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ABSTRACT

Teacher shortages, new technologies, and vocational certification demands are directing attention to the need for professional development of vocational education (VE) teachers. VE teachers can use various strategies to enhance their performance and effectiveness through professional development. Worksite experiences give VE teachers opportunities to gain firsthand knowledge of the workplace and observe ways workers are integrating knowledge, concepts, and skills from diverse disciplines to solve the complex problems of their industry. Ways for VE teachers to gain workplace experience include internships, tours and other types of short-term visits, and externships. Another professional development strategy available to VE teachers is linking with colleagues to discuss the trials and challenges of teaching and to share instructional strategies. Professional development schools, centers, and leadership academies sponsored by local businesses and school systems offer programs to help educators develop skills that are congruent with the workplace's changing practices. A third professional development strategy for VE teachers is participating in workshops and conferences that include not only presentation of information and theory but also time for demonstration, practice, feedback, and follow-up. VE teachers can also further their professional development by enrolling in programs for technology skill development that integrate technology with other subject areas. (Contains 11 references.) (MN)

Vocational Teacher Professional Development Practice Application Brief No. 11

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Teacher shortages, new technologies, and vocational certification demands are directing attention to the need for the professional development of vocational education teachers. This Brief discusses teacher development needs and suggests innovative strategies for meeting those needs through professional development.

Why Teachers Need Professional Development

The shortage of certified vocational teachers has led to hiring people from industry to fill teaching vacancies. Although these industry-based teachers have the technical skills required in the workplace, many lack the instructional background that will enable them to manage the classroom and inspire learning. To address this problem, some schools are using provisional certification options in hiring industry employees, with the stipulation that these teachers obtain educational credits toward licensure within a given period of time following their employment (Zehr 1998).

Changes in the workplace require continual professional development as a means of skill upgrading, even for teachers with degrees in education. New ways of teaching and learning are requiring teachers to assume the roles of coach and facilitator and to situate student learning in real-world contexts. New school-to-work programs are requiring teachers to collaborate with business representatives in the community and partner with employers and with other educators to develop integrated curricula. Teachers must be able to use new technologies, which are continually changing the ways that people live, work, and learn. To respond to these changing roles and responsibilities, teachers need an effective professional development plan that can help them keep current and embrace new ways to improve their practice.

Improving the quality of vocational teaching is the goal of the National Board for Professional Teacher Standards (NBPTS). In 1999, NBPTS initiated a pilot test of a vocational education certification process that requires teachers seeking certification to "pass an essay test on the content of their field and submit a six-part portfolio that includes videotapes of their teaching, evidence of their participation in professional development activities, and proof of their community involvement ("Voc. Ed. Certification Underway" 1999, p. 10). The need to link professional development to the workplace and community is a recurring theme and requires a new approach to professional development.

Professional Development Strategies

Described here are strategies that vocational education teachers can use to enhance their performance and effectiveness through professional development.

Gain Workplace Experiences

Worksite experiences afford opportunities for teachers to gain firsthand knowledge of what is happening in the workplace and observe ways that workers are integrating knowledge, concepts, and skills from a variety of disciplines to solve complex problems of their industry. Through these contextual learning experiences (experiences that situate learning in the context of its use), teachers can observe how skills become multidimensional when used to solve problems

in the workplace. Such real-world experiences provide a basis from which teachers can begin to create student learning experiences that are authentic and engage students in the use of complex reasoning skills, work-related attitudes, cooperative skills, job-specific knowledge, and academic knowledge required in the workplace (Giddens and Stasz 1999). Three professional development activities that teachers can use to connect to the workplace are internships, tours, and externships.

Internships afford teachers an opportunity to learn about the workplace by working directly with employers, gaining an appreciation for the business viewpoint and practicing teamwork skills that are necessary in their expanded teacher roles. Internships can be established for varying periods of time. The Jackson-Hillsdale school-to-work system in Michigan (*School-to-Work* 1997), for example, has implemented an internship program that provides teachers with 1-day experiences in the workplace, while paying for a substitute teacher during the participant's absence. The school system also participates in a business/industry fellowship program that places teachers in the workplace for 6 weeks during the summer. These experiences not only allow teachers to observe what is happening in the workplace, but also provide opportunities for them to partner with employers to provide opportunities for students to learn outside the classroom.

Tours and other types of short-term visits offer another opportunity to acquire workplace experiences that can extend teacher knowledge of the workplace. The Industry Exploration Tour—a program of the University of Kentucky, Central Kentucky Vocational-Technical Regional Office, and Kentucky Tech-Central Campus—engages vocational teachers in hands-on workplace experiences to help them identify the needs of the industry, the job requirements, and materials to aid in providing career guidance to their students (Miller and Byers 1998). This tour extends for 1 week, with vocational educators visiting one industry the first day and two industries each day of the week thereafter. One month after the experience, participants meet to share and discuss their reports in a follow-up session.

