;

8. An increase in the number of American women who worked outside the home from 31 percent in 1950 according to the Bureau of Labor Statistics, to 68 percent during 1988-89, according to Marvin Cetron, president of Forecasting International Ltd.;

9. A crisis in child care, due to one-third of U.S. working women who had children 5 years old or younger;

10. An increase in single parent families;

11. Shifting patterns in the composition of minority groups; and

12. Increases in child abuse, drug abuse, handgun killings, and gang-related crimes.

Educational Futures

The most important change in education for school administrators was a new way of thinking. Administrators engaged in alternative futures planning process stated that they looked at their communities and districts from a greater perspective. They possessed an awareness or sensitivity to the possible effects of external changes on their programs

and operations of their district (Mecca and Adams, 1991). Anticipation of the future created the vision required to adapt to changes over time.

Shane (1989) predicted school structure would extend upward for mature (30+ years) and senior (60+) learners and multiply to re-educate adults whose jobs often became obsolete in an increasingly computerized world. Personnel in the schools of the future would be more diversified than today. There was to be the need for computer specialists and persons to work with children under 5 and adults over 30. Decker and Krajewski (1985) identified six areas of technology that were to be important to schools of the future. Effective high schools used: (1) computers with the most up-to-date aspects of computer technology; (2) satellite technology for classroom instruction, videotaped programs, video-teleconferencing, and accessing distant computer data bases; (3) interactive video; (4) on-line communication; (5) satellite-computer working together; and (6) focused on industrial education with vocational programs being viewed differently than in the past due to robotics, satellite technology, and computers.

Cetron (1985) and Shane (1989) both predicted a seamless learning experience with a longer school year form 210 to 250 days. Technology use was to provide opportunity for students to complete work at home or at other instructional sites. Instead of, traditional classes a fluid in-school population would exist. Student progress was to be characterized by the rate of each child's individual progress (Shane, 1989). Curriculum was to be skills-based as content changed too fast to form a coherent base for instruction (Cetron, 1985). The basics were to be reading, writing, speaking, listening, viewing, analyzing, mathematical reasoning, and scientific inquiry. A nine month core curriculum

might still exist but an expanded instructional hours would allow for richer exploration of electives and new subjects.

Workplace Futures

Leach and Chakiris (1988) revealed some of the factors that were redefining the fundamental nature of jobs, work, and careers as: global competition; technology; productivity and the manufacturing economy; the baby boomers; labor force participation of women; immigration patterns; and functional illiteracy. Schools were to expand to serve the whole community, especially adults in need of job retraining stressed Cetron (1985). Schools were to stay open longer to meet the new demands. Cetron (1985) predicted toward the year 2000 most schools might stay open 24 hours a day to provide access to automated instruction.

Social Futures

Just as Toffler pointed out in The Third Wave, the three waves of agriculture, industrial, and information society, Shane (1989) believed there was the possibility of two other waves with the fourth being a micro-electronic wave and the fifth of an informed society wave. The fourth micro-electronic wave enabled individuals to process and apply the flood of data. An informed society wave included educated foresight and wisdom that transcended mere access to information. Shane called this a need for a rebirth of the Renaissance spirit to study the world and its many complexities.

The futurist research of Alley and Jung (1995) identified the following list of seven trends that were to impact society and influence education systems:

1. We were participants in a revolution, the change from an industrial to an information or communication society;

2. Change was occurring more rapidly;

3. Personalization and self-reliance were essential amid technological changes;

4. Demographic shifts were under way that paralleled the decline of the industrial society and the development of the communications society;

5. We no longer lived in an either/or society; we now lived in a both/and society;

6. Changing lifestyles were evident; and

7. Increasingly we acknowledged that we lived in a culturally plurastic society.

The future was to be determined by the choices made today. Teachers could choose to sit back and let the trends become pervasive and then respond to them or take a proactive role in shaping the future (Alley and Jung, 1995). Shane (1989) noted the need for change in the physical settings and educational resources of schools to accommodate a student body encompassing an age range from early childhood through adulthood. Curricular structures and administrative policies needed to match the new and enlarged school settings. Teachers were to need to adapt to information age expectations and insightful advisory supervisors were needed for technical and human support.

Schools could not afford to continue to teach only knowledge to students whether through technology or didactic instructional practices. Teaching was to become more high touch with the humanization and personalization of responses to technology. Socialization skills and a pedagogy of caring were to be components of the excellence movement. Alley and Jung (1995) stated teachers were beginning to establish classrooms to meet two major goals: (1) a social environment where problem solving and thinking were group functions, and (2) a warm, human-oriented place to which students might

return to fulfill their need for high touch as they interacted with high tech in other aspects of their lives.

Tafel (1984) stated futurists were asking whether schools would remain reactive to the whims and wishes of society or whether the school would be a proactive force. Futurists were urging teacher educators to be agressive in striving for excellence and not maintaining the status quo.

Development of Vocational Teacher Education Principles

According to Miller (1985) principles emerged from observation of daily practice or accepted practice. Principles stood the test of time. They were generalizations to guide successful accepted practice. Principles were likely to evolve. Principles were not set in stone.

Mann (1840) wrote of four general teacher education principles that could be applied to vocational teacher education. The four principles were: (1) Knowledge of studies; (2) Aptness to teach; (3) The art of managing a classroom; and (4) Molding of good behavior.

In reviewing the literature, there was a distinct lack of specific principles that applied to vocational teacher education. Thus, to gain accurate insight into the foundations for such principles, a review of the principles for vocational education was required.

Swanson (1971) developed a list of criteria for effective vocational-technical education based on a study of the literature and his personal observations since the 1940s. The list of ten criteria included:

1. Effective vocational education requires a student who is literate and motivated to be a good citizen (p. 22);

2. Vocational education should be available to youth within the high schools (p. 22);

3. Vocational education should be available to youth and adults beyond high school who are motivated to develop knowledge and skills for an employment opportunity (p. 22);

4. Vocational-technical education should be available also to youth and adults who are or have been at work but are motivated to update their present occupational skills or to learn new skills and extended knowledge (pp. 22-23);

5. Vocational-technical education should be available to youth and adults with special needs (p. 23);

6. Vocational education programs must develop and maintain input standards (p. 23);

7. Vocational education must develop and maintain output standards (p. 24);

8. The content of vocational programs must be realistically related to the requirements of the labor market (p. 24);

9. The number of persons in training must be related to the number of persons who will be needed by business, industry, commerce, and government (p. 24).

10. Vocational education must involve business, labor, industry, and government as well as schools (p. 24).

Coe (1971) claimed that many existing programs were based on unsound principles, taught by unqualified teachers, and hastily developed to take advantage of

federal funds. Coe believed that quality vocational education should be based on the follow principles:

1. A quality program prepares student for entry into a chosen occupation without neglecting the essentials of a sound general education (p. 191).

2. A quality program is flexible; it permits youth and adults to enter into training when ready and able to do so (p. 192);

3. A quality program accepts the responsibility for the retraining of unemployed and underemployed workers, upgrading of employed workers, related instruction for apprentices and other types of vocationally oriented adult education opportunities and services (p. 192);

4. A quality program provides for a wide variety of exploratory and occupational information opportunities. It helps students make wise choices for further education and training, helps them find satisfactory employment and remains available for further counseling service during the working lifetime of the individual (p. 192);

5. A quality program is administered and supervised by personnel who are educated and experienced in vocational education, who understand the needs of pupils and the needs of business and industry and who are able to work effectively with employers, labor, other school officials and employment and social agencies (p. 192);

6. A quality program serves a geographic area with a student population large enough to support a day and evening program offering a wide variety of occupational choice and that has employment opportunities related to the training given (pp. 192-193);

7. A quality program is housed in physical facilities which are adequate, well-planned and properly equipped to provide realistic vocational education (p. 193);

8. Teachers in a quality program are masters in their occupation and have completed teacher-training programs where they have learned how to impart their knowledge and skills to pupils (p. 193);

9. A quality program is based on an analysis of each occupation to determine what is required to perform as a successful worker in that occupation (p. 193);

10. A quality program adjusts its curriculum to changing business and industrial conditions, technological change and the requirements of the labor market. It properly uses advisory committees to assist in this process (p. 193);

11. A quality program provides for the learning of the skills employed in using the tools, machines and materials of the occupation and using them safely, with good judgment and with pride in good workmanship (p. 193);

12. A quality program provides for the learning of the technology, mathematics, science, drawing or art related to the occupation (p. 194);

13. A quality program uses methods, materials and equipment as similar to actual working conditions as is practical in a school situation and schedules a sufficient amount of continuous shop or laboratory time to carry through the learning experiences (p. 194);

14. A quality program provides for a systematic evaluation of its effectiveness through periodic review, performance tests and written examinations and follow-up studies of its graduates (p. 194).

Coe (1971) believed that if these principles were adhered to, vocational education programs would have the quality and stability to meet the needs of the youth and adults.

In the 1990s, the need for establishing vocational teacher education principles began with the work done by The University Council for Vocational Education. The UCVE Task Force on Teacher Education was appointed in July of 1993 and met in the fall of 1993 and in the spring of 1994 to discuss issues and concerns about teacher education. The first step in the process of establishing a dialogue with vocational teacher educators was to introduce a philosophical statement adopted by the task force for workplace education or vocational-technical education. Discussion was to be done on the newly established UCVE-L discussion group on the Internet. Vocational teacher educators were encouraged to subscribe to the listserve by UCVE representatives. After the statement and discussion of the philosophical statement was completed, a collection of principles was presented with one principle being discussed per week. The consensus of the principles was reached at the 1994 AVA Convention (B. Holder, personal communication, May 4, 1994). A principle was defined by the UCVE as a fundamental truth, a basic rule which served as a means of evaluating present practices and future action (Lynch, 1995). Principles from UCVE applying to Vocational and Technical Education faculty were:

1. Faculty are to be committed to their students and to students' professional development as lifelong learners;

2. Faculty use curriculum and instructional techniques to integrate theory with practice, academic and workforce education, professional education and subject matter, and learning theory and workforce preparation;

3. Faculty understand the philosophy, contemporary concepts, research, effective practices, and methods of inquiry related to workforce preparation and development;

4. Faculty use dynamic pedagogy, based on adult learning theory and practices appropriate for youth and adults; and

5. Faculty are partners in learning communities through which they modeled collaboration and democratic processes for their students (Lynch, 1995-96).

Principles applying to Vocational and Technical Teacher Education Programs were:

6. Programs are to be dynamic and change oriented.

7. Programs are grounded in academic education, workplace subject matter, workplace processes, technology, professional education and pedagogy, and clinical experiences; and

8. Programs reflect cultural diversity (Lynch, 1995-96).

Principles applying to Environment/Institutions were:

9. Colleges and universities and their inherent administrative structures that offered programs to prepare vocational and technical teachers are committed to such preparation and provided adequate resources to sustain them at high quality levels; and

10. Colleges and universities provide a clearly identified group of academic and clinical faculty for whom vocational and technical educator preparation was a top priority (Lynch, 1995-96).

Summary

Teacher education, historically, has been through several stages of development. Herbart provided the Five Formal Steps of Teaching and Learning. Dewey voiced promotion of natural growth and individual differences. The normal schools sought improvement by providing competent teachers that had studied the profession of teaching. In the 1800s, education and the qualifications of teachers was an important issue.

The growth of industry and the increase in urban population caused the need for more high schools in the early 1900s which was directly affected by the needs of society. The Smith-Hughes Act in 1917 was the early stages of financial promotion of vocational education and established federal support for vocational teacher education programs. During the 1970s, '80s, and '90s, the concerns have led vocational teacher education professionals to reassess the efficacy of their teacher preparation programs.

The training of teachers, development of vocational teacher education, changes and improvements of teacher education, and predicting the future of teacher education led to the recognition of the importance of a framework for the development of vocational teacher education programs. To be able to promote or develop a quality program of vocational teacher education, there should be a platform of research-based principles.

Throughout history, education has been founded upon and guided by certain basic guidelines, criteria, postulates, or principles. What does not exist is a contemporary set of researched-based principles for the redesign of vocational teacher education.

CHAPTER III

METHODOLOGY

The purpose of this study was to develop a set of contemporary principles for vocational teacher education through the consensus of a Delphi panel of experts in vocational teacher education. This chapter explains the method of data collection and its analysis. It contains: (1) The Type of Research Conducted; (2) Population; (3) Criteria for Selection of Participants; (4) The Instrument Used to Collect Data; (5) Collection of Data; and (6) Analysis of the Data.

The Type of Research Conducted

The Delphi Technique was designed by the Rand Corporation in the 1950's for the United States Air Force as a means to reach a consensus pertaining to a defense problem (Dalkey, 1969). The use of the Delphi Technique in this research study was to acquire the consensus of contemporary principles of vocational teacher education.

When a group consensus is desired the Delphi Technique is an approach intended to elicit and refine the opinions of a group of people (Brooks, 1979). Group members are identified who will generate the consensus position but each individual interacts with the researcher to provide collective feedback of the emerging consensus (Isaac and Michael, 1981). According to Volk (1993) the advantage to using a Delphi Technique is extracting

opinions from a large group anonymously to eliminate bias. Brooks (1979) poses the major strength to the Delphi Technique is the flexible, but limited, time parameter the participants have in which to respond at their convenience. A key element, according to Brooks, is that the participants be knowledgeable on the subject in question, represent as many different points of view as feasible, and be willing to share their personal opinions.

The typical sequence to the use of a Delphi Technique follows (Brown, Cochran, & Dalkey, 1969; Sackman, 1975; Isaac and Michael, 1981; Brooks, 1979; Volk, 1993):

1. Identification of the group of experts whose consensus opinions are sought. The size of the group can range from fewer than twenty to several hundred, however, little improvement in results is achieved with groups of more than twenty-five (Brooks, 1979). Key factors are being knowledgeable and lack of contact with one another.

2. Determining the willingness of the expert to participate can be done at the same time the first questionnaire is sent to each participant. The first questionnaire contains an open-ended query or statement.

3. The individual responses of the group are formulated into a random order summary. The list should be edited to eliminate redundancy and overlap.

4. The list will be submitted to each expert for their individual ranking of each statement listed. Ranking can be a simple agree or disagree, use of a scale, or modification of the position statement in a descriptive manner.

5. The researcher analyses the new input and generates a new list. The new list is submitted to the experts in the form of questionnaire three with level of group consensus (Mean) with each member's earlier response. The experts are asked to rank each item

again and provide a brief reason or explanation if the individual differs substantially from the group.

6. The researcher tabulates the result and presents the final statement that represents consensus of the group of experts.

This study used three rounds of questionnaires to develop the guiding principles of vocational teacher education. The questionnaires were submitted through electronic mail. Communication between the researcher and each participant was primarily through electronic mail. The exception was with three participants submitting their Round One responses via facsimile and the postal service. One participant had to respond to all rounds via facsimile for reasons associated with recuperation from a broken back.

