DOCUMENT RESUME

ED 449 377   CE 081 321

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TITLE   Keeping Vocational/Career-Technical Educators Current.
                Trends and Issues Alert No. 23.
INSTITUTION   ERIC Clearinghouse on Adult, Career, and Vocational
                Education, Columbus, OH.
SPONS AGENCY   Office of Educational Research and Improvement (ED),
                Washington, DC.
PUB DATE   2001-00-00
NOTE   4p.
CONTRACT   ED-99-CO-0013
AVAILABLE FROM For full text: http://www.ericacve.org/fulltext.asp.
PUB TYPE   ERIC Publications (071)
EDRS PRICE   MF01/PC01 Plus Postage.
DESCRIPTORS   Annotated Bibliographies; Continuing Education; Critical
                Thinking; Distance Education; *Educational Needs;
                *Educational Resources; *Faculty Development; *Inservice
                Teacher Education; Integrated Curriculum; Participative
                Decision Making; Postsecondary Education; Problem Solving;
                School Business Relationship; Secondary Education;
                *Teachers; Teleconferencing; *Vocational Education; Work
                Environment

ABSTRACT
        How are vocational educators staying up to date in their
occupational areas in the high-tech, high performance, 21st century
workplace? Is the meaning of "up to date" the same as before? While
traditional methods such as attending workshops and reading professional
literature are still in use, distance communication technology has also led
to the use of teleconferencing, listservs, recommendations for downloadable
curriculum material websites, and modularized distance learning programs.
Increased worker autonomy, participative and consensual decision making,
technology, and knowledge work have led to a need for workers who have not
only specific occupational skills but also a range of generalizable workplace
skills such as problem solving, decision making, critical thinking,
communication, and teamwork that increasingly are part of being "up to date."
In addition, new emphasis on integrating vocational and academic education
and teaching academic and generalizable workplace skills in an occupational
context has led to a corresponding focus on gaining workplace experience
through externships, summer work, field visits and business partnerships for
all educators. (The paper lists and summarizes 25 resources for keeping
current.) (KC)

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TRENDS AND ISSUES ALERT NO. 23

by Michael E. Wonacott
2001

Keeping Vocational/Career-Technical Educators Current

Vocational educators have traditionally needed to keep up to date in the fields for which they prepare students; one focus of professional development (PD) has long been to stay abreast of changes in technology and resulting changes in business and industry's labor needs (Finch 1999). So, how are vocational educators staying up to date in their occupational areas in the high-tech, high-performance, 21st-century workplace? Is the meaning of "up to date" the same as it has always been?

Vocational educators continue to use many established techniques to stay up to date in their occupational areas—linkages with the workplace through continued work experience, formal advisory committees, and informal contacts; workshops, seminars, and conferences; membership in professional associations; networking with other teachers; and professional literature (Bouchillon 1996; Bunn 1996; Gartin et al. 1993; Lowrie 2000; Valesey 1999). Distance communication technology has also led to the use of teleconferencing and listservs and recommendations for downloadable curriculum material websites and modularized distance learning programs (Academic Senate for California Community Colleges 1997; Alexander and Newsom 1998; Basu 1997; Los Angeles Mission College 1995; Maurer 2000).

Increased worker autonomy, participative and consensual decision making, technology, and knowledge work have led to a need for workers who have not only specific occupational skills but also a range of generalizable workplace skills such as problem solving, decision making, critical thinking, communication, and teamwork that increasingly are part of being "up to date" (Bennett et al. 1998; Cordova et al. 1994; Macmillan 1995; O'Neil 1996). In addition, new emphasis on integrating vocational and academic education and teaching academic and generalizable workplace skills in an occupational context has led to a corresponding focus on gaining workplace experience (e.g., through externships, summer work, field visits, business partnerships) for *all* educators (Bidwell 1997; Blasingame 1999; Business Coalition for Education Reform 1998; Leff and Malyn-Smith 1999). The following resources contain additional information on keeping current.

Academic Senate for California Community Colleges. *28th Fall Session Resolutions.* (ED 411 016); *29th Fall Session Resolutions.* (ED 415 921); *29th Spring Session Resolutions.* (ED 411 017). Sacramento, CA: ASCCC, 1997.
Recommends Internet dialog within disciplines, a website of downloadable curriculum materials, active involvement of vocational faculty in campus PD committees.

Alexander, L., and Newsom, R. "Internet Listservs: A Follow-Up to Faculty Development at Two-Year Colleges." *Community College Review* 25, no. 4 (Spring 1998): 61-74.
Listservs worked well as follow-up to teleconferences to relate content to participant needs and concerns.

