

Update

ON RESEARCH AND LEADERSHIP

Office of Community College Research and Leadership

University of Illinois at Urbana-Champaign

WHO WE ARE

The Office of Community College Research and Leadership was established in 1989 at the University of Illinois. The Office is beginning a number of significant research, service and leadership activities to support quality vocational-technical education in the Illinois community colleges.

Current Office activities include:

1. Establishing an advisory committee to help guide the Office.
2. Communicating with the Illinois community colleges, Education or Employment (EFE) regional systems, state agencies, and others about the Office's mission.
3. Initiating the *Update* newsletter and research brief.
4. Developing a summer institute on **Community College Leadership** to be offered July 1990.
5. Conducting a study to prioritize the research needs of Illinois community college vocational-technical education programs.

The Office is located in the College of Education, Department of Vocational and Technical Education, which is comprised of 12 faculty members. The department offers undergraduate and graduate programs of interest to community college educators. The graduate specializations include

postsecondary vocational-technical education; training & development/human resource development; curriculum, instruction & workplace education; and administration, leadership and policy.

NCRVE at Illinois. Recently, the Department joined a national consortium of universities to establish a new National Center for Research in Vocational Education (NCRVE). During 1990, NCRVE at Illinois is conducting research and service projects in such areas as vocational and academic integration, cognitive research, vocational instructional materials, customized training, and special populations.

The instructional and research programs of the Department of Vocational and Technical Education are resources for community college vocational-technical faculty and administrators throughout the state of Illinois.

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Spring 1990

Dear Reader,

This is the first issue of *Update*, a newsletter of the Office of Community College Research and Leadership. It is designed for all those interested in being on the forefront of research and leadership development involving community college vocational-technical education. Recent research studies, innovative ideas, and opportunities for professional development and leadership update will be highlighted in each issue. If you have questions, comments or suggestions for *Update*, let us know.

The upcoming reauthorization of the Carl D. Perkins Act promises to create many changes in vocational education. It will also provide many opportunities -- Tech Prep for example. As we look to the future and the challenges ahead, the Office looks forward to contributing to the Illinois community colleges. We and the other faculty of the Department of Vocational and Technical Education at the U of I look forward to assisting you. Please call on us.

Debra D. Bragg, Director,
Office of Community College
Research and Leadership

U of I Symposium Held on Advanced Technology and the Workforce

On May 3-4, 1990 the 11th Annual Rupert N. Evans Symposium on Vocational Education was held at Allerton House, Monticello, Illinois. The theme of the event was *Advanced Technology and the Workforce: An Evolving Agenda for Instructor Preparation*. Over 45 representatives of Illinois 2- and 4-year colleges and universities and the ISBE/DAVTE met to discuss the implications of the changing workforce on preparing instructors for secondary schools, community colleges and private sector training programs. Scott D. Johnson, Assistant Professor in the Department of Vocational and Technical Education, chaired the symposium.

Five distinguished speakers presented a variety of perspectives to the symposium participants.

Alan McClelland, National Science Foundation, told participants that business/industry and education must stop pointing fingers and get on with educating America's future workforce. He said that the important task ahead is preparing future workers to be lifelong learners, thinkers, creators, problem solvers, and cooperators.

Franzie Loepp, Illinois State University, described progress made through efforts to reform secondary industrial technology education. He emphasized a set of competencies that industrial technology teachers need, including knowledge and skills in computers and other evolving technologies, concept development, and teaching strategies.

Daniel Hull, Center for Occupational Research and Development, identified several requirements for community college faculty in the future. Dan indicated that faculty need to work together to teach human as well as technical skills. He stressed the importance of providing breadth in early technical instruction to give students a foundation for future in-depth technical training. He also stated that teachers need to be fluent in using computers.

Joseph Hill, AT&T Corporate Education and Training, described some of AT&T's current workforce management policies. He discussed the importance that AT&T places on recruiting highly skilled individuals for all levels of the workforce. Joe shared information about a new management program to develop principle-centered leadership in AT&T.

Steven Lu, University of Illinois, wrapped up the session with a presentation about the factory of the future. He described how the factory has progressed from labor- to materials- to information- to knowledge-intensive. Steven shared his concept of a highly advanced factory that processes knowledge using artificial intelligence. The factory of the future envisioned by Steven will combine sophisticated computer technology with quality management principles.