With the return of each participant's response to the first questionnaire sent via electronic mail, a list of principles was developed. The second questionnaire was sent by electronic mail to each expert for ranking of each principle presented using a five point Likert-type scale. Upon receipt of the responses of the second round of questionnaires, the rankings were analyzed and a third questionnaire was developed based upon the results. The principles were chosen for the third round based on their mean of 4.5 and higher. Mean ratings below a 4.5 begin to lose strength of agreement and consensus (McCampbell & Stewart, 1992). The third and final round of the questionnaire was sent via electronic mail with the participant ranking each principle for a final time. Final results were tabulated from the returned third round questionnaire. A reporting of the results/consensus will be sent to each of the participants.

Population

Participants in this study were selected from a list of nominees from the representatives of the University Council of Vocational Education. A personal letter was written to each director or chair of departments of universities that were members of the University Council of Vocational Education (Appendix B). Each university representative was asked to submit 6-10 names of experts outside their own institution in the area of Vocational Teacher Education. Ten of 19 UCVE representatives responded with a list of names for a 53% response rate (Appendix A). From this list a general list was generated with 50 names as the provided known experts (Appendix C). Total number of experts expected was from 10-20 which was considered an adequate number for the Delphi panel by Linstone and Turoff (1975).

The persons nominated were to meet particular criteria to participate in this study. There was not a model of criteria to follow for designating Delphi experts especially using electronic mail for the collection of data. University representatives were provided a copy of the criteria needed for nominees in the letter of nomination.

The following criteria was applied for selection of the participants of the research study:

1. A faculty member of Vocational Education with at least four (4) years of university experience with a major responsibility in Vocational Teacher Education as job/workload;

Rationale: This criteria is based upon the practice of reappointment of university faculty usually in their fourth year of service. Faculty who have been reappointed should

have sufficient experience to be knowledgeable of principles of vocational teacher education.

2. A competent user of electronic mail who can send and receive messages, print from electronic mail, and download or upload files;

Rationale: Since the research design incorporates the use of electronic mail, this ability is a requirement to participate in the study.

3. A member of a vocational professional organization;

Rationale: Membership in a professional organization shows a personal commitment and interest in the quality and progress of vocational teacher education. This membership indicates a desire for continued progress in vocational teacher education.

4. A supervisor of student teachers as a cooperating teacher or university supervisor;

Rationale: Clinical field supervision provides insight into the quality of teachers being trained in vocational teacher education, thus, participants with this experience are uniquely qualified to comment on principles for vocational teacher education.

5. An educator with an awareness of current issues including a concern for diversity or multicultural populations.

Rationale: With the American student population becoming more diverse and multicultural, teacher educators who hold a concern for these issues will have insight into future orientations for vocational teacher education.

An electronic message or Questionnaire One, explaining the study and the importance of their participation, was sent to each nominated participant (Appendix D). Their electronic response and consent form confirmed their participation in the research

study. The Oklahoma State University Institutional Review Board approved the study February 9, 1996 (Appendix K).

The Instrument Used to Collect Data

Three questionnaires were developed for use with the participants in this study. After the development of the first questionnaire, the second questionnaire was developed based on the responses to the first questionnaire. The third questionnaire was developed based on the responses to the second questionnaire. Each questionnaire was accompanied with a message of instruction.

The first questionnaire (Appendix D) consisted of a message describing the research study, step by step description of the Delphi Technique, and an open-ended statement. The object of the Delphi Technique is to gain consensus among experts on the current best forecast of future events or activities based on their knowledge, experience and opinion. No attempt was made to summate responses across items, as is done in the techniques for establishing indices of internal consistency reliability; to do so would be an artificial manipulation of the data. Changing responses from one round of the process to the next is the means by which consensus is achieved, and is accepted as essential to the Delphi process (Delbecq, Van de Ven, & Gustafson, 1975; McCampbell & Stewart, 1992); therefore, coefficients of stability were also deemed inappropriate.

The second and third round of questionnaires were developed from the responses received in the previous round. The second round questionnaire (Appendix E) was developed from the 151 responses received in round one with the deletion of duplicate items. Some items that were similar remained in the list to be rated by the participants.

Round two questionnaire contained 131 principle statements with a five point Likert-type scale with the descriptors of strongly agree or 5; agree or 4; no opinion or 3; disagree or 2; strongly disagree or 1. Round three questionnaire contained 73 principle statements with the mean of each statement from round two and comments made pertaining to the statement. Additional space was provided for further comment and overall comments were listed at the end of the questionnaire. A five point Likert-type scale was again used with the descriptors of most important or 5; important or 4; no opinion (undecided) or 3; somewhat important or 2; least important or 1.

Collection of Data

The first round of Delphi was the initial gathering of data. Questionnaire one was sent on March 29, 1996, simultaneously by developing a file on the mainframe computer at Arkansas Tech University (Appendix D). Based on the instructions provided by technicians at the computer center, questionnaire one was thought to have been sent to each separate expert without the individual's knowledge of anyone else having received the message. Unfortunately, all individuals received the message but with each person's e-mail address printed at the top of the message. Only e-mail addresses were depicted and not individual names. Not a single person receiving questionnaire one mentioned seeing the list of addresses of other nominees. Based on this fact, it was believed by the researcher that anonymity was kept.

Thirteen messages were returned unmailable due to various incorrect address information. Of the messages sent, only 35 were successfully submitted the first time. Eight more were sent after researching the Internet for e-mail addresses using Netscape,

an Internet access program that provided access to home pages for universities. Universities list current faculty and their e-mail addresses on their home page. An additional seven addresses were found to be unusable the first time but with correcting and up-dating information, four of the seven were sent round one successfully the second time. Two nominees were found not using the Internet or e-mail and one nominee's system was down for repair for an extended time. Once the addresses had been up-dated, questionnaire one was sent to the nominees individually. A deadline of one week after receipt of questionnaire one was given.

Due to the experts participation in two national conferences, questionnaire two was delayed until April 17 with a deadline of April 26. Reminder messages were sent periodically during each round and individually to each participant who had not already sent his/her response to the researcher (Appendix I).

A second attempt at sending an electronic message to an entire group simultaneously and secretly was used for questionnaire two. Based again on the instructions from the computer center personnel and after a successful test run, questionnaire two was submitted on April 17, 1996. Again, when the file with the addresses of the list of experts was used, all e-mail addresses were displayed at the top of the message (Appendix E). After analysis of the instructions from the computer center, it was discovered that all tests and instructions were based on use of local mainframe addresses and none from a distant e-mail location. All further messages were, therefore, sent individually. There were no comments from any of the experts with concern of the addresses being displayed. There were no returned messages as unmailable during the submission of the second or third round.

The second round was the development of questionnaire two by listing all principles submitted with the elimination of duplicates and providing a five point Likert-type scale for rating purposes (Appendix E) . The five point Likert-type scale used as descriptors of strongly agree or 5; agree or 4; no opinion or 3; disagree or 2; strongly disagree or 1. Of the 19 messages send on Round Two 16 responses were received by the deadline (Appendix H). Eight participants failed to respond to all items listed. Individual messages were sent requesting the needed information. A five of the participants submitted the missing data but three did not respond or refused to provide a rating. Twenty-one of the items were still not completed and were left blank and the N for that item changed to avoid affecting the mean of each principle with missing information. Principles with missing items were calculated based on the number of actual responses and not the number of participants. Data received from each response was entered into a table and the mean calculated. Each participant's responses were kept anonymous during data entry (Appendix F and Appendix H).

The third round of Delphi was a list of principle statements that had a mean of 4.5 and higher showing strength of agreement again being rated on a five point Likert-type scale with the descriptors of most important or 5; important or 4; no opinion (undecided) or 3; somewhat important or 2; least important or 1 (Appendix F). Questionnaire three was sent individually to each participant May 8, 1996, with a deadline of May 17. Of the 19 messages sent, 16 responses were received by the deadline (Appendix I).

Analysis of the Data

The Likert-type scale used was a five point scale from strongly agree to strongly disagree. The high points of the scale were strongly agree and agree. The middle point was no opinion. The lowest two points were disagree and strongly disagree. The mean agreement was calculated for each item. Any item that had a mean of 4.5 or higher was considered to be the strongest agreed upon consensus. Anything below a 4.5 or 90% was considered not to be in strong agreement.

Following the final round, the mean was again calculated for each item along with the median and the percentage of agreement. These types of statistics have been deemed appropriate for use as accurate descriptive statistics with the Delphi Technique (McCampbell & Stewart, 1992).

CHAPTER IV

PRESENTATION OF FINDINGS

The purpose of this study was to develop a set of contemporary principles for vocational teacher education through the consensus of a Delphi panel of experts in vocational teacher education. Vocational teacher education experts generated a list of contemporary principles which can be used in the redesign of vocational teacher education.

This chapter presents the findings of the research. The principles that were generated by the vocational teacher education experts are identified with the mean, median, and percentage of consensus.

Responses

Research Question

Which principles should guide the redesign of vocational teacher education?

To answer this question, a questionnaire was sent to 47 nominated experts (Appendix C) in vocational teacher education asking the research question based upon their knowledge, opinion and experience (Appendix D). Nineteen (Appendix G) of the 47 experts agreed to participate in the research study and provided a list of 151 principles.

After analysis of the principles submitted, a total of 131 principles were identified (Appendix E).

The 131 principles focused on four areas: teacher educators, teacher education programs, students and/or graduates, and institutions. Some principles were general in nature, for example: "Teacher educators are flexible and change oriented". There were principles that focused on specific information, for example: "Vocational teacher education programs should provide a working knowledge of student youth organizations and the use of advisory committees". Another type of principle submitted by participants were procedural in nature, for example: "Vocational education promotes a positive work ethic". Other principles were outcome or future oriented, for example: "Future vocational teachers should be prepared to integrate the most current technology appropriate to their subject area.

In questionnaire two, the experts were asked to rate on a five-point Likert-type scale of agreement each of the 131 principles with the corresponding number that best corresponded with their opinion. The five-point Likert-type scale was strongly agree or 5; agree or 4; no opinion or 3; disagree or 2; strongly disagree or 1 (Appendix E). Of the 19 experts receiving questionnaire two, 16 responded with their ratings and comments. This was an 84% response rate (Appendix H). One of the 19 responded to the message but could not rate the principles due to a tornado hitting their home but requested to be sent questionnaire three. The mean of the ratings from the experts were scaled in the following manner: 5.0-4.5; 4.4-4.0; 3.9-3.5; 3.4-3.0; 2.9 and below (Table I). Because of the strong agreement at the 5.0-4.5 level, those 73 principles were selected to be submitted for rating in round three of the Delphi (Appendix F).

TABLE I

NUMBER OF PRINCIPLES FALLING WITHIN A MEAN SCALE RANGE AS RATED BY RESPONDENTS ON QUESTIONNAIRE TWO

Number of Principles	Mean Scale Range
73	5.0-4.5
43	4.4-4.0
6	3.0-3.5
8	3.4-3.0
1	2.9 and Below

N=16

Questionnaire three contained a list of 73 principle statements to be rated on a five-point Likert-type scale of most important or 5; important or 4; no opinion (undecided) or 3; somewhat important or 2; least important or 1 (Appendix F). Of the 18 messages sent, 16 experts responded for an 89% response rate (Appendix I). The results from the experts for questionnaire three were scaled in the following manner (Table II).

TABLE II

NUMBER OF PRINCIPLES FALLING WITHIN A MEAN SCALE RANGE AS RATED BY RESPONDENTS ON QUESTIONNAIRE THREE

Number of Principles	Mean Scale Range
28	5.0-4.5
36	4.4-4.0
0	3.9-3.5
9	3.4-3.0
0	2.9 and Below

N=16

The 28 principles which were rated with a 4.5 and higher mean were considered to be the most important principles in consensus with the experts in vocational teacher education (Table III). The percentage of consensus and the median rating of each principle was calculated to show the strength in consensus among the experts in vocational teacher education (Table III). There were 45 remaining principles that received agreement but were rated below the 4.5 level of agreement (Appendix K.)

TABLE III

FINAL RANKING OF PRINCIPLES FOR VOCATIONAL TEACHER EDUCATION ACHIEVING CONSENSUS BY 90 PERCENT OR MORE OF PANEL SHOWING MEANS AND MEDIANS

	Mean	Percentage	Median	Principle
1.	4.94	99%	5	A thorough knowledge of the nature of learners and learning.
2.	4.88	98%	5	Teacher educators model appropriate theories and best practices in their own classrooms.
3.	4.88	98%	5	Teacher education programs should have adequate resources to maintain high quality, which means they require commitment from university administration.
4.	4.88	98%	5	Faculty use dynamic pedagogy, based on learning theory and practices appropriate for youth and adults.
5.	4.75	95%	5	Faculty use curriculum and instructional techniques to integrate theory with practice, academic and workforce education, professional education and subject matter, and learning theory and workforce preparation.
6.	4.75	95%	5	Future vocational teachers should be competent in the academic areas associated with their areas of expertise.
7.	4.73	95%	5	Future vocational teachers should be prepared to integrate the most current technology appropriate to their subject area.

TABLE III (Continued)

	Mean	Percentage	Median	Principle
8.	4.73	95%	5	Programs are grounded in academic education, workplace subject matter, workplace processes, technology, professional education and pedagogy, and clinical experiences.
9.	4.69	94%	5	Graduates of vocational teacher education programs should provide a variety of teaching strategies, technology, and techniques to motivate all students.
10.	4.69	94%	5	Quality workplace teacher education assures content expertise and the ability to teach it.
11.	4.69	94%	5	Colleges and universities (and their inherent administrative structures) that offer programs to prepare vocational and technical teachers are committed to such preparation and provide adequate resources to sustain them at high quality levels.
12.	4.69	94%	5	Vocational teacher educators should model the best practices in planning, instructing, and evaluating learners.
13.	4.69	94%	5	Vocational teacher educators should require high moral, ethical and professional standards.
14.	4.63	93%	5	Teacher educators need the ability to work within the philosophical concepts of workforce preparation.
15.	4.63	93%	5	Programs in vocational teacher education should attract, develop, and retain quality faculty.
16.	4.63	93%	5	Quality workplace teacher education is research-based (i.e., utilizes and produces research).
17.	4.63	93%	5	Faculty understand the philosophy, contemporary concepts, research, effective practice, and methods of inquiry related to workforce preparation and development.

TABLE III (Continued)

	Mean	Percentage	Median	Principle
18.	4.60	92%	5	Teacher education programs should reflect the diversity of learners.
19.	4.56	91%	5	Future vocational teachers should be competent in their ability to develop relationships with business and industry.
20.	4.56	91%	5	Graduates of vocational teacher education programs should provide a working knowledge of student youth organizations and use of advisory committees.
21.	4.56	91%	5	Colleges and universities provide a clearly identified group of academic and clinical faculty for whom vocational and technical educator preparation is a top priority.
22.	4.56	91%	5	Vocational teacher education should require competence in computer and electronic communications.
23.	4.50	90%	5	Programs in vocational teacher education should attract and retain well-qualified students.
24.	4.50	90%	5	Programs in vocational teacher education should respond to the professional and continuing education needs of teachers.
25.	4.50	90%	5	Programs in vocational teacher education should produce graduates who possess the technical and professional knowledge needed by a changing society.
26.	4.50	90%	5	Quality workplace teacher education continually evaluates and strategically plans.