Externships afford opportunities for teachers to spend a given period of time at a specific worksite and experience first hand the changes that are occurring and how workers are adapting to those changes. Through their experiences, teachers gain access to real-world problems that they can incorporate into their curriculum to help students understand how academic concepts are applied in the workplace. These experiences also serve to validate the significance of the teacher's role in preparing their students for meaningful and productive lives. The Educator Externship Program for School-to-Career Partnerships in western Colorado has identified the following benefits realized by teachers who participate in externships (Bennett, Milicevic, and Dolan 1998, p. 2):

- Increased awareness and knowledge of changing workplace competencies and attitudes
- A realistic perspective of the skills students will need to succeed in the workplace
- Information and materials to aid in the design of curriculum
- Enhanced subject expertise and teaching strategies
- Awareness of career pathway potential in occupational areas
- Linkages with business

Bidwell (1997) outlines steps for developing and implementing a teacher worksite externship program.

Establish Linkages with Other Teachers

Linking with colleagues to discuss the trials and challenges of teaching and share instructional strategies can result in "nuggets of wisdom" that teachers can immediately apply in the classroom. Teacher networks, teacher unions, and professional organizations offer opportunities for teachers to leave the isolation of their classrooms to meet with colleagues to learn what is happening in the field, e.g., current standards affecting the industry, the direction of the market, and economic and employment trends.

Professional development schools, centers, and leadership academies sponsored by local businesses and school systems offer a variety of programs to help educators develop skills that are congruent with the workplace's changing practices. The Advanced Education Technology Environmental Education Center, which is dedicated to advancing environmental technology education through curriculum development, offers professional development and support services for secondary and postsecondary educators (Hernandez-Gantes 1998). Miami-Dade Community College has initiated Teaching and Learning Centers that emphasize instructional design, technology application, participatory management, and other topics relevant to teacher professional development (ibid.).

Participate in Workshops and Conferences

Workshops and conferences allow large groups of teachers to gather for mutual learning and sharing of materials. To ensure that a professional development workshop is worth one's time and effort, teachers should verify that they include not only the presentation of information and theory, but time for demonstration, practice, feedback, and follow-up. Since technology is such an important focus for professional development, workshops offer the potential of reaching many people at one time. However, Bradshaw (1997) contends that "workshops and conferences, by themselves, do little to ensure that technology will be used in our schools and classrooms in ways that improve student learning" (p. 87). To help assess the effects of workshop participation, teachers should be able to answer the following questions: Did you understand the concepts presented? Can you demonstrate the new skill? Have you used the new knowledge and skill in your classroom teaching?

When teachers can demonstrate the transfer of knowledge to classroom instruction, the "return on investment in instructional improvement is significantly increased" (ibid.).

Upgrade Technology Skills

Decisions to enroll in programs for technology skill development must be based on careful scrutiny of the program content and goals. Teacher education institutions have been criticized for failing to keep pace with rapidly changing technology—e.g., new equipment and software, price changes, and classroom needs. The International Society of Technology in Education surveyed U.S. schools, colleges, and departments of education to learn how they prepare new teachers to use information technology in their work. Results of the survey include the following ("Will New Teachers" 1999, pp. 34-35):

- Most institutions report that their technology infrastructure is adequate or better in terms of carrying out their current programs.
- Faculty information technology skills tend to be comparable to the information technology skills of the students they teach; however, most faculty do not model use of those information technology skills in teaching.
- Distance education and computer-assisted instruction currently affect only a small proportion of students in teacher training institutions.
- Most teacher preparation programs do not have a written, funded, regularly updated technology plan.

- Most institutions report that information technology is available in the K-12 classrooms where student teachers get their field experiences; however, most student teachers do not routinely use technology during field experience and do not work under master teachers and supervisors who can advise them on the use of information technology.

To increase technology proficiency, teachers should look for programs that integrate technology with other subject areas and identify faculty who can model technology use in their teaching. "Failure to prepare teacher education graduates to use technology effectively and wisely will cause billions of dollars invested in education technology initiatives to go to waste" (Dyrli 1998, p. 1).

Conclusion

To ensure that professional development is meaningful and leads to new knowledge, skills, and practices that will enable them to better serve their students, vocational teachers need to be self-directed in their pursuit of learning and take responsibility for matching opportunities to their teaching needs. Many factors must be considered in selecting professional development activities, e.g., personal and professional goals, school mission, administrative policies and procedures, and the business community. In all choices, however, connection with the workplace is crucial if teachers hope to facilitate the school-to-work transitions of their students.

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