Participants in the symposium formed into small groups to develop recommendations for preparing future instructors. Proceedings and recommendations from the symposium are being summarized. *For information about the symposium and a related research project on sophisticated technology, the workforce and vocational education, contact Scott Johnson, Vocational and Technical Education, 350 Education Building, 1310 South Sixth Street, Champaign, IL 61820, (217) 333-0807.*

Summer Seminars and Workshops

Southern Illinois University. The College of Technical Careers, the College of Education, Department of Vocational Education, and the College of Engineering and Technology of Southern Illinois University at Carbondale are offering 40 workshops, update courses, orientations, and tours this summer. The courses are offered in all occupational areas and will be delivered at various locations on and off campus. Credit is available for some of the courses. *For a complete list of the courses and more information call (618) 453-3321 or (618) 536-7751.*

University of Illinois. During the 1990 summer session, the Department of Vocational and Technical Education will offer eight specially-designed institutes for professionals in vocational and technical education and related fields. Undergraduate or graduate credit can be earned by participating in the institutes. These institutes include a course on **Community College Leadership** to be offered on July 10-11, July 17-19 & July 31-Aug. 2.

For more information about the institutes call Charles Gordon, Institute Coordinator, at (217) 333-0807.

Office of Community College Research and Leadership Current Projects

Three research studies are being conducted by the Office of Community College Research and Leadership.

Needs Survey. A survey will be mailed in June to a sample of Illinois community college faculty and administrators to identify the research and leadership needs of vocational-technical education programs. The survey was pilot tested by the Office's advisory committee in early April. The survey results will provide the basis for developing a research agenda for the Office. In addition, the findings will be valuable to National Center for Research in Vocational Education (NCRVE) projects and graduate courses in the Department of Vocational and Technical Education. The findings will be reported in an upcoming issue of *Update*.

Customized Training and Local Economic Development. This NCRVE project is being conducted jointly with the Industrial Technology Institute in Ann Arbor, MI. The project involves the Mid-America Training Group in developing a framework for evaluating community college customized training. We will develop a conceptual framework to identify information required to conduct state- and region-wide evaluations of customized training programs. The results of this 1990 project will be reported in an NCRVE monograph in early 1991.

Technology Transfer. In cooperation with the Illinois Council of Community College Presidents, the Office is conducting a statewide survey on technology transfer. In order to determine the current status of technology transfer activities in the Illinois community colleges, the survey focuses on identifying current and future technology transfer programs, administrative policies, promotional strategies, and pricing policies. The results of this survey will be presented in a report of the Illinois Council of Community College Presidents in the fall of 1990.

For more information about these projects, contact Debra Bragg at 344 Education Building, 1310 South Sixth Street, Champaign, IL 61820, (217) 333-0807

The Office of Community College Research and Leadership Advisory Committee

Charles Baldwin, Director of Career Programs, Parkland College

Tom Boldrey, Career Occupations Program, Eastern Illinois University

Lynn Burger, Director of Occupational and Adult Education, Illinois Community College Board

Bernard Ferrari, Associate Vice Chancellor, City Colleges of Chicago

Larry Fischer, Director Agriculture Education Center, John Wood Community College

Rita Fischbach, Professor, Illinois Central College

Ivan Lach, Deputy Executive Director, Illinois Community College Board

Linda Lafferty, Contract Administrator, Vocational Education Program Improvement, ISBE/DAVTE

Richard Miguel, Assistant Superintendent, ISBE/DAVTE

Edward Osborne, Associate Professor, Agriculture Education, University of Illinois

L. Allen Phelps, Head, Department of Vocational and Technical Education, University of Illinois

Joseph Piland, President, Highland Community College

Ron Sanderson, Dean, Vocational-Technical Education, Lake Land College

Paul Thompson, President, William Rainey Harper College

Paul Thurston, Head, Administration, Higher and Continuing Education, University of Illinois

Occupational Program Articulation

Recently a National Council for Occupational Education (NCOE) Task Force released a monograph entitled **Occupational Program Articulation** which reports a national study of the status of articulation programs. The reauthorization of Carl D. Perkins Vocational Education Act emphasis on Tech Prep makes this monograph particularly timely. This article summarizes the monograph's major points. For a copy of the monograph, call Bill Parrish at (205) 293-6683 or Raul Ramirez at (915) 534-4039.