TABLE III (Continued)

	Mean	Percentage	Median	Principle
27.	4.50	90%	5	Faculty are committed to their students and to students' professional development as lifelong learners.
28.	4.50	90%	5	Faculty are partners in learning communities through which they model collaboration and democratic processes for their students.

Some participants provided comments that were generally supportive or critical of the principle referred to. Other comments referred to the overall length of the rounds especially for electronic mail use. The comments reflected individuals feelings about the challenge of the process and were considered, by the researcher, to be a procedural phenomenon and did not affect the overall consensus of the study (Appendix F).

Summary

The development of principles for vocational teacher education was accomplished using the Delphi Technique. Nineteen UCVE representatives submitted 47 nominees or experts in vocational teacher education. The 47 experts were sent via electronic mail questionnaire one. Nineteen experts responded with a list of principles. Questionnaire two was submitted to 19 experts via electronic mail for rating on a five point Likert-type scale. Sixteen experts responded and analysis yielded 73 principles. Questionnaire three was

submitted to 18 experts via electronic mail for rating on a five point Likert-type scale. Sixteen experts responded and analysis resulted in 28 principles receiving strong consensus at a mean level of 4.5 and higher.

CHAPTER V

SUMMARY, CONCLUSIONS, RECOMMENDATIONS

The purpose of this research study was to develop a contemporary set of researched-based principles for vocational teacher education. The procedure utilized to achieve the purpose and objectives of the study consisted of selection of respondents, instrumentation, collection of data, treatment of the data, and the presentation and analysis of the data.

In order to identify principles needed in vocational teacher education, the researcher conducted a review of literature on principles of vocational education, history of vocational education, teacher education, and teacher education redesign. Principles for vocational education and general education were identified as well as some unpublished principles for vocational teacher education. An instrument was developed to use in gathering principles from Delphi panelists.

The purpose of the research study grew out of the need for a contemporary set of research-based principles for vocational teacher education. The elements of the typical teacher education sequence--subject matter, pedagogy, practice teaching--have remained unchanged since the Normal School era. Futures researchers agreed there was a need to examine educational institutions, their programs and plans to implement effective change.

Educational institutions have been criticized for their lack of attention to the needs of tomorrow's teachers. However, they have been given credit for having the most potential of any institution to become viable social change agents. It is with this problem in mind that this study became a reality.

Summary of Research

There was one specific research question of the study: (1) Which principles should guide the redesign of vocational teacher education?

A Delphi Technique utilizing nominations of vocational teacher education experts from representatives of UCVE institutions was designed to develop principles. There were 50 experts nominated by representatives of UCVE with 47 meeting the criteria to participate and receiving questionnaire one of the Delphi via electronic mail. Nineteen experts responded to round one, 16 experts to rounds two and three. When a participant did not respond, they were dropped from the panel and were not sent further questionnaires. Questionnaire one asked an open-ended statement based upon their knowledge, opinion, and experience, "Which principles should be guiding the redesign of vocational teacher education", in order to generate items to be considered by all panelists during the second round.

The participants and experts in vocational teacher education responded with 151 unique principles for vocational teacher education. Twenty duplications were removed. Each participant was sent, via electronic mail, questionnaire two comprised of 131 principle statements to be rated on a five point Likert-type scale. The 131 principles

examined in questionnaire two were analyzed and narrowed to 73 principles to be considered during round three.

Questionnaire three was used to complete the Delphi and establish final consensus of the experts. The highest agreement of a mean of 4.5 and higher resulted in 28 principle statements.

Conclusions

There were three conclusions drawn from the findings of this research study. An explanation of each conclusion is provided for clarity and understanding.

Based on the data analyzed the following conclusions can be made:

1. It is concluded that three emergent categories exist among the 28 principles: students, programs, and teacher educators.

2. It is concluded that based upon the three categories there are 17 principles that comprise a contemporary set of research-based principles to guide the redesign of vocational teacher education (See Table VII).

3. It is concluded that electronic mail is an acceptable vehicle for the Delphi Technique.

After a comparative analysis of each of the 28 Delphi generated principles, there were three specific categories described. The three categories reflected principles concerning students, programs, and teacher educators. These categories are similar to the areas designated in Lynch's (1995), Goodlad's (1994), and the Holmes Group's (1986) principles, postulates, and goals which were faculty, programs, and institutions.

There were eight principles that specifically pertained to the student category (Table IV). Within the eight principles, there were several themes that highlighted the strengths, skills, and knowledge that students in a vocational teacher education program should possess. The themes among the eight principles are underlined in each principle. Based on the literature, students preparing to become teachers of vocational education should possess all of these strengths. These themes are reoccurring themes in vocational teacher preparation programs.

TABLE IV

PRINCIPLES PERTAINING TO OUTCOMES FOR STUDENTS IN VOCATIONAL TEACHER EDUCATION PROGRAMS WITH COMMON THEMES UNDERLINED

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1. Future vocational teachers should be competent in the academic areas associated with their areas of expertise.

2. Future vocational teachers should be prepared to integrate the most current technology appropriate to their subject area.

3. Graduates of vocational teacher education programs should provide a variety of teaching strategies, technology, and techniques to motivate all students.

4. Quality workplace teacher education assures content expertise and the ability to teach it.

5. Future vocational teachers should be competent in their ability to develop relationships with business and industry.

6. Graduates of vocational teacher education programs should provide a working knowledge of student youth organizations and use of advisory committees.

TABLE IV (Continued)

7. Vocational teacher education should require competence in computer and electronic communications.
8. Programs in vocational teacher education should produce graduates who possess the technical and professional knowledge needed by a changing society.

Another category described among the 28 principles was programs. There were 11 principles that directly related to vocational teacher education programs (Table V). Analysis revealed some common themes among the 11 principles. These themes can be found in the literature and have not changed greatly through the years (Goodlad, 1994; Frantz, 1993; Magrath, 1987; Schwartz and Turner, 1990; Yuen, 1988). The emphasis on workplace preparation is just as important now in the technological age as in the industrial age.

TABLE V

PRINCIPLES PERTAINING TO PROGRAMS OF VOCATIONAL TEACHER PREPARATION WITH COMMON THEMES UNDERLINED

1. Teacher education programs should have adequate resources to maintain high quality, which means they require commitment from university administration.

2. Faculty use curriculum and instructional techniques to integrate theory with practice, academic and workforce education, professional education and subject matter, and learning theory and workforce preparation.

3. Programs are grounded in academic education, workplace subject matter, workplace processes, technology, professional education and pedagogy, and clinical experiences.

4. Colleges and universities (and their inherent administrative structures) that offer programs to prepare vocational and technical teachers are committed to such preparation and provide adequate resources to sustain them at high quality levels.

5. Programs in vocational teacher education should attract, develop, and retain quality faculty.

6. Quality workplace teacher education is research-based (i.e., utilizes and produces research).

7. Teacher education programs should reflect the diversity of learners.

8. Colleges and universities provide a clearly identified group of academic and clinical faculty for whom vocational and technical educator preparation is a top priority.

9. Programs in vocational teacher education should attract and retain well-qualified students.

10. Programs in vocational teacher education should respond to the professional and continuing education needs of teachers.

11. Quality workplace teacher education continually evaluates and strategically plans.

The category relating to teacher educators was identified in nine (9) principles (Table VI). These themes were also common in the review of the literature (Goodlad, 1994; Frantz, 1993; Magrath, 1987; Schwartz and Turner, 1990; Yuen, 1988).

TABLE VI

PRINCIPLES PERTAINING TO TEACHER EDUCATORS RESPONSIBLE FOR VOCATIONAL TEACHER EDUCATION WITH COMMON THEMES UNDERLINED

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1. A thorough knowledge of the nature of learners and learning.
2. Teacher educators model appropriate theories and best practices in their own classrooms.
3. Faculty use dynamic pedagogy, based on learning theory and practices appropriate for youth and adults.
4. Vocational teacher educators should model the best practices in planning, instructing, and evaluating learners.
5. Vocational teacher educators should require high moral, ethical, and professional standards.
6. Teacher educators need the ability to work within the philosophical concepts of workforce preparation.
7. Faculty understand the philosophy, contemporary concepts, research, effective practice, and methods of inquiry related to workforce preparation and development.
8. Faculty are committed to their students and to students' professional development as lifelong learners.

TABLE VI (Continued)

9.	Faculty are partners in learning communities through which they model collaboration and democratic processes for their students.

The researcher concluded that the 28 Delphi generated principles reflected considerable overlapping and redundancy. Further, it was concluded that it was appropriate to create a list of contemporary principles following the major themes developed in the research which can be used in the redesign of vocational teacher education (Table VII).

TABLE VII

CONTEMPORARY PRINCIPLES FOR VOCATIONAL TEACHER EDUCATION

Students in Vocational Teacher Programs	
1.	Vocational teachers should be competent in their content area.
2.	Vocational teachers should be able to extensively use technology to strengthen their pedagogy.
3.	Vocational teachers should be able to use a variety of teaching strategies and techniques that provide motivation for all learning styles of students.

TABLE VII (Continued)

4. Vocational teachers should possess technical and professional skills that allow flexibility to keep pace for the changing needs of society.

5. Vocational teachers should be able to communicate and develop relationships with business and industry.

6. Vocational teachers should have experience working with student organizations and advisory committees.

Programs of Vocational Teacher Preparation

7. Vocational teacher programs should demonstrate the integration of theory, practice, and technology for a diverse learning population.

8. Vocational teacher programs should have four essential elements: workplace preparation, professional education including teaching and learning theory, academic education, and extensive clinical experiences.

9. Vocational teacher programs should be based on research including research produced through collaboration of faculty and students.

10. Vocational teacher programs should have adequate resources and commitment from university administration.

11. Vocational teacher programs should seek and retain high-quality faculty and students.

12. Vocational teacher programs should be based on strategic planning.

13. Vocational teacher programs should utilize continuous evaluation.

Vocational Teacher Educators

14. Vocational teacher educators should model the best practices, theories, and professional standards including the use of technology.

15. Vocational teacher educators should be committed to the student's development as a lifelong learner.

16. Vocational teacher educators should demonstrate a strong philosophical base, a knowledge of the expectations of contemporary society, the development and use of research, and the methods of inquiry appropriate to workforce preparation.

TABLE VII (Continued)

Vocational Teacher Educators (Continued)
17. Vocational teacher educators should use dynamic pedagogy appropriate for youth and adults with a knowledge of the nature of learners and learning.

Recommendations

The following recommendations should be implemented:

1. The developed set of principles should be utilized by UCVE and other institutions that provide vocational teacher education programs as they consider the redesign of their vocational teacher education programs.

2. Vocational teacher educators should use these principles to guide the evaluation of vocational teacher education at their institution.

Recommendations for Research

The following recommendations are given for further study regarding principles of vocational teacher education:

1. Vocational teacher education programs should be surveyed to ascertain specific principles that guide the current program;

2. The 17 contemporary principles should be used in research with diverse groups including State Department of Education Supervisors, State Directors of Vocational

Education, other teacher educators, and vocational education teachers to determine levels of agreement among the various groups;

3. The electronic mail system as a vehicle for research should be tested using in-house addresses and distant addresses to assure anonymity of Delphi panel members.

4. The use of electronic mail as a tool to collect data or conduct research should be continued. The elapsed time used to conduct research is decreased with the use of this technology.

Implications for Practice

The principles for vocational teacher education identified in this research should be used as the foundation for the redesign of current vocational teacher education programs. They can be a vital contribution to a strategic planning process to redesign a vocational education program. This study should enable institutions to develop vocational teacher education programs that are research based and up-to-date in current practices and societal needs.

The use of the 17 contemporary principles for vocational teacher education should lead to improvement in the profession of vocational teacher education.

Discussion

Conducting research electronically creates new options for researchers. The information highway is open for other pioneers. Such pioneers need computer skills, an Internet knowledge base, and the determination to take risks into the world of constantly changing technology.

The use of electronic mail technology as a tool to conduct research and gather data considerably reduced the elapsed time to complete questionnaires for each Delphi round. Helmer (1983) predicted the possibilities of using computer automation to complete a Delphi to reduce the total time required between rounds. In this research study, the total time used for the three rounds of the Delphi was 50 days. That time would have been less if two weeks had not been extended for some of the expert participants to attend two national conferences. The time between questionnaire one and questionnaire two was 19 days. Time was allowed for reminders and deadlines set for the receipt of round one questionnaire. This time could be reduced from the 19 days allowed in this study. Between questionnaire two and questionnaire three there were 21 days allowed due to the conference attendance by some experts. Questionnaire three only needed 10 days for participants to submit their responses. It took longer to key information for each questionnaire than it did to submit the messages. Questionnaire one took three hours to prepare on the computer mainframe file. Questionnaire two took two hours to prepare on the mainframe file. Two hours was also used to prepare questionnaire three. Less time was needed to send the questionnaires to the experts than it did to prepare them.

Once the initial participants were established the attrition rate was low. Of 19 experts only one was dropped from the third round. Another aspect of using electronic mail that contributed to the high rate of participation was the one to one contact between the researcher and the expert. Each time the expert responded in a round, the researcher submitted a personal note of receipt. This acknowledgment and gratitude was important in the communication with the expert. The time factor was important to the experts and to the researcher for completion of other duties and responsibilities.

Another positive aspect of using electronic mail for conducting research is the cost factor. The only money spent by the researcher was for stamps and envelopes for the letters of nomination sent to the UCVE representatives.

There are negative factors to consider when using this research tool. One is that each institution uses a different electronic mail system. The researcher may not be able to provide specific directions to all respondents participating in the research. Another factor is the skill level or knowledge base of the experts may cause them to have difficulty in participating in the research using this technology tool. The communication between the researcher and the experts is vital. A new protocol in communication has been established by some electronic mail users. The use of all uppercase lettering is considered by some to be shouting when used in electronic mail. The use of smiley faces is one way to show emotion to the written electronic word and is considered acceptable communication..

Caution

It is not the intent of this research study to assume that all vocational teacher education programs need to be redesigned. This research has been conducted to enable institutions to evaluate their existing programs and make a decision if redesign is needed or enable new programs to be established.