Basu, C. K. "Current Social, Economical and Technological Developments and Need for Reforms/Renovations in Training of Teachers in Technical-Vocational Education: A Discussion Paper." Paper presented at the UNEVOC/UNESCO International Round Table on Training of Teachers/Trainers in Technical and Vocational Education, Curitiba, Brazil, April 7-10, 1997. (ED 405 459)
Advocates modularized distance and open learning to update technical-vocational teachers, with stronger linkages with the world of work and with elementary and secondary education.

Bennett, D.; Milicevic, B.; and Dolan, R. *Educators in the Workplace: A "How To" Guide.* Denver: Colorado School-to-Career Partnership, 1998. (ED 426 286)
Describes externships for awareness of changing workplace compatencies and attitudes; information on integrating academic standards, workplace competencies, and career relevance; and potential student worksite learning experiences.

Bidwell, S. E. *Helping Teachers Connect Academics to the Workplace: An Implementation Guide for Teacher Worksite Externships.* Columbus: Center on Education and Training for Employment, the Ohio State University, 1997. (ED 411 439)
Worksite externships with teams of academic and vocational teachers observe workplace practices to identify use of academics on the job.

Blasingame, K. M. "It's a Work Out." *Techniques* 74, no. 7 (October 1999): 20-23.
Presents success stories and essential elements of summer externships for vocational and other teachers.

Bouchillon, W. S. H. *Preparing All Learners for Tomorrow's Work Force: Florida's Applied Technology Curriculum Planning Companion for the Sunshine State Standards.* Tallahassee: Division of Applied Technology, Adult and Community Education, Florida Department of Education, 1996. (ED 412 363)
Encourages local and individual responsibility; technical advisory committee; field-based training, frequent returns to industry, and training through professional associations and equipment suppliers; continuing education, experiential learning; continuous administrative support (resources and time).

Brown, B. L. *Vocational Teacher Professional Development. Practice Application Brief no. 11.* Columbus: ERIC Clearinghouse on Adult, Career, and Vocational Education, Center on Education and Training for Employment, the Ohio State University, 2000. (ED 442 994) http://ericacve.org/fulltext.asp
Internships, tours, externships, linkages with other teachers, workshops, and conferences are discussed.

Bunn, P. C. "Incorporating Industry-Based Skill Standards into High School Secretarial and Administrative/Information Services Programs: Teacher Professional Development Activities." *Journal of Business and Training Education* 5, no. 1 (1996): 76-86. (ED 418 220)
Addresses workshops; conferences (especially hands-on activities); sharing results with colleagues; and the need for more hands-on activities, local business input, work experience opportunities, field studies, summer internships, and access to PD activities.

Business Coalition for Education Reform. *Improving the Quality of Teaching: The Business Role.* Washington, DC: BCER, National Alliance of Business, 1998. (ED 424 395)
Business-education partnerships provide workplace internships, help teachers integrate workplace knowledge into classroom lessons, provide fee support for national certification, and share business expertise in continuous improvement and technology use.

Compton, V., and Jones, A. "Reflecting on Teacher Development in Technology Education: Implications for Future Programmes." *International Journal of Technology and Design Education* 8, no. 2 (1998): 151-166.
Discusses training for PD facilitators and the Technology Teacher Development Resource Package.

Copa, G. H., and Ammentorp, W. *Benchmarking New Designs for the Two-Year Institution of Higher Education.* Berkeley: National Center for Research in Vocational Education, University of California at Berkeley, 1998. (ED 416 398)
Keeping teachers current requires administrative backing, resources, accountability, system aligned with organizational goals, participative decision making, and long-term commitment.

Cordova, P.; Gerard, F.; Melis, A.; Nixon, K.; and Rümpker, W. *Teachers and Trainers in Vocational Training. Vol. 1: Germany, Spain, France, and the United Kingdom.* Thessaloniki, Greece: European Centre for the Development of Vocational Training, 1994. (ED 401 469)
Updating should focus on *core skills* (literacy, numeracy, information technology, problem solving, teamwork) in addition to narrow technical skills.

Decision Information Resources, Inc. *Evaluation of Tech Prep System Development and Implementation in Texas Public Schools and Institutions of Higher Education: Final Report, 1994-95.* Austin: Texas Higher Education Coordinating Board, 1995. (ED 391 933)
Summer internships and shadowing at businesses by tech prep teachers are described.