A primary goal of the American Association of Community and Junior Colleges (AACJC) for 1988 was to strengthen the high school/ community college connection and curricular articulation among higher education institutions.

Three strategies of the AACJC for accomplishing this goal were:

1. Expanding coordination of programs and ease of student transfer from high school to community college and from community college to the four-year college/university.
2. Developing the tech-prep/associate degree program to work alongside the time-honored college prep/baccalaureate degree program.
3. Working with four-year colleges and universities to recognize associate degrees for admission to junior standing without loss of credit.

The Occupational Program Articulation Task Force set three goals to guide its work. The goals were:

1. Define and identify articulation activities
2. Evaluate articulation efforts
3. Identify model programs

A survey was developed and mailed to 675 two-year postsecondary institutions and 205 usable responses were received. The Task Force collected data about advanced placement, Tech Prep, 2+2, and 2+2+2 articulation programs.

Benefits to Students and Programs. The survey indicated that the reasons for entering into articulation agreements are directly related to the benefits from such an endeavor. Ninety-six percent of survey respondents stated that they established articulation agreements to improve student and program outcomes. According to survey responses, 85 percent of the respondents indicated that the articulation efforts achieved their goal of improving student and program outcomes. About two-thirds of the respondents noted an improvement in

faculty cooperation. Others cited reduced costs as a benefit of articulation.

Occupational areas selected for articulation were:

Business and office technologies	86% ¹
Engineering technologies	59%
Industrial technologies	58%
Health technologies	58%
Scientific technologies	24%
Public service technologies	26%

Characteristics of successful programs were:

Leadership and commitment from the top	91% ¹
Early faculty involvement	88%
Focus on mutual goals rather than turfmanship	87%
Written agreements established	85%
Relationships established based on mutual trust	77%

Follow-Through Needed. The respondents indicated the need for ensuring follow-through by all institutions participating in articulation programs. Forty-two percent of the respondents were meeting the goals of their agreements and forty-eight percent were partially successful.

Model Programs. Examples of model programs can be obtained from the eight Regional Centers for Curriculum Coordination of Vocational Technical Education. One of these centers is located at Sangamon State University. (See the article on page 5 for ways to obtain materials from the Illinois Vocational Curriculum Center.) In addition, LaGuardia Community College in New York has established the Center for High School/College Articulation, an information network for the exchange on high school to college articulation.

¹The percentages represent the percent of the 205 usable college surveys that gave the particular response.

Illinois Vocational Curriculum Center

The Illinois Vocational Curriculum Center (IVCC) was founded by the Illinois State Board of Education for grade schools through higher education institutions. More than 31,000 volumes of materials are compiled and automated. The system is on line for twenty-four hours a day, seven days a week, allowing patrons to browse using their own computer equipment.

Borrowing Materials. Materials can be borrowed for a thirty-day period and shipped postage paid. Borrowers are responsible for return postage. Free delivery services are provided to institutions belonging to the Illinois Library Delivery System.

In-service Workshops. The Center is available for in-service days or group visits and is also available to provide workshops in specific subject areas.

Searches. The Center provides assistance with searches. A recent search by our Office on the topic of occupational articulation provided a list of 160 items. These resources included plans from particular states for establishing 2+2 programs, conference reports, and policy recommendations. We offer two suggestions when conducting a search.

1. Use several key identifiers, such as postsecondary, community college, articulation, etc. to help narrow the items in your search.
2. Limit the publication dates to recent years to target current resources.

For more information contact the East Central Network, Sangamon State University, F-2, Springfield, IL 62974-9243 or call (217) 786-6375. The Center's toll free number is (800) 252-4822 (in Illinois). The FAX number is (217) 786-6036.

ERIC: A Resource for All Educators

The following information is reprinted, in part, with permission from a recent newsletter of the ERIC Clearinghouse on Adult and Vocational Education.

The ERIC database contains material that is useful to educators who perform a variety of roles and functions at all levels of education. It also has material that can assist parents, policy makers and others who are seeking education-related information. Initially, ERIC's mission was to collect and disseminate the results of federally funded research, but during its 23-year history, the system has greatly broadened this charge.