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APPENDIXES

APPENDIX A

UNIVERSITY COUNCIL FOR VOCATIONAL EDUCATION REPRESENTATIVES

✔=List of Nominees Received from Representative

Dr. Bonnie White, Head
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Auburn University AL 36849-5526

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✔Dr. Helen C. Hall, Head
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✔Dr. Bob R. Stewart, Chair
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✔Dr. Terry O'Brian
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Oklahoma State University
Stillwater OK 74078-0406

✔Dr. Jerry Tuchscherer, Director
Adult, Counselor, and Technology Education
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University of Idaho
Moscow ID 83843

✔Dr. Barbara Hinton, Head
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✔Dr. Kenneth Gray
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✔Dr. Glen Shinn, Chair
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✔Dr. John S. Washburn, Chair
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University of Tennessee
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Dr. Michael Burnett
School of Vocational Education
142 Old Forestry Bldg.
Louisiana State University
Baton Rouge LA 70803

APPENDIX B

NOMINATION LETTER SENT TO

UCVE REPRESENTATIVES

DATE

FIELD(TITLE) FIELD(NAME) FIELD(LASTNAME), FIELD(POSITION)
FIELD(DEPARTMENT)
FIELD(ADDRESS)
FIELD(UNIVERSITY)
FIELD(CITY) FIELD(STATE) FIELD(ZIP)

Dear FIELD(TITLE) FIELD(LASTNAME)

As part of my doctoral program in Occupational and Adult Education at Oklahoma State University, I am conducting research concerning the development of a contemporary set of principles for vocational teacher education. The elements of the typical teacher education sequence--subject matter, pedagogy, practice teaching--have remained unchanged since the Normal School era. Futures researchers agree there is a need to examine educational institutions, their programs and plans to implement effective change. Educational institutions have been criticized for their lack of attention to the needs of tomorrow's teachers. However, they have been given credit for having the most potential of any institution to become viable social change agents.

I am seeking your assistance in this research study as FIELD(POSITION) of the FIELD(DEPARTMENT) at FIELD(UNIVERSITY). I will be utilizing a Delphi Technique to complete my research. To be able to utilize a Delphi Technique I will need a population of experts in vocational teacher education. A list of experts will be generated by representatives of the University Council of Vocational Education groups connected through the internet. As a representative of your university and chair, please submit 6-10 names of experts outside your own institution in the area of Vocational Teacher Education. If preferred, the submission of a list of experts may also be from a person of your choice in your department you feel is knowledgeable and willing to participate in this nomination process. Enclosed is the criteria for the selection of participants that each nomination should meet to be able to participate in this research study.

You many submit your nominations along with their address and preferably e-mail address in the enclosed self-addressed, stamped envelope. Thank you for your participation in this segment of my research study. Your assistance is appreciated. It is my desire that vocational teacher education will be enhanced as a result of this research study.

Sincerely

Linda C. Bean

Enclosures

Sincerely

Dr. Reynaldo L. Martinez
Dissertation Chair

APPENDIX C

LIST OF NOMINEES AS EXPERTS IN VOCATIONAL TEACHER EDUCATION

LIST OF NOMINATED EXPERTS IN VOCATIONAL TEACHER EDUCATION

Dr. Dewey Adams, North Carolina State University
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Dr. R. Kirby Barrick, Jr., The Ohio State University
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Dr. Bobbie Biggs, University of Arkansas-Fayetteville
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Dr. Michael F. Burnett, Louisiana State University
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Dr. Edgar P. Yoder, The Pennsylvania State University
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Nominees that did not meet Criteria

Dr. Ronald Stadt -- does not use e-mail
Southern Illinois University

Ms. Phyllis Bubnas -- does not use e-mail
Southern Illinois University

APPENDIX D

QUESTIONNAIRE ONE

Message-Id: <29MAR96.17687850.0024.MUSIC@ATUVM.ATU.EDU>
Date: Fri, 29 Mar 1996 16:22:39 CST
From: LINDA BEAN 0663 <CSLB@ATUVM.ATU.EDU>
To: <DADAMS@POE.COE.NCSU.EDU>, <MAAY@SIU.EDU>,
<BARRICK.2@OSU.EDU>, <BBIGGS@UAFSYSB.UARK.EDU>,
<VOCBUR@LSUMVS.SNCC.LSU.EDU>,
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<NEDMUNDS@UNLINFO.UNL.EDU>,
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<EYODER@PSUPEN.PSU.EDU>, LINDA BEAN 0663
<CSLB@ATUVM.ATU.EDU>

Subject: RESEARCH IN VOCATIONAL TEACHER EDUC.
X-Mailer: MUSIC/SP V4.1.0

RESEARCH IN VOCATIONAL TEACHER EDUCATION

As part of my doctoral program in Occupational and Adult Education at Oklahoma State University, I am conducting research concerning the development of a contemporary set of principles for vocational teacher education. You have been nominated by university representatives of the University Council of Vocational Education to be a participant in this research study in the capacity of expert in vocational teacher education.

I will be conducting a Delphi Technique which utilizes a panel of experts to anonymously come to consensus on the topic at hand. You will be asked to respond to three questionnaires via electronic mail. All participants will remain anonymous and all responses will be held in strict confidence.

The first questionnaire is contained in this current electronic message. It asks that you submit a list of principles that should be guiding the redesign for vocational teacher education based upon your experience, opinion, and knowledge of vocational teacher education.

The second round questionnaire will be a listing of all principles submitted by participants in round one and a Likert Scale of 1 to 5 for rating purposes.

Round three (final round) will ask you to examine the same list of principles, but with the consensus rating on each principle provided based on round two and you will be able to revise your ratings if desired.

Each round will be submitted through electronic mail message as a text file. Use your e-mail system's capabilities as needed. One format would be to download this file through a word processing program, mark your ratings, save as an ASCII and upload file to be sent back to the researcher for analysis.

If you are willing to participate in the research study, please complete the consent form and complete questionnaire one as confirmation of your participation. You will be provided copies of the results upon completion of this research study. If you have any questions or problems, you can e-mail me at cslb@atuvm.atu.edu or call me at 501-890-6748. I look forward to working with you in this unique research study.

Linda C. Bean cslb@atuvm.atu.edu
Doctoral Candidate
Oklahoma State University 501-890-6748

CONSENT FORM

I, _____ hereby authorize Dr. Reynaldo L. Martinez and Linda C. Bean of Oklahoma State University to use the data generated by my participation in a research study concerning the development of principles for vocational teacher education. I understand that any information collected will be held in strict confidence and my identity will remain anonymous. No data or information will be released until it has been masked by a code number that will protect my identity.

This is done as part of an investigation entitled THE DEVELOPMENT OF A CONTEMPORARY SET OF PRINCIPLES FOR VOCATIONAL TEACHER EDUCATION.

If I have any questions regarding this study, I may contact Linda C. Bean or Dr. Reynaldo L. Martinez, 407 Classroom Building, Oklahoma State University, Stillwater, OK 74078. I may also contact University Research Services, 001 Life Sciences East, Oklahoma State University, Stillwater, OK 74078: Telephone (405) 744-5700.

I have read and fully understand the consent form. I sign it freely and voluntarily.

Date:_____Time:_____(a.m./p.m.)

Typed:_____
Typed Name of Subject

QUESTIONNAIRE ONE

Based upon your experience, opinion, and knowledge of vocational teacher education, provide a list of principles that should be guiding the redesign for vocational teacher education. Be brief but adequately express your ideas. The definition of a principle according to the University Council for Vocational Education is "a fundamental truth, a basic rule which serves as a means of evaluating present practices and future action". Please submit your list of principles within a week of receiving this electronic message.

APPENDIX E

QUESTIONNAIRE TWO

Date: Wed, 17 Apr 1996 08:23:53 CDT
From: LINDA BEAN 0663 <CSLB@ATUVM.ATU.EDU>
To: <maay@siu.edu>, <dcraig@utkvx.utk.edu>, <frantznr@vtvm1.cc.vt.edu>, <hartley@condor.cahs.colostate.edu>, <heathb@vt.edu>, <bhinton@comp.uark.edu>, <sjohnson@ux1.cso.uiuc.edu>, <love@picasso.cahs.colostate.edu>, <mdmosu@vm1.ucc.okstate.edu>, <raw18@psu.edu>, <jwash@siu.edu>, <fry@picasso.cahs.colostate.edu>, <pavtbob@showme.missouri.edu>, <miverson@uga.cc.uga.edu>, <jcrunkil@vtvm1.cc.vt.edu>,<jerryt@novell.uidaho.edu>, <aged@uwyo.edu>, <bbiggs@comp.uark.edu>, LINDA BEAN 0663 <CSLB@ATUVM.ATU.EDU>
Subject: Round 2 of Delphi in Voc Teacher Ed
X-Mailer: MUSIC/SP V4.1.0

QUESTIONNAIRE TWO

Below is the list of guiding principles submitted during the first round of the delphi by participants in this research study. Read each statement carefully and place an X in the blank next the the number that best corresponds to your opinion. The numbers indicate

5= Strongly Agree

4= Agree

3= No Opinion

2= Disagree

1= Strongly Disagree

Request: Please respond to all items listed. They will be numbered.

REMEMBER TO RESPOND USING ELECTRONIC MAIL. Utilize your system in the best format possible. If you need to use the number of the principle with the ranking number you select next to it, this process will be acceptable. If I have questions as to your response, I will contact you through e-mail.

I will respond/confirm receipt of your reactions as soon as I read your message. I will be out of state until Friday evening, April 19. Your response is needed by April 26.

Thank you for your commitment to vocational teacher education and participation in this research study.

Linda Bean 501-890-6748 cslb@atuvm.atu.edu
64 Terra Villa Rd. [FAX: 501-968-0677]
Dover, AR 72837

5=Strongly Agree, 4=Agree, 3=No Opinion, 2=Disagree, 1=Strongly Disagree

1. Teacher educators need a broad experimential base, in addition to an appropriate academic base.

   _____5 _____4 _____3 _____2 _____1

2. Teacher educators use not only the pedagogical model, but also use the andragogical model in the classroom, as they are teaching adults.

   _____5 _____4 _____3 _____2 _____1

3. Teacher educators need the ability to work within the philosophical concepts of workforce preparation.

   _____5 _____4 _____3 _____2 _____1

4. Teacher educators model appropriate theories and best practices in their own classrooms.

   _____5 _____4 _____3 _____2 _____1

5. Teacher educators are flexible and change oriented.

   _____5 _____4 _____3 _____2 _____1

6. Teacher education programs should reflect the diversity of learners.

   _____5 _____4 _____3 _____2 _____1

7. Teacher education programs should have an appropriate mix of academic and workforce preparation courses, pedagogical and andragogical courses, technology courses, and clinical experiences to impact educational institutions.

   _____5 _____4 _____3 _____2 _____1

8. Teacher education programs should have adequate resources to maintain high quality, which means they require commitment from university administration.

   _____5 _____4 _____3 _____2 _____1

9. Future vocational teachers should be prepared to integrate the most current technology appropriate to their subject area.

_____5 _____4 _____3 _____2 _____1

10. Future vocational teachers should be prepared to teach the understanding, analysis, and problem solving of complex systems.

_____5 _____4 _____3 _____2 _____1

11. Future vocational teachers should be competent in the academic areas associated with their areas of expertise.

_____5 _____4 _____3 _____2 _____1

12. Future vocational teachers should be prepared to teach with teams of teachers in an integrated, thematic way.

_____5 _____4 _____3 _____2 _____1

13. Future vocational teachers should be competent in their ability to develop relationships with business and industry.

_____5 _____4 _____3 _____2 _____1

14. Vocational teacher education principles must, in a broad sense, be associated with quality, access and efficiency.

_____5 _____4 _____3 _____2 _____1

15. Vocational teacher education should be redesigned by full involvement of potential and past clientele of the program.

_____5 _____4 _____3 _____2 _____1

16. Vocational teacher education should be redesigned by current teacher educators in the program.

_____5 _____4 _____3 _____2 _____1

17. Vocational teacher education should be redesigned by getting teachers, teacher educators, students, and administrators together to work out procedures.

_____5 _____4 _____3 _____2 _____1

18. Vocational teacher education should be redesigned by securing the services of an expert in program improvement/redesign to guide the revision process.

_____5 _____4 _____3 _____2 _____1

(Please begin the next several principles with the statement: Vocational teacher education should be redesigned by . . .)

19. allocating sufficient resources so that current faculty are given time, compensation and credit for the revision process.

_____5 _____4 _____3 _____2 _____1

20. basing change on the demographics of the area serviced by the program(s).

_____5 _____4 _____3 _____2 _____1

21. involving the latest technology in the program goals.

_____5 _____4 _____3 _____2 _____1

22. seeking consensus of all concerned parties.

_____5 _____4 _____3 _____2 _____1

23. conducting a thorough self study prior to bringing in outside assistance.

_____5 _____4 _____3 _____2 _____1

24 making use of success models around the nation and globaly.

_____5 _____4 _____3 _____2 _____1

25. building self renewal procedures into the revised design.

_____5 _____4 _____3 _____2 _____1

26. using model classrooms that reflect state-of-the-art vocational facilities.

_____5 _____4 _____3 _____2 _____1

27. incorporating portfolio development and assessment into the programs

_____5 _____4 _____3 _____2 _____1

28. conducting thorough searches of the literature on the subject.

_____5 _____4 _____3 _____2 _____1

29. allocating sufficient time to do the job well the first time: 1-3yrs

_____5 _____4 _____3 _____2 _____1

30. building in faculty and staff incentives into the revised model plan

_____5 _____4 _____3 _____2 _____1

31. establishing bases of operation that best complement the technical and pedological development of students in the programs.
_____5 _____4 _____3 _____2 _____1

32. sharing results of the program revision on databases, the WWWeb, etc

_____5 _____4 _____3 _____2 _____1

33. providing extended field involvement of students through observation shadowing, supervized apprenticeship, and year-long internships.

_____5 _____4 _____3 _____2 _____1

34. preparing students for teaching by extensive use of videotaped micro teaching and evaluation/feedback systems.

_____5 _____4 _____3 _____2 _____1

35. securing administrative and legislative buy-in for long-range support of the revised system (3-5 years).

_____5 _____4 _____3 _____2 _____1

36. building in a training system for developing mentors at each stage of process in vocational teacher education.

_____5 _____4 _____3 _____2 _____1

37. funding scholarships and fellowships for students and teachers in the new system.
_____5 _____4 _____3 _____2 _____1

38. building a guidance (career/personal) component of the system.

_____5 _____4 _____3 _____2 _____1

39. creating a legal base for vocational teacher education in the system of jurisdictions affected.

_____5 _____4 _____3 _____2 _____1

40. Vocational teacher education should be integrated and applied.

_____5 _____4 _____3 _____2 _____1

41. Vocational teacher education should use principles of Andragogy, not pedagogy.

_____5 _____4 _____3 _____2 _____1

42. Vocational teacher education should include extensive field-based experiences preferably a full year of internship.

_____5 _____4 _____3 _____2 _____1

43. Vocational teacher educators should use a variety of methods, methods and model principles of Andragogy.

_____5 _____4 _____3 _____2 _____1

44. Vocational teacher education should not be content specific; for example, teaching methods courses should focus on methods appropriate for any vocational program content.

_____5 _____4 _____3 _____2 _____1

45. Vocational teacher educators must integrate business and industry principles into the teacher education curriculum.

_____5 _____4 _____3 _____2 _____1

(Use the following statement as the beginning of the next several principles: Graduates of Vocational Teacher Education programs should..)

46. assist the student in developing a strong personal philosophy for vocational education through demonstrated knowledge of historical and multicultural issues, curriculum, reform, foundations and research.

_____5 _____4 _____3 _____2 _____1

47. provide a working knowledge of student youth organizations and use of advisory committees.

_____5 _____4 _____3 _____2 _____1

48. provide a commanding knowledge of the curriculum components of a secondary or post-secondary vocational program for which the student majors.

