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AUTHOR Stammen, Ronald M.  
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ABSTRACT

An evaluation was made of secondary and postsecondary vocational-technical education in North Dakota to review progress since the passage of Public Law 101-392 in that state. Some of the findings of the postsecondary evaluation are the following: (1) between 1991 and 1993, a unique statewide tech prep initiative was begun and is in its second planning phase; (2) all of the two-year colleges are part of a statewide interactive video network; (3) the two-year colleges have cooperated with secondary school interactive television networks, and other technical advancements have been made; (4) a chancellor system was established to govern the two-year colleges, resulting in organizational restructuring; and (5) a task force recommended changes in funding patterns and delivery systems for postsecondary education in the state. The secondary assessment found that, from 1991 to 1993, the State Board for Vocational Education successfully cooperated and coordinated with other state education agencies and produced such changes as the following: (1) approximately 75 percent of the high schools in the state now are involved in cooperative planning and a consortium; (2) the tech prep initiative is being established statewide; (3) 30 percent of the secondary schools have organized and constructed interactive television networks; and (4) two of the four regional two-year colleges have linked interactive television networks with secondary school clusters. Recommendations were made for continuing improvement on both the secondary and postsecondary levels, especially in updating curriculum and materials, cooperation among schools and the community, and establishing competency-based education to meet industry needs. (KC)

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**NORTH DAKOTA**



**VOCATIONAL - TECHNICAL  
EDUCATION**

**SECONDARY &  
POSTSECONDARY  
ASSESSMENT  
FOR  
PUBLIC LAW 101-392**

**1993**

**NORTH DAKOTA STATE BOARD FOR  
VOCATIONAL EDUCATION**

**REUBEN GUENTHNER  
STATE DIRECTOR AND EXECUTIVE OFFICER**

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## ***Concerns and Cautions for the Future***

Postsecondary educators offered the following concerns about the future of vocational education and federal funding:

1. "Tech Prep planning is occurring throughout the state. Hopes are high that an impact for vocational education as a whole will come from Tech Prep and integration. Exactly how or what it means to the secondary school's vocational-technical services will have to be defined by focusing on a core set for all students. The options for articulated programs will have to be carefully thought out as it implies a career path for every student, two-year degrees, and articulated apprenticeship routes to career and employment changes. However, with this state's population geographically placed sparsely, it may be less job entry and more career oriented. State Tech Prep task analysis has helped a lot to define future programs."
2. "A good way to make articulation work is to spend funds utilizing the interactive television networks to provide access between instructors for teaming and cooperative purposes."
3. "There is very little industry in the state, and what industry there is cannot provide a basis for supporting competency-based education in the true sense of the definition. It is a chicken-and-egg thing. A set of competencies devised by industry regarding tasks to complete and to be efficient does not result in individualized instruction in the curriculum. This is because accreditation regulations still call for teaching toward a time frame prior to moving on. Good competency-based programs are hard work, take time, and do not meet these accreditation requirements based on units of time. In the true sense, we use modifications because delivery systems do not allow competency-based education, so we are forced to modify."

## **Postsecondary Assessment**

### **Significant changes since 1991**

This assessment found that from 1991 through 1993 the State Board for Vocational Education successfully cooperated and coordinated with other state education agencies and the state legislature to initiate the following changes:

1. A unique statewide TECH PREP initiative is in its second planning phase to properly acquire secondary and postsecondary linkage through articulation.
2. All of the two-year colleges are part of the statewide interactive video network. It is expected that by the end of the 1994 fiscal year, all Tribal Colleges will be utilizing a similar network.
3. Two two-year colleges have cooperated with secondary school interactive television networks (ITV). An electronic classroom on their campuses provides cooperative distance education and training programs.
4. The State Board for Vocational Education funded a person with the technical expertise to establish ITV connections. This brought about an innovation between two technologies heretofore viewed as incompatible. (Fiber optic analog with T-1 digital).
5. The State Board for Higher Education adopted a chancellor system. Consequently, this state university system now governs the four two-year colleges involved with postsecondary vocational programs. This venture has stimulated many reorganization changes, including cooperation with the State Board for Vocational Education. The following lists a few of these changes:
  - a. The university system convinced the state legislature to approve a position to help the State Tech Prep Director with the university portion of the work involved with Tech Prep initiatives.
  - b. A restructuring process is underway between the North Dakota State University and the Wahpeton State College of Science to create and/or strengthen applied vocational technical college degrees along with arranging ways to eventually provide 2+2+2 articulation opportunities.
  - c. The State Board for Higher Education through interagency and legislative support sponsored the Center for Innovation in Instruction for the State. It is located at Valley City State University. The purpose of this center is to meet the technology education and training (pre-service/in-service) teacher education needs.
6. The North Dakota State Board for Vocational Education formed a Vocational Education Funding Task Force which reviewed funding patterns for the state. This group recommended changes that would encourage new delivery systems and business-industry partnerships, create leadership credentials, suggest

governance, and funding of other restructuring aspects.  
7. The Council on Vocational Education commended the SRVE for their efforts and successes in providing access to and for special population students.

### **Synopsis Reflecting Needs Expressed in the Postsecondary Assessment**

1. Although it is difficult to make realistic industrial workplace training available in rural North Dakota, there is a need for an awareness component which defines the skills and training so schools might conceive educational components to meet all aspects of the industry.
2. If future workplace needs call for a strong math and science emphasis with less specific vocational training, then there is a need for all postsecondary schools to stress involvement to develop a workable statewide cooperative or integrated system.
3. Funds are needed for significant training in remedial kinds of work so students can be helped to master core courses and participate in special language skills programs, especially those needing state-of-the-art equipment.
4. Postsecondary schools could cooperate with secondary educators to emphasize how introductory programs at the secondary level can provide equity and assure quality. This could be accomplished in high poverty schools through cooperative practicums, role models, shadows, and innovative ways to have relations with industry.
5. There is an unrelenting need for counseling and placement services because the changing business and industry needs require communication to the right people at the right time.
6. Postsecondary schools faced with a continuing need to address changing curriculum, equipment, and instructional materials lack resources to keep pace with current and future workplace demands, updates, and enhancements.
7. Postsecondary schools need to take proactive measures to help other state agencies, government branches, and citizen groups accelerate growth for economic development and entrepreneurial endeavors. The state vocational education enterprise needs a partner to reflect current and long-range future labor market needs.
8. Community and Technical college officials indicate that they need to meet local area workplace demands because it is the real basis for their survival. Their ability to meet these demands will depend upon the extent to which their schools can cooperate with the systemwide Tech Prep initiatives and existing telecommunication connections.
9. The options for Tech Prep articulated "systemwide"

programs need to be carefully thought out and well planned to define models for the varied levels of small schools. These models must be balanced between the need to explain and help personnel at small rural high schools and professional needs involving paperwork accountability. These obligations recognize that most of the rural schools do not have the wherewithal to help develop and sustain articulation agreements and cooperative linkages.

10. It appears essential for isolated community colleges to utilize mutual partnerships to develop an integrated approach to serve vocational education postsecondary students.

## **Secondary Assessment**

### **Executive Summary**

*This assessment delves into perspectives, practices, policies, and procedures in order to assess our state's progress toward education and training for a more competitive workforce.*

### **Significant changes since 1991**

This assessment found that from 1991 through 1993 the State Board for Vocational Education successfully cooperated and coordinated with other state education agencies and/or influenced the state legislature to initiate the following changes:

1. Three remote, rural high schools among the 197 secondary schools do not belong to a Consortia as of FY 1992. Since 1990, approximately 75 percent of the high schools have become involved in such cooperative planning initiatives.
2. The Tech Prep initiative is uniquely called systemwide as it has taken a comprehensive approach to serve the whole state. Pilot projects are being established with secondary and postsecondary linkages through articulation.
3. Thirty percent of the secondary schools have organized and constructed interactive television networks to provide access to rural secondary schools. These schools pair and share in curriculum and staffing needs, and extend education and training services to adult populations throughout the state.
4. Two of the four regional 2-year colleges have linked interactive television networks with secondary school clusters. A state vocational technician planned, organized, and supervised installation of these projects for secondary and postsecondary linkages during the 1992-1993 school year.