Finch, C. *Using Professional Development to Meet Teachers Changing Needs: What We Have Learned. Centerpoint* no. 2. Berkeley: National Center for Research in Vocational Education, University of California at Berkeley, 1999. (ED 428 259)
Teachers acquire work-based learning through job shadowing, summer internships or jobs; mini-sabbaticals to translate workplace observation into integrated curricula; case studies to apply knowledge in real-life teaching scenarios; formal workplace partnerships, advisory committees and informal conversations that are now relevant for *all* teachers.

Gartin, S. A.; Harper, R. P.; and Hudson, R. "Teaching Adults Keeps Teachers Current." *Agricultural Education Magazine* 65, no. 8 (February 1993): 20-21.
Techniques include supervised agricultural experience programs, owning a farm, workshops, field days, visits to progressive agribusinesses, individual reading, and discussions with other teachers.

Huddleston, P., and Unwin, L. *Teaching and Learning in Further Education: Diversity and Change.* New York: Routledge, 1997. (ED 418 307)
Advocates reflection to evaluate and identify updating needs, maintaining direct links with occupation through professional and training organizations, seminars in occupational area.

Leff, J., and Malyn-Smith. J. *Making Skill Standards Work: Highlights from the Field.* Newton, MA: Education Development Center; Madison, WI: Center for Education, Employment, and Community and National Future Farmers of America Foundation, 1999. (ED 440 269)
Industry skill standards provide occupational context for academic skills; experiential learning, summer institutes, and traveling vans (for access to scarce tools and equipment); role plays; peer teaching and pairing teachers/scientists; industry volunteers in classroom to allow teachers release time; and strategic partnerships for technical assistance.

Los Angeles Mission College. *Home Economics Education Lifespan/ Life Management Developmental Sites: Final Report.* Sylmar, CA: LAMC, 1995. (ED 384 366)
Teleconferences and workshops help teachers integrate vocational, academic, and Secretary's Commission on Achieving Necessary Skills competencies into a seamless curriculum.

Lowrie, T. "Externally Driven Innovations in the Vocational Education and Training Sector: Issues Associated with Staff Develop-

ment." In *AERA Vocational Education Special Interest Group 2000 Proceedings,* edited by Allen D. Truell, pp. 65-82. Washington, DC: American Educational Research Association, 2000. (ED 440 270)
Return to industry, keeping up with industry changes, having own business, establishing own network of people in area, industry advisory groups and other contacts are methods of updating.

Macmillan, C. "From IA to Tech Ed: Shifting the Paradigm in Canada." *Tech Directions* 54 no. 8 (March 1995): 30, 32-34.
Challenge: meeting need for workers with technology skills *plus* basic skills, self-esteem, personal adjustment, critical thinking, problem solving, teamwork, and creative design.

Maurer, M. J. *Professional Development in Career and Technical Education. In Brief no. 7.* Columbus: National Dissemination Center for Career and Technical Education, the Ohio State University, 2000. http://nccte.com/publications/infosynthesis/index.html
Strong, learner-centered professional development should be part of daily routine and practice using distance learning technology and worksite experience.

O'Neil, S. L. "A Direction for Focusing Business Curricula." *Journal of Business and Training Education* 5, no. 1 (1996): 13-21. (ED 418 220)
Addresses proactive working relationships with business to understand employers' needs for knowledge application (decision making, problem solving, thinking, inquiry, research, and assessment skills) and workers' needs (communication, flexibility, change management, and learning skills) and improve instructional effectiveness by assessment, evaluation, and benchmarking.

Perin, D., and Boehlen, S. *Integrating Academic and Career-Related Education: A Professional Development Guide for Community College Faculty.* Berkeley: National Center for Research in Vocational Education, University of California at Berkeley, 1999. (ED 436 648)
Seminars in which teachers align or revise curricula, create integrated student assignments, and write institutional proposals to support delivery bring general and career-related education closer together.

Teacher Learning in the Workplace and Community. Berkeley: National Center for Research in Vocational Education, University of California at Berkeley; and Madison: Center on Education and Work, University of Wisconsin-Madison, 1998. (ED 417 348)
All teachers, counselors, and administrators need experientially based, continuous learning opportunities to optimize student learning, career development and school-to-work transition outcomes.

Valesey, B. "Professional Development: Take Charge!" *Technology Teacher* 59, no. 2 (October 1999): 23-26.

Teachers must take personal responsibility for continuous learning by networking through professional associations, using industry-based skill standards for program review, reading professional literature, attending workshops, regular collaboration with other teachers.