_____5 _____4 _____3 _____2 _____1

49. provide management skills for classroom and laboratory.

_____5 _____4 _____3 _____2 _____1

50 provide a variety of teaching strategies, technology, and techniques to motivate all students.

_____5 _____4 _____3 _____2 _____1

51. provide skills and techniques to establish linkages to the community and business and industry.

_____5 _____4 _____3 _____2 _____1

(Use the following statement as the beginning of the next several principles. Programs in Vocational Teacher Education should . . .)

52. attract and retain well-qualified students.

_____5 _____4 _____3 _____2 _____1

53. respond to the professional and continuing education needs of teachers.

_____5 _____4 _____3 _____2 _____1

54. educate students to be responsible thinking citizens, well prepared to be leaders in their communities and professions.

_____5 _____4 _____3 _____2 _____1

55. produce graduates who possess the technical and professional knowledge needed by a changing society.

_____5 _____4 _____3 _____2 _____1

56. attract, develop, and retain quality faculty.

_____5 _____4 _____3 _____2 _____1

57. Quality workplace teacher education is committed to students and their lifelong learning.

_____5 _____4 _____3 _____2 _____1

58. Quality workplace teacher education integrates theory and practice, vocational and academic education with professional education.

_____5 _____4 _____3 _____2 _____1

59. Quality workplace teacher education is dynamic, explores alternative paradigms, and contributes to change.

_____5 _____4 _____3 _____2 _____1

60. Quality workplace teacher education employs partnerships with master teachers, business and industry personnel, and community leaders.

_____5 _____4 _____3 _____2 _____1

61. Quality workplace teacher education influences the value teachers place on cultural diversity in schools and the workplace.

_____5 _____4 _____3 _____2 _____1

62. Quality workplace teacher education is research-based (i.e., utilizes and produces research).

_____5 _____4 _____3 _____2 _____1

63. Quality workplace teacher education continually evaluates and strategically plans.

_____5 _____4 _____3 _____2 _____1

64. Quality workplace teacher education assures content expertise and the ability to teach it.

_____5 _____4 _____3 _____2 _____1

65. Quality workplace teacher education promotes a sense of local and global values.
_____5 _____4 _____3 _____2 _____1

66. Leadership to restructure and revitalize curricula by working within schools and communities.

_____5 _____4 _____3 _____2 _____1

67. Capacity to provide visionary, collaborative, decision making in various settings.

_____5 _____4 _____3 _____2 _____1

68. Broad based understanding of the purpose of career development in the preparation of youth and adults.

_____5 _____4 _____3 _____2 _____1

69. Knowledge of the economic, sociological, philosophical, and psychological foundations of workforce education.

_____5 _____4 _____3 _____2 _____1

70. A thorough knowledge of the nature of learners and learning.

_____5 _____4 _____3 _____2 _____1

71. The relationship between work and family life in a changing society.

_____5 _____4 _____3 _____2 _____1

72. The integration of subject matter and contextual work based protocols that have relevance to the learner.

_____5 _____4 _____3 _____2 _____1

73. Preparing young people and adults for a workplace as well as continuing their education.

_____5 _____4 _____3 _____2 _____1

74. Provide all students with opportunities to engage in rigorous academics and occupational skill development.

_____5 _____4 _____3 _____2 _____1

75. Balance the needs for broad transferable skills and specific occupational skills.

_____5 _____4 _____3 _____2 _____1

76. Modify curricula materials and instructional techniques to provide opportunities for success for all students.

_____5 _____4 _____3 _____2 _____1

77. Involve stakeholders in the planning and operation of the instructional program.

_____5 _____4 _____3 _____2 _____1

78. Organize and manage the classroom/laboratory to facilitate learning and provide a safe environment.

_____5 _____4 _____3 _____2 _____1

79. Serve as a resource for work-based education activities for academic programs.

_____5 _____4 _____3 _____2 _____1

80. Engage in professional development.

_____5 _____4 _____3 _____2 _____1

81. Vocational education programs are based on curriculum that is current and relevant to the work world.

_____5 _____4 _____3 _____2 _____1

82. Advisory committees including business, industry, and community representatives provide input for vocational education.

_____5 _____4 _____3 _____2 _____1

83. Vocational education involves individuals in lifelong learning.

_____5 _____4 _____3 _____2 _____1

84. Vocational educators have relevant professional work experience in their backgrounds which combines effectively with their teaching skills.

_____5 _____4 _____3 _____2 _____1

85. Student leadership skills are developed through vocational student organizations which are an integral part of vocational education.

_____5 _____4 _____3 _____2 _____1

86. Vocational education is an integral part of the comprehensive education system.

_____5 _____4 _____3 _____2 _____1

87. Vocational education is available to all students.

_____5 _____4 _____3 _____2 _____1

88. Career development and guidance are provided in vocational education

_____5 _____4 _____3 _____2 _____1

89. Vocational education promotes a positive work ethic.

_____5 _____4 _____3 _____2 _____1

90. Comprehensive planning is inherent in dynamic vocational education.

_____5 _____4 _____3 _____2 _____1

91. Vocational education must serve all students building on concepts of work based learning.

_____5 _____4 _____3 _____2 _____1

92. Vocational education must begin to integrate school based learning and work based learning into the curricula.

_____5 _____4 _____3 _____2 _____1

93. Vocational education should include education for work, family and community.

_____5 _____4 _____3 _____2 _____1

94. Vocational education should begin to work with academic peers in partnership schools.

_____5 _____4 _____3 _____2 _____1

95. Vocational education must include a diversity perspective.

_____5 _____4 _____3 _____2 _____1

96. Vocational education should integrate basic skills (using the SCANS definition) into the curricula.

_____5 _____4 _____3 _____2 _____1

97. Teacher education should be viewed in its broadest context as involving the life-long preparation and career development of educators for all roles and levels of education.

_____5 _____4 _____3 _____2 _____1

98. Teacher education programs should include historical and contemporary treatment of cultural and social diversity, the social and psychological construction of knowledge, and the relationship of these issues to practice.

_____5 _____4 _____3 _____2 _____1

99. Research is essential to the continuing development of excellent programs which meet the needs of students, schools, the College, and society.

_____5 _____4 _____3 _____2 _____1

100. The reward and incentive system for faculty must be structured in order to provide rewards and incentives for the activities necessary for developing and maintaining excellent programs.

_____5 _____4 _____3 _____2 _____1

101. Collaboration with field-based professionals is essential as is on campus collaboration among various faculties and students.

_____5 _____4 _____3 _____2 _____1

102. Extended clinical experiences, ranging from a full semester to two semesters fieldwork in schools, should be integrated with professional education coursework.

_____5 _____4 _____3 _____2 _____1

103. The core of understandings, skills, and dispositions optimal for beginnning practice in teaching has been defined.

_____5 _____4 _____3 _____2 _____1

104. Mechanism to ensure quality advising and mentoring of students has been developed.

_____5 _____4 _____3 _____2 _____1

105. Continuous assessment procedures that evaluate students and programs should be an integral part of all programs.

_____5 _____4 _____3 _____2 _____1

106. Program uses performance-based assessment of student performance.

_____5 _____4 _____3 _____2 _____1

107. Faculty are committed to their students and to students' professional development as lifelong learners.

_____5 _____4 _____3 _____2 _____1

108. Faculty use curriculum and instructional techniques to integrate theory with practice, academic and workforce education, professional education and subject matter, and learning theory and workforce preparation.

_____5 _____4 _____3 _____2 _____1

109. Faculty understand the philosophy, contemporary concepts, research, effective practice, and methods of inquiry related to workforce preparation and development.

_____5 _____4 _____3 _____2 _____1

110. Faculty use dynamic pedagogy, based on learning theory and practices appropriate for youth and adults.

_____5 _____4 _____3 _____2 _____1

111. Faculty are partners in learning communities through which they model collaboration and democratic processes for their students.

_____5 _____4 _____3 _____2 _____1

112. Programs are dynamic and change oriented.

_____5 _____4 _____3 _____2 _____1

113. Programs are grounded in academic education, workplace subject matter, workplace processes, technology, professional education and pedagogy, and clinical experiences.

_____5 _____4 _____3 _____2 _____1

114. Programs reflect cultural diversity.

_____5 _____4 _____3 _____2 _____1

115. Colleges and universities (and their inherent administrative structures) that offer programs to prepare vocational and technical teachers are committed to such preparation and provide adequate resources to sustain them at high quality levels.

_____5 _____4 _____3 _____2 _____1

116. Colleges and universities provide a clearly identified group of academic and clinical faculty for whom vocational and technical educator preparation is a top priority.

_____5 _____4 _____3 _____2 _____1

117. VTE should include preservice, intern practice and inservice education.

_____5 _____4 _____3 _____2 _____1

118. The overall aim of VTE should be the correct application of theory to practice.

_____5 _____4 _____3 _____2 _____1

119. VTE should be a major goal in a land grant institution.

_____5 _____4 _____3 _____2 _____1

120. VTE should be an ingegral part of a comprehensive college of education.

_____5 _____4 _____3 _____2 _____1

121. VT educators should model the best practices in planning, instructing and evaluating learners.

_____5 _____4 _____3 _____2 _____1

122. VT educators should require high moral, ethical and professional standards.

_____5 _____4 _____3 _____2 _____1

123. VTE should develop, maintain and enforce certification standards in conjunction with state departments of education, accreditation agencies and practioners.

_____5 _____4 _____3 _____2 _____1

124. VTE should advise and supervise intern practicing teachers on a regular and interacive basis in real teaching/learning situations.

_____5 _____4 _____3 _____2 _____1

125. VTE should provide for intern practicing teachers to demonstrate effective ability to match methods and media with specific instructional objectives.

_____5 _____4 _____3 _____2 _____1

126. VTE should provide multiple settings for interns to teach a variety of individuals in different cultures.

_____5 _____4 _____3 _____2 _____1

127. Certification should be based on minimum competence/performance in real teaching/learning situations rather than time-based courses and grades.

_____5 _____4 _____3 _____2 _____1

128. VTE should provide guidance to interns when managing class/lab as to time, space, students, equipment, and facilities.

_____5 _____4 _____3 _____2 _____1

129. VTE should require competence in computer and electronic communications.

_____5 _____4 _____3 _____2 _____1

130. VTE should provide experiences when establishing and maintaining advisory committees and youth organizations.

_____5 _____4 _____3 _____2 _____1

131. VTE should provide experiences for locating and using community, print and electronic resources.

_____5 _____4 _____3 _____2 _____1

APPENDIX F

QUESTIONNAIRE THREE

Received: from ATUVM.ATU.EDU by ATUVM.ATU.EDU (IBM VM SMTP V2R2) with BSMTP id 7626; Wed, 08 May 96 15:55:10 CDT
Message-Id: <08MAY96.17191801.0121.MUSIC@ATUVM.ATU.EDU>
Date: Wed, 08 May 1996 15:55:05 CDT
From: LINDA BEAN 0663 <CSLB@ATUVM.ATU.EDU>
To: <mdmosu@VM1.ucc.okstate.edu>
Subject: Round 3 of Delphi in Voc. Teacher Ed
X-Mailer: MUSIC/SP V4.1.0

QUESTIONNAIRE THREE

Sorry it has taken so long to submit Round 3 to you. I have consulted with my dissertation advisor and analyzed your input. The outcome is the principles that you, the participants, have agreed upon at a mean agreement of 4.5 and up. I am looking for the strongest agreement and after 4.5, "agreement" begins to lose strength.

The mean agreement achieved for each principle has been included at the end of each statement along with any comments that were included with Round 2 Responses. At the very end is a list of additional overall comments concerning Round 2. There are 73 principles that made the cut that you have agreed upon.

To be able to narrow these 73 principles to a much smaller number or NOT, the next task is for you to please rate these items in terms of importance. Some statements seem to be redundant, vague, or unclear. As a participant, it is your task to rate the statement as such according to the scale provided. Additional space will be provided for additional comments.

The scale you will use is the same 5 point Likert-type Scale but 5=Most Important; 4=Important; 3=No Opinion (or undecided); 2=Somewhat Important; 1=Least Important. Please rate the following principle statements as to their IMPORTANCE based upon your opinion, knowledge and experience in vocational teacher education by placing an "X" in the corresponding blank that best describes your opinion.

The numbers indicate:

5= Most Important

4= Important

3= No Opinion (Undecided)

2= Somewhat Important

1= Least Important

Request: Please respond to all items listed. They will be numbered.

REMEMBER TO RESPOND USING ELECTRONIC MAIL. Utilize your system in the best format possible. If you need to use the number of the principle with the ranking number you select next to it, this process will be acceptable. If I have questions as to your response, I will contact you through e-mail.

I will respond/confirm receipt of your reactions as soon as I read your message. Your response is needed by May 17.

Thank you for your patience and cooperation in this research study. I will send you a copy of the calculated results from Round 3.

Linda Bean 501-890-6748 cslb@atuvm.atu.edu
64 Terra Villa Rd. [FAX: 501-968-0677]
Dover, AR 72837

5=Most Important, 4=Important, 3=No Opinion (Undecided), 2= Somewhat Important, 1=Least Important

1. Teacher educators need the ability to work within the philosophical concepts of workforce preparation. 4.75

   _____5 _____4 _____3 _____2 _____1

2. Teacher educators model appropriate theories and best practices in their own classrooms. 4.63

   _____5 _____4 _____3 _____2 _____1

3. Teacher education programs should reflect the diversity of learners. 4.88

   _____5 _____4 _____3 _____2 _____1

   "Yes, but this should be a secondary role, not a primary goal."

4. Teacher education programs should have adequate resources to maintain high quality, which means they require commitment from university administration. 4.88

   _____5 _____4 _____3 _____2 _____1

5. Future vocational teachers should be prepared to integrate the most current technology appropriate to their subject area. 4.94

_____5 _____4 _____3 _____2 _____1

6. Future vocational teachers should be prepared to teach the understanding, analysis, and problem solving of complex systems. 4.56

_____5 _____4 _____3 _____2 _____1

7. Future vocational teachers should be competent in the academic areas associated with their areas of expertise. 4.56

_____5 _____4 _____3 _____2 _____1

"I think a B average should be required in these courses".

8. Future vocational teachers should be prepared to teach with teams of teachers in an integrated, thematic way. 4.56

_____5 _____4 _____3 _____2 _____1

"Our teachers have 5 or 6 classes with 25-28 students; when do they team teach"?!

9. Future vocational teachers should be competent in their ability to develop relationships with business and industry. 4.63

_____5 _____4 _____3 _____2 _____1

10. Vocational teacher education should be redesigned by involving the latest technology in the program goals. 4.56

_____5 _____4 _____3 _____2 _____1

11. Vocational teacher education should be redesigned by incorporating portfolio development and assessment into the programs. 4.56

_____5 _____4 _____3 _____2 _____1

12. Vocational teacher education should be redesigned by conducting thorough searches of the literature on the subject. 4.5

_____5 _____4 _____3 _____2 _____1

13. Vocational teacher education should be redesigned by building a guidance (career/personal) component of the system. 4.6

_____5 _____4 _____3 _____2 _____1

14. Vocational teacher education should be integrated and applied. 4.63

_____5 _____4 _____3 _____2 _____1

"Words integrated and applied here are vague".