### **Changes in progress for 1995**

The State Board for Vocational Education has work in progress to improve upon factors that are difficult to achieve in most North Dakota schools. Significant progress has not been forthcoming in the following areas:

1. Schools with vocational staff are beginning to establish curriculum which adequately administers integration of academic and vocational education programs.
2. It appears difficult, if not impossible, for many rural schools to offer programs that meet current and future workplace demands. However, larger schools with adequate directorship are constantly addressing these issues for their regions.
3. Approximately 16 of the 196 high school attendance units in the state have been able to provide curriculum, equipment, and training opportunities which can be substantially assessed in meeting the following:
  - a. Program quality in high/low poverty schools
  - b. Work skills attainment and job placement
  - c. Reflection of current plus future labor market needs
  - d. Sufficient enrollments to offer vocational programs to sustain community workplace needs.

### **Statewide interagency cooperation and contributions**

The factor most difficult to improve upon throughout most of North Dakota is the ability to design curricula to provide programs which indeed meet all aspects of the industries. The populations and related demographics are favorable for only 8 percent of the schools striving to provide adequate vocational education services to their students.

However, it is significant to note that the state legislature enacted and codified statutes during the 1993 session (Open Enrollment) along with continuation funding to restructure district boundaries (Consolidation) and continue to fund the development of interactive video (television) services and computer-mediated communication networks. These actions are part of the improvement process to provide access to a broader curriculum.

### **Synopsis Reflecting Needs Expressed in the Secondary Assessment**

1. Although it is difficult for vocational education programs located in rural, sparsely populated areas to consider meeting the employment needs for all aspects of industry, there is a need to address these concerns in each program.
2. Rural, sparsely populated consortia or centers need to find ways to integrate academics and vocational courses which meet the criteria of both state accreditation and workplace needs.

3. Resources are needed for childcare programs and assistance for teachers who must meet the needs of special populations. This includes funding teacher aides, paraprofessionals, and training vocational education teachers to adequately support these supplements.
4. There is a need for all agencies to properly define exactly how the quality of vocational education programs are being improved to serve economically disadvantaged and low-achieving students. This is in regard to state-of-the-art training needs for programs that serve these students.
5. The local educational agencies need to adequately define how their policies and procedures involve vocational students' work skill attainments with current or subsequent job placements.
6. There is a continuing need to find adequate resources to help schools acquire the curriculum, equipment, and instructional materials which are relevant and current to meet the current and future workplace demands.
7. There is a need for all agencies to continue to investigate exactly how all school programs can realistically satisfy the current and future labor market needs, including needs in the area of emerging technologies.
8. There is a need to continue curriculum workshops and promotions to explain and show ways teachers are utilizing competency-based vocational education, workplace basics, critical thinking, and problem-solving skills. This includes understanding and dealing with sensitivities and interrelations between hard core vocational teachers (i. e. agriscience) and educators new to the vocational scene due to consortia and integration activities.
9. The "systemwide" Tech Prep initiative needs comprehensive support from all agencies. This includes helping to find ways for all consortia to have articulation agreements in place which link courses so students do not have to repeat identical lessons at postsecondary institutions and, likewise, secondary work is given credit at the respective postsecondary institutions.
10. The state agencies need to continue their proactive support for distance education networks which are able to provide access to rural, remote students. A continued effort is needed to advertise successes and promote comprehensive ways to solve unique education problems for sparsely populated, nonindustrial areas that only depend on agriculture-based employment needs.

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Prepared by Ronald M. Stammen, Ph.D.,  
FLC 210, Box 5057,  
North Dakota State University, Fargo, ND 58105