To provide better services to educational practitioners, ERIC Clearinghouses have made a special effort to seek out practitioner-oriented materials for inclusion in the database. The database contains a wide range of information:

- Curriculum guides and instructional materials
- Project reports and descriptions
- Conference papers
- Congressional testimony and federal legislation
- Examples of successful educational practices
- Lesson plans, teaching guides and resource guides
- Program evaluations

The clearinghouses respond to requests from users in a number of ways -- by making referrals, providing searches, answering subject specific questions, and distributing user products such as ERIC Digests. Digests, free two-page syntheses of current topics, are one of the most frequently requested products developed by the ERIC Clearinghouses. Designed to provide an overview of a subject, Digests generally contain information that relate directly to educational practice.

Some recent examples of ERIC Digests include:

- Retaining Adult Students in Higher Education* (No. 88)
- Evaluation Strategies for Vocational Education Program Redesign* (No. 84)
- Retaining At-Risk Students in Career and Vocational Education* (No. 87)

Resource lists and briefs are other resources available free for the asking. Another ERIC resource, Issue Papers, are available for a nominal charge. Examples are:

- Deterrents to Participation: An Adult Education Dilemma*, by Craig L. Scanlan, 1986. IN 308 \$7.00
- Training and Education of the Work Force in the Nineties: The Rational for Public-Private Collaboration*, by Thomas J. Smith and Carol Trist, 1988. IN 331 \$6.00

For more information about ERIC, call the ERIC toll free number, (800) 848-4815.

"One of the legends about the ERIC system is that it is just for researchers. This persistent myth obscures the fact that, through both its database building activities and its dissemination and user services programs, the ERIC system serves a broad spectrum of individuals seeking information on education-related topics.

Community College Research Studies

This section regularly features recent research and evaluation studies involving the Illinois community colleges. We encourage you to contribute studies involving programs, faculty and students from your college.

Technical Core Competencies for Computer Integrated Manufacturing Technicians

by *W. Richard Polanin, Illinois Central College*

Computer integrated manufacturing (CIM) technologies, such as robotics, computer numerical control machine tools, computer aided design, and computer integrated business systems are being implemented in manufacturing companies to increase competitiveness and improve quality. To adequately prepare the workforce to install, operate and maintain these technologies, educators must identify the technical competencies needed by the workforce to successfully deal with these changing technologies. Therefore, research was conducted to identify the competencies that should be included in a curriculum for CIM technicians.

Consensus was reached on 41 technical competencies. Fourteen technical core competencies were identified by a focus group of manufacturing professionals from central Illinois industry. A panel of 25 national experts was nominated to review and add to the identified technical core competencies. The panel was comprised of education and industry experts. A median consensus was achieved on 41 technical core competencies.

The study concluded that industry and education professionals agreed about the curriculum content needed to educate future manufacturing technicians. The experts also indicated that an appropriately educated workforce was critical to the continued success of American industry.

Evaluations of manufacturing curricula are recommended. It was recommended that current manufacturing curricula should be evaluated to update and implement the identified technical core competencies. Furthermore, industry and education networking is needed to facilitate the implementation of sophisticated technologies. Finally, continued leadership is needed to maintain American leadership in manufacturing through education.

For information about this research and the U of I Summer Institute on CIM for technology teachers, contact Richard Polanin at Illinois Central College, Route 24, East Peoria, IL 61635, (309) 694-5011.

National Recognition for Exemplary Programs Serving Special Needs Populations

by *Thomas R. Wermuth, University of Illinois*

For two decades federal vocational education legislation has funded programs and support services to enhance participation by special population students in secondary and postsecondary vocational education. While numerous programmatic approaches have been attempted, few have been evaluated, especially at the postsecondary level. Additionally, most studies of exemplary programs have focussed on a single group of students (e.g. the handicapped) and have seldom examined the relationships between program components and student outcomes.

Search for Exemplary Programs to begin. During 1990, the NCRVE Technical Assistance for Special Populations Program (TASPP) at the University of Illinois will identify, evaluate, and disseminate information concerning exemplary vocational education programs serving students with special needs. To guide this search process, a preliminary framework developed by NCRVE researchers detailing 20 programmatic components will be used to: (a) select model vocational education programs for special needs students; (b) develop technical assistance resources; (c) strengthen inservice and preservice teacher education preparation; and (d) provide a framework for further research, technical assistance, and evaluation.