15. Graduates of vocational teacher education programs should assist the student in developing a strong personal philosophy for vocational education through demonstrated knowledge of historical and multicultural issues, curriculum, reform, foundations and research. 4.62

_____5 _____4 _____3 _____2 _____1

"Too broad and 'touchy/feely' PC"!

16. Graduates of vocational teacher education programs should provide a working knowledge of student youth organizations and use of advisory committees. 4.62

_____5 _____4 _____3 _____2 _____1

"I agree but this should be two items".

17. Graduates of vocational teacher education programs should provide a commanding knowledge of the curriculum components of a secondary or post-secondary vocational program for which the student majors. 4.68

_____5 _____4 _____3 _____2 _____1

"Commanding knowledge" means? B+? A?"

18. Graduates of vocational teacher education programs should provide management skills for classroom and laboratory. 4.87

_____5 _____4 _____3 _____2 _____1

"Extremely important"

"If this means that vocational teacher education should provide training in the integration of academic and vocational curricula, then my response is strongly

agree. If on the other hand it means that any teacher educator can prepare vocational educators then I strongly disagree".

19. Graduates of vocational teacher education programs should provide a variety of teaching strategies, technology, and techniques to motivate all students. 4.93

_____5 _____4 _____3 _____2 _____1

20. Graduates of vocational teacher education programs should provide skills and techniques to establish linkages to the community and business and industry. 4.81

_____5 _____4 _____3 _____2 _____1

21. Programs in vocational teacher education should attract and retain well-qualified students. 4.68

_____5 _____4 _____3 _____2 _____1

22. Programs in vocational teacher education should respond to the professional and continuing education needs of teachers. 4.81

_____5 _____4 _____3 _____2 _____1

23. Programs in vocational teacher education should educate students to be responsible thinking citizens, well prepared to be leaders in their communities and professions. 4.75

_____5 _____4 _____3 _____2 _____1

"Again, a secondary objective"

24. Programs in vocational teacher education should produce graduates who possess the technical and professional knowledge needed by a changing society. 4.81

_____5 _____4 _____3 _____2 _____1

25. Programs in vocational teacher education should attract, develop, and retain quality faculty. 4.88

_____5 _____4 _____3 _____2 _____1

26. Quality workplace teacher education is committed to students and their lifelong learning. 4.5

_____5 _____4 _____3 _____2 _____1

"Vague -- 2 part"

27. Quality workplace teacher education integrates theory and practice, vocational and academic education with professional education. 4.75

_____5 _____4 _____3 _____2 _____1

"A bit complex and vague"

28. Quality workplace teacher education is dynamic, explores alternative paradigms, and contributes to change. 4.5

_____5 _____4 _____3 _____2 _____1

"Again, 3 thoughts in one"

29. Quality workplace teacher education employs partnerships with master teachers, business and industry personnel, and community leaders. 4.75

_____5 _____4 _____3 _____2 _____1

30. Quality workplace teacher education influences the value teachers place on cultural diversity in schools and the workplace. 4.88

_____5 _____4 _____3 _____2 _____1

"But a secondary issue"

31. Quality workplace teacher education is research-based (i.e., utilizes and produces research). 4.63

_____5 _____4 _____3 _____2 _____1

32. Quality workplace teacher education continually evaluates and strategically plans. 4.81

_____5 _____4 _____3 _____2 _____1

33. Quality workplace teacher education assures content expertise and the ability to teach it. 4.88

_____5 _____4 _____3 _____2 _____1

34. Quality workplace teacher education promotes a sense of local and global values. 4.69

_____5 _____4 _____3 _____2 _____1

"These are almost opposites"

35. Leadership to restructure and revitalize curricula by working within schools and communities. 4.69

_____5 _____4 _____3 _____2 _____1

"Quality vocational teacher education should provide . . ."

36. Capacity to provide visionary, collaborative, decision making in various settings. 4.75

_____5 _____4 _____3 _____2 _____1

37. Broad based understanding of the purpose of career development in the preparation of youth and adults. 4.56

_____5 _____4 _____3 _____2 _____1

38. Knowledge of the economic, sociological, philosophical, and psychological foundations of workforce education. 4.63

_____5 _____4 _____3 _____2 _____1

"Vague"

39. A thorough knowledge of the nature of learners and learning. 4.81

_____5 _____4 _____3 _____2 _____1

40. The integration of subject matter and contextual work based protocols that have relevance to the learner. 4.63

_____5 _____4 _____3 _____2 _____1

"Vague"

41. Preparing young people and adults for a workplace as well as continuing their education. 4.63

_____5 _____4 _____3 _____2 _____1

"Yes"

42. Organize and manage the classroom/laboratory to facilitate learning and provide a safe environment. 4.56

_____5 _____4 _____3 _____2 _____1

"2 items"

43. Vocational education programs are based on curriculum that is current and relevant to the work world. 4.56

_____5 _____4 _____3 _____2 _____1

44. Vocational educators have relevant professional work experience in their backgrounds which combines effectively with their teaching skills. 4.63

_____5 _____4 _____3 _____2 _____1

"I believe that a minimum of 5 years of successful experience should be required of vocational teacher educators".

45. Vocational education is an integral part of the comprehensive education system. 4.56

_____5 _____4 _____3 _____2 _____1

"Should be"

46. Vocational education promotes a positive work ethic. 4.56

_____5 _____4 _____3 _____2 _____1

47. Comprehensive planning is inherent in dynamic vocational education. 4.5

_____5 _____4 _____3 _____2 _____1 "Vague"

48. Vocational education must serve all students building on concepts of work based learning. 4.5

_____5 _____4 _____3 _____2 _____1

"Even the intransigent, unmotivated criminal?"

49. Vocational education must begin to integrate school based learning and work based learning into the curricula. 4.5

_____5 _____4 _____3 _____2 _____1

50. Vocational education should include education for work, family and community. 4.5

_____5 _____4 _____3 _____2 _____1

"Only?"

51. Vocational education should begin to work with academic peers in partnership schools. 4.56

_____5 _____4 _____3 _____2 _____1

"When?"

52. Vocational education should integrate basic skills (using the SCANS definition) into the curricula. 4.5

_____5 _____4 _____3 _____2 _____1

"Basic skills, meaning?"

53. Teacher education should be viewed in its broadest context as involving the life-long preparation and career development of educators for all roles and levels of education. 4.56

_____5 _____4 _____3 _____2 _____1

54. Teacher education programs should include historical and contemporary treatment of cultural and social diversity, the social and psychological construction of knowledge, and the relationship of these issues to practice. 4.5

_____5 _____4 _____3 _____2 _____1

"Wordy"

55. Research is essential to the continuing development of excellent programs which meet the needs of students, schools, the College, and society. 4.56

_____5 _____4 _____3 _____2 _____1

"But not when it displaces the central mission of preparing quality teachers".

56. Collaboration with field-based professionals is essential as is on campus collaboration among various faculties and students. 4.6

_____5 _____4 _____3 _____2 _____1

"2 parts"

57. Continuous assessment procedures that evaluate students and programs should be an integral part of all programs. 4.69

_____5 _____4 _____3 _____2 _____1

58. Faculty are committed to their students and to students' professional development as lifelong learners. 4.75

_____5 _____4 _____3 _____2 _____1

"They should be"

59. Faculty use curriculum and instructional techniques to integrate theory with practice, academic and workforce education, professional education and subject matter, and learning theory and workforce preparation. 4.81

_____5 _____4 _____3 _____2 _____1

"They should"

60. Faculty understand the philosophy, contemporary concepts, research, effective practice, and methods of inquiry related to workforce preparation and development. 4.69

_____5 _____4 _____3 _____2 _____1

"They should"

61. Faculty use dynamic pedagogy, based on learning theory and practices appropriate for youth and adults. 4.88

_____5 _____4 _____3 _____2 _____1

"They should"

62. Faculty are partners in learning communities through which they model collaboration and democratic processes for their students. 4.88

_____5 _____4 _____3 _____2 _____1

"Same, not sure what this is saying. I strongly agree that they should."

"Have I lost the stem statement here? Is 'what' what I believe about programs or how programs should be. Am I being asked to evaluate other programs or tell what I think should be?? This list is getting awfully long and laborious."

63. Programs are dynamic and change oriented. 4.69

_____5 _____4 _____3 _____2 _____1

"What if one but not the other? (Our problem is "about right"--we are into maintenance".

"Should be"

64. Programs are grounded in academic education, workplace subject matter, workplace processes, technology, professional education and pedagogy, and clinical experiences. 4.75

_____5 _____4 _____3 _____2 _____1

"Hard to answer, too many ands"

"Should be"

65. Programs reflect cultural diversity. 4.69

_____5 _____4 _____3 _____2 _____1

"But not a primary focus"

"Should"

66. Colleges and universities (and their inherent administrative structures) that offer programs to prepare vocational and technical teachers are committed to such preparation and provide adequate resources to sustain them at high quality levels. 4.75

_____5 _____4 _____3 _____2 _____1

67. Colleges and universities provide a clearly identified group of academic and clinical faculty for whom vocational and technical educator preparation is a top priority. 4.69

_____5 _____4 _____3 _____2 _____1 "Should ? provide"

68. Vocational teacher educators should model the best practices in planning, instructing, and evaluating learners. 4.93

_____5 _____4 _____3 _____2 _____1

69. Vocational teacher educators should require high moral, ethical and professional standards. 4.87

_____5 _____4 _____3 _____2 _____1

70. Vocational teacher educators should advise and supervise intern practicing teachers on a regular and interactive basis in real teaching/learning situations. 4.6

_____5 _____4 _____3 _____2 _____1

71. Vocational teacher educators should provide guidance to interns when managing class/lab as to time, space, students, equipment, and facilities. 4.53

_____5 _____4 _____3 _____2 _____1

72. Vocational teacher education should require competence in computer and electronic communications. 4.67

_____5 _____4 _____3 _____2 _____1

"Most of our transfer students already have these skills and only a little remediation is needed".

73. Vocational teacher education should provide experiences when establishing and maintaining advisory committees and youth organizations. 4.53

_____5 _____4 _____3 _____2 _____1

"Again, these are not equal in importance, effort"

OVERALL COMMENTS FROM ROUND 2 RESPONSES

"Many double, triple, etc. -- subjects in the same items -- these are hard to answer -- e.g., "dogs and cats" -- what if I hate dogs but like cats?!?"

"Exhausting -- can you reduce for the 3rd round?"

"Please note. This questionnaire is too long and time consuming for e-mail. I hope the next round will be considerably shorter if you are to get meaningful data".

"I felt some of the questions were from a vocational program point of view and not teacher education. Did I misunderstand your study or did someone else. I felt some of the principles listed below were more appropriate for vocational/technical programs than teacher education yet I could not disagree with the principles".

"This is entirely too long, many questions are redundant!!!!!!!!!!!!!"

APPENDIX G

PANEL MEMBERS THAT RESPONDED TO ROUND ONE E-MAIL ADDRESSES

PARTICIPANTS THAT RESPONDED TO ROUND 1

Received Round 1 and Consent Form from Each Person Listed with Principle Statements

MAAY@SIU.EDU

DCRAIG@UTKVX.UTK.EDU

FRANTZNR@VTVM1.CC.VT.EDU **Faxed Information**

HARTLEY@PICASSO.CAHS.COLOSTATE.EDU

HEATHB@VT.EDU

BHINTON@COMP.UARK.EDU

SJOHNSON@UX1.CSO.UIUC.EDU

LOVE@PICASSO.CAHS.COLOSTATE.EDU

MDMOSU@VM1.UCC.OKSTATE.EDU

RAW18@PSU.EDU

JWASH@SIU.EDU

FRY@PICASSO.CAHS.COLOSTATE.EDU

PAVTBOB@MIZZOU1.MISSOURI.EDU

MIVERSON@UGA.CC.UGA.EDU **Faxed Information**

JCRUNKIL@VT.EDU

JERRYT@NOVELL.UIDAHO.EDU **Faxed Information**

BBIGGS@COMP.UARK.EDU

HERRINBJ@SELWAY.UMT.EDU

AGED@UWYO.EDU **Mailed Information**

APPENDIX H

LIST OF RESPONDENTS AND

DATA TABLE FOR

ROUND TWO

PANEL FOR ROUND 2

1. DCRAIG@UTKVX.UTK.EDU
2. HARTLEY@PICASSO.CAHS.COLOSTATE.EDU
3. HERRINBJ@SELWAY.UMT.EDU
4. LOVE@PICASSO.CAHS.COLOSTATE.EDU
5. MAAY@SIU.EDU
6. MDMOSU@VM1.UCC.OKSTATE.EDU
7. PAVTBOB@MIZZOU1.MISSOURI.EDU
8. RAW18@PSU.EDU
9. HEATHB@VT.EDU
10. FRY@PICASSO.CAHS.COLOSTATE.EDU
11. JERRYT@NOVELL.UIDAHO.EDU **Sent encoded**
12. JCRUNKIL@VT.EDU **Sent encoded**
13. JWASH@SIU.EDU **Sent encoded**
14. MIVERSON@UGA.CC.UGA.EDU **Faxed Information**
15. FRANTZNR@VTVM1.CC.VT.EDU **Faxed information**
16. BHINTON@COMP.UARK.EDU

AGED@UWYO.EDU **<No Response from Rd. 2>**

BBIGGS@COMP.UARK.EDU **<No response from Rd. 2 but requested Rd. 3>**

SJOHNSON@UX1.CSO.UIUC.EDU **<TORNADO> Could not respond to Round 2 but promised to respond to Round 3**

19 messages sent for Round 2 -- 16 received

Round 2 Responses -- 131 Principle Statements

P=Participants (16 of 19 Responded)