The selection process to identify exemplar programs throughout the United States will focus on detailed descriptions of the twenty components. Programs receiving outstanding ratings from the TASPP National Task Force will be highlighted in an annual publication developed by TASPP and shared through the NCRVE Materials Distribution Center at Western Illinois University.

Those interested in obtaining an Exemplary Program Application and Guideline form should contact Thomas R. Wermuth, University of Illinois, VOTEC Education, 345 Education Building, 1310 S. Sixth Street, Champaign, IL 61820, (217) 333-0807.

Educational Orientation of Adult and Traditional Students

by Gary Eugene Hinkle, Illinois Central College

Adult learners are an emerging clientele for colleges and universities in this country. Due in part to their open enrollment structure, the nation's community colleges are among the first to experience this influx of nontraditional learners. Many returning students seek to further their education for employment-related reasons and enroll in vocational-technical programs.

This study determined the educational preferences of adult and traditional students in vocational-technical programs in the Illinois community colleges. The goal was to determine if there were differences between the educational orientations of traditional and adult students enrolled in vocational-technical programs that could impact the instructional methodology used in those programs.

Determining the Educational Orientation of Students. An instrument, the Learning Style Preference Questionnaire, determined the educational orientation of students: teacher-directed or self-directed. The instrument was given to 342 students in vocational-technical classes at six different Illinois community colleges. The students were enrolled in one of five instructional programs: Associate Degree Nursing, Electronic Technology, Agriculture Mechanics, Programming, and Automotive Mechanics.

The data revealed that students in vocational-technical programs tended to prefer a teacher-directed approach to instructional methodology. The study identified differences in the educational orientation of students grouped by gender, age and work history. No differences were found among students grouped according to their level of educational attainment.

Adult students prefer teacher-directed approaches. The study concluded that adult students prefer a more teacher-directed style of learning than do traditional students. It further concluded that female students have a stronger preference for this learning style than do male students. Recommendations were made for implementation of these conclusions in community college vocational-technical programs.

For more information about this research study write or call Gary Hinkle, Illinois Central College, Route 24, East Peoria, IL 61635, (309) 694-5011.

Research-Sensitive Practice

by Alison Vincent, University of Illinois

Teaching vocational education in the future is likely to require new skills. This NCRVE project at the University of Illinois is investigating the subject matter and teaching knowledge of vocational educators. Researchers are concerned with the nature of knowledge and teaching practices used in vocational programs as well as with a concept of as research-sensitive practice.

Research-sensitive practice in vocational education consists of the following:

1. Development of new knowledge relevant to vocational education.
2. Systematic inquiry including critical reflection, study of journals and classroom experimentation.
3. Thoughtful inquiry and integration of new knowledge into practice.
4. A focus on how teaching is done as well as the subject matter taught in vocational-technical programs.
5. Empowerment of teachers as understanding of the teaching practice and its context develops.

Vocational teachers in Illinois high schools and community colleges were surveyed during 1989 and case studies are being conducted currently. The findings from this project will strengthen the design and delivery of pre- and in-service vocational teacher education. The research-sensitive practice survey and case studies will be available from NCRVE at the end of 1990.

For more information about this research study, contact Alison Vincent, 42 Education, 1310 S. Sixth Street, Champaign, IL 61820, (217) 333-0807.

Call for Articles

We welcome articles for future publications of *Update*. They should relate to community college vocational-technical education or related programs. Articles in any of the following areas are needed:

- research & evaluation studies
- exemplary or experimental programs
- new and innovative ideas
- leadership/professional development
- workshops, conferences & courses

The deadlines for submitting articles are:

- For the Fall 1990 issue - 8/30/90
- For the Spring 1991 issue - 2/28/91

This is the first issue of a new, semiannual newsletter of the Office of Community College Research and Leadership, College of Education, University of Illinois at Urbana-Champaign. *Update* was prepared pursuant to a grant from the Illinois State Board of Education/Department of Adult, Vocational and Technical Education. Funding was made possible through program improvement funds of the Carl D. Perkins Vocational Education Act.

Forthcoming issues will examine the latest research and newest resources in community college vocational-technical education.

Address all correspondence regarding *Update* to:

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