	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12	P13	P14	P15	P16	Mean
1	4	5	5	4	4	1	5	5	5	5	5	5	4	4	5	5	4.44
2	4	4	4	4	5	2	5	3	5	5	4	5	5	4	4	5	4.25
3	5	4	4	5	5	5	3	5	5	5	5	5	5	5	5	5	4.75
4	5	5	5	5	5	5	5	5	5	5	5	4	5	4	5	1	4.63
5	5	5	5	4	5	5	5	5	2	5	5	4	5	4	3	1	4.25
6	5	5	5	5	5	5	5	5	5	5	5	5	5	4	5	4	4.88
7	5	2	4	5	5	1	5	5	5	4	5	5	5	5	5	4	4.38
8	5	4	5	5	5	5	5	5	5	5	5	5	5	5	5	4	4.88
9	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	4	4.94
10	5	5	5	5	5	3	5	5	5	4	5	5	4	4	4	4	4.56
11	4	5	5	4	5	1	5	5	5	5	5	5	5	5	5	4	4.56
12	5	5	5	5	5	2	5	5	5	4	5	5	5	3	5	4	4.56
13	5	4	5	4	5	2	5	5	5	5	5	5	5	5	5	4	4.63
14	5	5	5	4	5	2	3	5	5	5	4	5	5	4	2	4	4.25
15	4	2	5	3	4	1	5	4	5	4	3	5	4	5	4	4	3.88
16	2	2	5	4	5	1	3	5	5	5	3	4	2	5	2	1	3.38
17	4	4	5	4	4	2	5	4	5	4	5	5	3	4	4	1	3.94
18	3	2	4	1	5	1	1	3	3	3	3	4	4	5	3	3	3.00
19	5	3	5	4	5	1	2	5	5	5	5	5	4	5	4	3	4.13
20	5	2	5	3	1	1	1	5	5	4	3	5	5	4	1	3	3.31
21	5	5	5	4	5	1	5	5	5	5	5	4	5	5	5	4	4.56
22	5	4	5	4	3	1	5	5	5	4	5	4	4	5	2	4	4.06
23	5	4	5	5	5	1	5	5	5	5	5	5	4	4	2	3	4.25
24	4	4	5	4	5	1	5	5	5	4	5	5	4	5	4	4	4.31
25	5	4	5	5	5	1	5	5	5	4	3	5	5	4	4	4	4.31
26	5	4	5	4	3	1	5	5	5	5	5	5	3	5	4	4	4.25
27	5	5	5	5	5	4	5	5	5	4	3	5	4	5	4	4	4.56
28	5	5	5	5	5	1	5	5	5	4	5	5	4	5	4	4	4.50
29	5	4	5	5	5	1	3	5	5	5	5	5	4	5	3	4	4.31

	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12	P13	P14	P15	P16	Mean
30	5	4	5	4	5	1	3	5	5	4	3	5	5	5	4	3	4.13
31	5	2	5	4	5	1	5	5	5	4	4	5	5	5	4	4	4.25
32	5	4	5	4	3	1	5	5	5	4	3	2	4	4	3	2	3.69
33	5		5	5	5	4	4	3	5	5	5	4	5	5	5	4	4.60
34	5		5	2	5	1	4	4	5	5	4	5	4	5	4	4	4.13
35	5	3	5	4	5	1	4	5	5	5	5	5	5	5	3	4	4.31
36	5		5	3	5	1	4	4	5	5	4	4	4	4	4	4	4.07
37	5	4	4	5	3	1	2	5	5	5	3	4	5	5	4	3	3.94
38	5	4	5	3	5	4	5	5	5	4	5	4	3	5	4	3	4.31
39	5		4	3	3	1	1			4	3	5	5	5	2	3	3.38
40	5	4	5	5	5	5	5		5	5	5	5	5	3	5	4	4.73
41	1	1	3	2	1	1	1	1	2	4	3	1	3	2	2	5	2.06
42	5		3	2	3	4	1	1	4	4	2	2	5	5	4	5	3.33
43	5		3	3	3	1	2	1	5	5	5	4	5	3	2	5	3.47
44	5	4	2	1	5	1	2	5	4	3	2	2	3	1	4	5	3.06
45	5	4	5	4	5	1	5	5	5	5	5	2	5	4	4	5	4.31
46	5	4	5	4	5	5	5	5	5	4	5	5	4	3	5	5	4.63
47	5	4	5	4	5	5	5	5	5	5	5	5	4	4	5	3	4.63
48	5	4	5	5	5	3	5	5	5	5	5	5	5	3	5	5	4.69
49	5	4	5	5	5	4	5	5	5	5	5	5	5	5	5	5	4.88
50	5	4	5	5	5	5	5	5	5	5	5	5	5	5	5	5	4.94
51	5	3	5	4	5	5	5	5	5	5	5	5	5	5	5	5	4.81
52	5	4	5	4	5	4	5	5	5	5	5	5	5	4	4	5	4.69
53	5	4	5	5	5	4	5	5	5	5	5	5	5	5	4	5	4.81
54	5	4	5	5	5	4	5	5	5	5	5	5	4	4	5	5	4.75
55	5	4	5	5	5	5	5	5	5	5	5	5	4	4	5	5	4.81
56	5	4	5	5	5	5	5	5	5	5	5	5	5	5	4	5	4.88
57	5	4	5	4	5	5	5	5	5	5	5	4	3	3	4	5	4.50
58	5	4	5	4	5	5	5	5	5	5	5	4	5	4	5	5	4.75

	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12	P13	P14	P15	P16	Mean
59	5	4	5	4	5	5	5	5	5	5	3	5	4	3	4	5	4.50
60	5	3	5	4	5	5	5	5	5	5	5	5	5	4	5	5	4.75
61	5	5	5	5	5	5	5	5	5	5	5	5	4	4	5	5	4.88
62	5	4	5	5	5	5	5	4	5	4	5	5	3	4	5	5	4.63
63	5	4	5	5	5	5	5	5	5	4	5	5	4	5	5	5	4.81
64	5	4	5	5	5	5	5	5	5	5	5	5	5	4	5	5	4.88
65	5	4	5	5	5	5	5	5	5	4	5	5	4	3	5	5	4.69
66	5	5	5	4	5	5	5	5	5	4	4	5	4	4	5	5	4.69
67	5	5	5	5	5	5	5	5	5	4	4	5	4	4	5	5	4.75
68	5	5	5	4	5	5	5	5	5	4	4	4	5	4	5	3	4.56
69	5	5	5	4	5	5	5	5	5	4	5	5	3	4	5	4	4.63
70	5	5	5	5	5	5	5	5	5	5	4	5	4	5	5	4	4.81
71	5	5	5	5	5	5	2	5	5	5	5	2	4	4	5	3	4.38
72	5	4	5	5	5	5	5	5	5	5	4	4	4	4	5	4	4.63
73	5	3	5	5	5	5	5	5	5	5	3	5	4	5	5	4	4.63
74	5	4	5	5	5	1	3	5	5	5	3	5	5	5	5	4	4.38
75	5	4	5	5	5	1	5	5	5	5	4	4	5	4	4	4	4.38
76	5	5	5	5	5	1	5	5	5	5	4	5	4	4	4	4	4.44
77	5	3	5	4	3	4	5	5	5	4	4	5	5	5	4	3	4.31
78	5	4	5	5	5	4	5	5	5	4	5	5	3	5	4	4	4.56
79	5	4	5	5	5	1	5	5	5	4	5	4	5	4	4	4	4.38
80	5	3	5	5	5	1	3	5	5	5	5	5	4	5	4	4	4.31
81	5	3	5	5	5	1	5	5	5	5	5	5	5	5	5	4	4.56
82	5	4	5	5	5	1	5	5	5	5	5	5	4	4	4	4	4.44
83	5	3	5	5	5	1	5	5	5	5	5	5	4	4	4	5	4.44
84	5	3	5	5	5	1	5	5	5	5	5	5	5	5	5	5	4.63
85	5	4	5	4	5	1	5	5	5	5	5	5	4	5	5	2	4.38
86	5	4	5	5	5	1	5	5	5	5	5	5	5	4	5	4	4.56
87	5	4	5	5	5	1	5	5	2	5	5	5	4	4	5	4	4.31

	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12	P13	P14	P15	P16	Mean
88	5	4	5	4	5	1	5	5	4	5	5	4	5	5	5	3	4.38
89	5	5	5	5	5	1	5	5	4	5	5	5	5	4	5	4	4.56
90	5	4	5	5	5	1	5	5	5	5	5	5	5	4	4	4	4.50
91	5	4	5	5	5	1	5	5	5	5	5	5	5	3	5	4	4.50
92	5	4	5	5	5	1	5	5	5	4	5	5	5	4	5	4	4.50
93	5	5	5	5	3	1	5	5	5	5	5	5	5	4	5	4	4.50
94	5	5	5	5	5	1	5	5	5	4	5	5	5	4	5	4	4.56
95	5	5	5	5	5	1	2	5	5	4	5	5	5	4	5	4	4.38
96	5	4	5	5	5	1	5	5	5	5	5	4	5	4	5	4	4.50
97	5	3	5	4	5	5	5	5	5	4	5	5	4	4	5	4	4.56
98	5	4	5	5	5	5	4	5	5	4	5	4	4	4	5	3	4.50
99	5	4	5	5	5	4	5	4	5	4	5	5	4	4	5	4	4.56
100	5	4	5	5	5	1	5	5	5	4	4	5	5	5	4	4	4.44
101		4	5	5	5	4	5	5	5	4	4	5	5	4	5	4	4.60
102	5	5	3	5	5	4	4	4	5	5	3	4	4	3	5	5	4.31
103	5	1	4	4	3	1	1	5	2	5	3	4	4	4	4	5	3.44
104	5	1	3	5	3	1	5	5	2	5	5	5	4	5	4	1	3.69
105	5	5	5	5	5	4	5	5	5	5	5	5	4	4	4	4	4.69
106	5	4	4	4	5	4	5	5	5	5	4	4	4	5	4	4	4.44
107	5	3	5	5	5	5	5	5	5	5	5	5	5	5	4	4	4.75
108	5	4	5	5	5	5	5	5	5	5	5	5	5	4	5	4	4.81
109	5	4	5	4	5	5	5	5	5	5	5	5	4	4	5	4	4.69
110	5	4	5	5	5	5	5	5	5	5	5	5	5	5	5	4	4.88
111	5	4	5	5	5	5	5	5	5	5	5	5	5	5	5	4	4.88
112	5	3	5	5	5	5	5	5	5	5	5	5	5	4	4	4	4.69
113	5	4	5	5	5	5	5	5	5	5	5	5	5	3	5	4	4.75
114	5	4	5	5	5	4	5	5	5	5	5	5	4	4	5	4	4.69
115	5	3	5	5	5	5	5	5	5	4	5	5	5	5	5	4	4.75
116	5	3	5	4	5	5	5	5	5	5	5	5	4	5	5	4	4.69

	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12	P13	P14	P15	P16	Mean
117	5	2	3	5	5	1	5	5	5	5	5	5	5	5	4	4	4.31
118	5	2	5	5	5	1	5	5	5	5	5	5	5	4	4	4	4.38
119	5	4	4	4	3	1	5	5	5	5	5	4	3	5	4	4	4.13
120	5	4	5	4	5	1	5	5	5	5	5	5	5	3	5	4	4.44
121	5		5	5	5	5	5	5	5	5	5	5	5	5	5	4	4.93
122	5		5	5	5	5	5	5	5	5	5	5	5	5	4	4	4.87
123	5		5	5	5	1	3	5	5	5	5	5	5	5	3	4	4.40
124	5		5	5	5	1	5	5	5	5	5	5	5	5	4	4	4.60
125	5		5	4	5	1	5	5	5	4	5	5	5	5	4	4	4.47
126	5		5	5	5	1	5	5	5	4	5	5	4	3	4	4	4.33
127	5		3	5	5	1	5	2	3	5	5	5	5	3	2	4	3.87
128	5		5	4	5	1	5	5	5	5	5	5	5	5	4	4	4.53
129	5		5	5	5	1	5	5	5	5	5	5	5	5	5	4	4.67
130	5		5	4	5	1	5	5	5	5	5	5	4	5	5	4	4.53
131	5		5	4	5	1	5	5	5	4	5	5	5	4	5	4	4.47

APPENDIX I

LIST OF RESPONDENTS AND

DATA TABLE FOR

ROUND THREE

PANEL FOR ROUND 3

1. BHINTON@COMP.UARK.EDU
2. JCRUNKIL@VT.EDU
3. FRANTZNR@VTVM1.CC.VT.EDU
4. FRY@PICASSO.CAHS.COLOSTATE.EDU
5. JERRYT@NOVELL.UIDAHO.EDU
6. LOVE@PICASSO.CAHS.COLOSTATE.EDU
7. MAAY@SIU.EDU
8. MDMOSU@VM1.UCC.OKSTATE.EDU
9. RAW18@PSU.EDU
10. JWASH@SIU.EDU
11. MIVERSON@UGA.CC.UGA.EDU
12. HARTLEY@PICASSO.CAHS.COLOSTATE.EDU
13. SJOHNSON@UX1.CSO.UIUC.EDU
14. PAVTBOB@MIZZOU1.MISSOURI.EDU
15. HEATHB@VT.EDU
16. DCRAIG@UTKVX.UTK.EDU

BBIGGS@COMP.UARK.EDU **<No response from Round 2 or Round 3>**

HERRINBJ@SELWAY.UMT.EDU **<No response from Round 3>**

18 messages sent for Round 3 -- 16 Received

Round 3 Responses -- 73 Principle Statements

P=Participants (16 of 18 Responded)

	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12	P13	P14	P15	P16	Mean
1	5	4	5	5	5	3	5	5	5	5	4	5	3	5	5	5	4.63
2	5	5	4	5	5	5	5	5	5	4	5	5	5	5	5	5	4.88
3	3	5	4	5	5	5		5	5	3	5	5	4	5	5	5	4.60
4	5	5	5	5	5	5	5	5	5	4	5	4	5	5	5	5	4.88
5	4	5	5	5	5	4		5	5	4	5	5	4	5	5	5	4.73
6	5	4	4	5	4	5	3	5	5	4	4	4	5	5	4	4	4.38
7	4	4	4	5	5	5	5	4	5	5	5	5	5	5	5	5	4.75
8	4	4	5	4	5	5	5	4	4	5	4	4	4	5	4	4	4.38
9	5	5	5	5	4	4	3	5	5	5	4	4	4	5	5	5	4.56
10	5	4	3	5	5	4	2	1	4	4	3	4		3	5	5	3.80
11	5	4	3	4	4	5		5	3	4	5	5		5	4	5	4.36
12	5	5	3	4	4	4	1	1	5	3	4	3		1	4	4	3.40
13	4	2	3	4	4	3		1	5	4	4	2		5	4	4	3.50
14	4	5	3	5	5	5	3	1	3	5	4	4	3	5	4	5	4.00
15	4	5	5	4	5	5	5	1	3	3	3	4	3	5	4	5	4.00
16	4	5	5	5	5	4	5	5	5	4	4	4	3	5	5	5	4.56
17	5	5	4	5	4	4	5	1	3	5	4	4	4	5	5	5	4.25
18	5	5	5	5	5	4	5	1	5	4	5	3	4	5	5	5	4.44
19	5	5	5	5	5	5	5	1	5	5	5	4	5	5	5	5	4.69
20	5	5	4	5	5	5	3	1	5	5	5	4	4	5	5	5	4.44
21	5	5	4	4	5	4	5	1	5	5	5	5	4	5	5	5	4.50
22	5	5	4	5	4	4	5	1	5	4	5	5	5	5	5	5	4.50
23	4	4	4	5	5	4	3	1	4	3	4	5	4	3	5	5	3.94
24	4	5	5	5	4	5	5	1	4	5	4	5	5	5	5	5	4.50
25	4	5	4	5	5	5	5	1	5	5	5	5	5	5	5	5	4.63
26	5	4	3	5	4	4	5	5	4	3	4	4		5	5	5	4.33
27	5	5	4	5	4	5	3	5	3	4	4	5	3	5	4	5	4.31
28	5	4	4	4	4	4	3	5	3	3	4	3	3	5	5	5	4.00
29	5	5	3	5	5	4	3	5	5	4	5	2	5	5	4	5	4.38

	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12	P13	P14	P15	P16	Mean
30	3	5	4	5	5	5	5	5	4	3	4	4	4	3	4	5	4.25
31	5	5	4	4	4	5	5	5	4	4	5	4	5	5	5	5	4.63
32	5	5	3	5	4	4	5	5	5	4	4	4	5	5	5	4	4.50
33	5	5	3	5	5	5	3	5	5	4	5	5	5	5	5	5	4.69
34	4	5	3	5	4	5	5	5	4	4	4	4	3	5	4	4	4.25
35	4	5	4	4	4	5	5	1	4	5	5	5	4	5	5	5	4.38
36	4	5	4	5	4	4	3	1	4	5	4	4	3	5	5	5	4.06
37	4	2	4	5	5	4	5	1	4	4	4	4	3	5	4	4	3.88
38	4	4	5	4	4	4	3	1	5	4	4	5	5	3	4	5	4.00
39	4	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	4.94
40	4	4	5	4	5	5	3	1	5	5	4	4	3	5	4	5	4.13
41		4	5	5	5	5	3	1	5	4	5	3		5	5	4	4.21
42	5	5	4	5	5	5	3	1	5	4	4	4		5	5	5	4.33
43	4	5	4	5	5	4	3	1	5	5	5	4	4	5	5	5	4.31
44	5	5	5	5	5	4	3	1	5	5	4	4	4	5	5	5	4.38
45	5	5	4	5	5	5	3	1	5	5	4	4	4	5	5	5	4.38
46	5	5	3	5	5	5	3	1	5	4	4	5	4	5	5	5	4.31
47	4	5	2	5	5	4	3	1	5	4	4	2	3	5	5	5	3.88
48	4	5	3	4	5	4	3	1	5	5	4	4	1	5	5	5	3.94
49	5	4	5	5	5	5	3	1	3	4	4	4	3	5	5	5	4.13
50	5	4	4	4	4	5	3	1	3	5	4	5	4	5	5	5	4.13
51	5	5	4	4	4	5	3	1	5	5	4	5	3	3	4	5	4.06
52	5	4	4	5	5	5	3	1	5	4	5	5	3	5	4	4	4.19
53	5	4	4	4	4	5	3	1	5	4	5	4		5	5	5	4.20
54	4	4	3	4	5	5	3	1	5	3	4	3	4	5	5	5	3.94
55	4	5	4	4	5	5	3	1	5	3	4	4	5		5	5	4.13
56	5	5	4	5	5	5	3	1	5	4	4	4	4	5	4	5	4.25
57	5	5	4	4	5	5	3	1	5	4	4	4	5	5	5	5	4.31
58	5	5	3	5	4	5	3	5	5	3	5	4	5	5	5	5	4.50

	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12	P13	P14	P15	P16	Mean
59	5	5	4	5	5	5	3	5	5	5	4	5	5	5	5	5	4.75
60	5	5	4	5	5	5	3	5	5	4	5	4	4	5	5	5	4.63
61	5	5	4	5	5	5	5	5	5	5	5	4	5	5	5	5	4.88
62	5	5	4	5	5	5	3	5	4	3	5	4	4	5	5	5	4.50
63	5	5	3	5	4	5	3	5	4	4	4	2	3	5	5	5	4.19
64	5	5	4	5	5	5	5	5	5	4	4	4		5	5	5	4.73
65	5	4	4	4	5	5	5	1	4	3	4	4	4	3	5	5	4.06
66	5	5	5	5	5	5	3	5	5	3	5	4	5	5	5	5	4.69
67	5	5	4	5	5	5	5	5	5	4	4	4	4	5	3	5	4.56
68	5	5	4	5	5	5	3	5	5	4	5	4	5	5	5	5	4.69
69	5	5	4	5	5	5	3	5	5	5	5	4	4	5	5	5	4.69
70	5	5	4	5	4	5	5	1	5	4	4	4	5	5	5	5	4.44
71	5	4	4	5	4	5	3	1	5	4	4	3	4	5	5	5	4.13
72	5	5	5	5	5	5	5	1	5	5	4	4	4	5	5	5	4.56
73	4	4	4	5	4	4	3	1	5	4	4	2	3	5	4	5	3.81

APPENDIX J

REMINDER MESSAGES SENT TO PARTICIPANTS DURING COURSE OF THE THREE ROUNDS OF THE DELPHI

MESSAGE TO EXTEND DEADLINE FOR ROUND ONE OF DELPHI

Dear Expert in Vocational Teacher Education

Due to the two national conferences these past two weeks, I have extended the time for receiving your list of principles that should be guiding the redesign of vocational teacher education. If you wish to participate in this study and have not had time to respond, send your list of principles to me by Tuesday, April 16 at 5 p.m. The second round of the delphi will be sent to participating panel members on Tuesday evening.

Thank you for your consideration in participating in this research study.

Linda Bean

cslb@atuvm.atu.edu

REMINDER TO SEND ROUND ONE BY DEADLINE OF APRIL 16 AT 5 P.M.

Dear Panel Member

Your list of principles that should be guiding the redesign of vocational teacher education are needed by Tuesday, April 16 at 5 p.m. The second round of the delphi will be submitted later that evening to panel members.

If you do not have time to create a list, you may send me a message stating so but requesting to react to and rate the list provided in the second round. Your continued participation is important to this study.

Thank you for your participation.

Linda Bean

cslb@atuvm.atu.edu

MESSAGE TO ROUND ONE RESPONDENTS CONCERNING THE DELAY OF ROUND TWO

Dear Panel Member

The second round of the delphi concerning principles for Vocational Teacher Education

will be submitted Tuesday evening, April 16. The delay has been caused by participants attendance at AERA.

Your patience is appreciated.

Linda Bean

cslb@atuvm.atu.edu

REMINDER OF DEADLINE OF APRIL 26 FOR ROUND TWO

Dear Panel Member

You should have received Round 2 of the Delphi for Principles for Vocational Teacher Education April 17. The deadline to submit your rankings of the submitted principle statements is Friday, April 26 at 5 p.m.

This is an important deadline to make as I will try to submit the 3rd round next week. The semester is nearly over and I know that this is a very busy time. The third round will be the final round so please bare with the process and it too will pass quickly as this semester has.

Your input is important and needed. Thank you for your participation and rankings in this 2nd round of delphi. Just keep in mind that it is almost over. :-)

Linda Bean
cslb@atuvm.atu.edu

MESSAGE TO PARTICIPANTS CONCERNING RECEIPT OF ROUND THREE

Dear Panel Members

Thank you for your response to Round 2 of the Delphi on Vocational Teacher Education. Round 3 will be ready by the first of next week and it will be shorter.

I know that this is a very busy time of the year and I do appreciate the time and effort that you are putting into this study.

I will be attending Dr. Miller's Retirement Reception Thursday at Stillwater and will be gone Thursday and Friday of this week. Enjoy the short break and I realize that you will be pleased when this is completed. Thank you.

Linda Bean
cslb@atuvm.atu.edu FAX 501-968-0677
64 Terra Villa Road Home 501-890-6748
Dover, AR 72837

REMINDER OF DEADLINE OF MAY 17 FOR ROUND 3

Your response to Round 3 of the Delphi for Vocational Teacher Education Principles is needed by tomorrow, May 17 at 5 p.m.

Your input is needed to provide adequate final analysis of the principles provided. Please find the time to submit your final round by the deadline. If you need me to send you Round 3 again, just let me know.

Thank you for your valuable time and effort extended toward this research study.

Linda Bean
cslb@atuvm.atu.edu

501-890-6748

APPENDIX K

PRINCIPLES RATED BELOW 4.5

LEVEL OF AGREEMENT

PRINCIPLES RATED BELOW 4.5 LEVEL OF AGREEMENT

	Mean	Principle
1.	4.44	Graduates of vocational teacher education programs should provide management skills for classroom and laboratory.
2.	4.44	Graduates of vocational teacher education programs should provide skills and techniques to establish linkages to the community and business and industry.
3.	4.44	Vocational teacher educators should advise and supervise intern practicing teachers on a regular and interactive basis in real teaching/learning situations.
4.	4.38	Future vocational teachers should be prepared to teach the understanding, analysis, and problem solving of complex systems.
5.	4.38	Future vocational teachers should be prepared to teach with teams of teachers in an integrated, thematic way.
6.	4.38	Quality workplace teacher education influences the value teachers place on cultural diversity in schools and the workplace.
7.	4.38	Leadership to restructure and revitalize curricula by working within schools and communities.
8.	4.38	Vocational educators have relevant professional work experience in their backgrounds which combines effectively with their teaching skills.
9.	4.38	Vocational education is an integral part of the comprehensive education system.
10.	4.36	Vocational teacher education should be redesigned by incorporating portfolio development and assessment into the programs.
11.	4.33	Quality workplace teacher education is committed to students and their lifelong learning.
12.	4.33	Organize and manage the classroom/laboratory to facilitate learning and provide a safe environment.

13.	4.31	Quality workplace teacher education integrates theory and practice, vocational and academic education with professional education.
14.	4.31	Vocational education programs are based on curriculum that is current and relevant to the work world.
15.	4.31	Vocational education promotes a positive work ethic.
16.	4.31	Continuous assessment procedures that evaluate students and programs should be an integral part of all programs.
17.	4.25	Graduates of vocational teacher education programs should provide a commanding knowledge of the curriculum components of a secondary or post-secondary vocational program for which the student majors.
18.	4.25	Quality workplace teacher education employs partnerships with master teachers, business and industry personnel, and community leaders.
19.	4.25	Quality workplace teacher education promotes a sense of local and global values.
20.	4.25	Collaboration with field-based professionals is essential as is on campus collaboration among various faculties and students.
21.	4.21	Preparing young people and adults for a workplace as well as continuing their education.
22.	4.20	Teacher education should be viewed in its broadest context as involving the life-long preparation and career development of educators for all roles and levels of education.
23.	4.19	Vocational education should integrate basic skills (using the SCANS definition) into the curricula.
24.	4.19	Programs are dynamic and change oriented.
25.	4.13	The integration of subject matter and contextual work based protocols that have relevance to the learner.
26.	4.13	Vocational education must begin to integrate school based learning and work based learning into the curricula.
27.	4.13	Vocational education should include education for work, family and community.

28.	4.13	Research is essential to the continuing development of excellent programs which meet the needs of students, schools, the College, and society.
29.	4.13	Vocational teacher educators should provide guidance to interns when managing class/lab as to time, space, students, equipment, and facilities.
30.	4.06	Capacity to provide visionary, collaborative, decision making in various settings.
31.	4.06	Vocational education should begin to work with academic peers in partnership schools.
32.	4.06	Programs reflect cultural diversity.
33.	4.00	Vocational teacher education should be integrated and applied.
34.	4.00	Graduates of vocational teacher education programs should assist the student in developing a strong personal philosophy for vocational education through demonstrated knowledge of historical and multicultural issues, curriculum, reform, foundations and research.
35.	4.00	Quality workplace teacher education is dynamic, explores alternative paradigms, and contributes to change.
36.	4.00	Knowledge of the economic, sociological, philosophical, and psychological foundations of workforce education.
37.	3.94	Programs in vocational teacher education should educate students to be responsible thinking citizens, well prepared to be leaders in their communities and professions.
38.	3.94	Vocational education must serve all students building on concepts of work based learning.
39.	3.94	Teacher education programs should include historical and contemporary treatment of cultural and social diversity, the social and psychological construction of knowledge, and the relationship of these issues to practice.
40.	3.88	Broad based understanding of the purpose of career development in the preparation of youth and adults.
41.	3.88	Comprehensive planning is inherent in dynamic vocational education.
42.	3.81	Vocational teacher education should provide experiences when establishing and maintaining advisory committees and youth organizations.

43. 3.80 Vocational teacher education should be redesigned by involving the latest technology in the program goals.

44. 3.50 Vocational teacher education should be redesigned by building a guidance (career/personal) component of the system.

45. 3.40 Vocational teacher education should be redesigned by conducting thorough searches of the literature on the subject.

APPENDIX L

INSTITUTIONAL REVIEW BOARD

APPROVAL FORM

OKLAHOMA STATE UNIVERSITY
INSTITUTIONAL REVIEW BOARD
HUMAN SUBJECTS REVIEW

Date: 02-02-96 **IRB#:** ED-96-066

Proposal Title: THE DEVELOPMENT OF A CONTEMPORARY SET OF PRINCIPLES FOR VOCATIONAL TEACHER EDUCATION

Principal Investigator(s): Reynaldo L. Martinez, Linda C. Bean

Reviewed and Processed as: Exempt

Approval Status Recommended by Reviewer(s): Approved

ALL APPROVALS MAY BE SUBJECT TO REVIEW BY FULL INSTITUTIONAL REVIEW BOARD AT NEXT MEETING.
APPROVAL STATUS PERIOD VALID FOR ONE CALENDAR YEAR AFTER WHICH A CONTINUATION OR RENEWAL REQUEST IS REQUIRED TO BE SUBMITTED FOR BOARD APPROVAL.
ANY MODIFICATIONS TO APPROVED PROJECT MUST ALSO BE SUBMITTED FOR APPROVAL.

Comments, Modifications/Conditions for Approval or Reasons for Deferral or Disapproval are as follows:

Signature:  Date: February 9, 1996

Chair of Institutional Review Board

VITA

Linda C. Bean

Candidate for the Degree of

Doctor of Education

Thesis: THE DEVELOPMENT OF A CONTEMPORARY SET OF PRINCIPLES FOR VOCATIONAL TEACHER EDUCATION

Major Field: Occupational and Adult Education

Biographical:

Personal Data: Born in Malvern, Arkansas, November 8, 1951, the daughter of Chester L. and Ouida Bean.

Education: Graduated from Central High School in West Helena, Arkansas, May, 1969; received the Bachelor of Science degree from Arkansas Tech University, Russellville, Arkansas in May, 1973 with a major in Business and minor in Education; received a Master of Science in Education degree in Business Education from University of Central Arkansas, Conway, Arkansas, May, 1986; completed requirements for the Doctor of Education degree at Oklahoma State University, Stillwater, Oklahoma, July, 1996.

Professional Experience: Business Education Teacher at Green Forest High School, Green Forest, Arkansas from August 1973-May 1974. Business Education Teacher at Pottsville High School, Pottsville, Arkansas from August 1974-May 1992. Visiting Lecturer in the School of Business at Arkansas Tech University, Russellville, Arkansas from August 1989-1991. Graduate Research and Teaching Assistant in Occupational and Adult Education at Oklahoma State University, Stillwater, Oklahoma from August 1992-July 1995. Visiting Lecturer for Computer and Information Science and School of Education at Arkansas Tech University, Russellville, Arkansas from August 1995-May 1996.

Professional Memberships: American Vocational Association; Arkansas Vocational Association; National Business Education Association; National Association of Teacher Educators for Business Education; Southern Business Education Association; Association of Teacher Educators; Arkansas Association of Teacher Educators; Southeastern Regional Association of Teacher Educators; Association of Supervision and Curriculum Development; Omicron Tau Theta, Phi Chapter; Delta Pi Epsilon, Gamma Chapter; Phi Delta Kappa, Oklahoma State University Chapter