The concept of a "seamless education" has taken hold of the public imagination in recent years. Changes in the way society views higher education and what it expects from education are forcing colleges to reconsider the way learning is structured and credentials are awarded. Likewise, the importance of education as preparation for work, in particular for the high performance jobs of the future, has taken on new significance as the nation focuses on regaining its global competitiveness. Four national trends identified in the literature summarize the forces of change that underlie the need to examine seamless education and to make it a reality in postsecondary vocational-technical education. The trends are as follows: (1) higher education as a right and a requirement for all and a necessity for the quality of life for individuals and the country; (2) institutional accountability to the public; (3) educational access and social equality, with more "nontraditional" college students; and (4) global competitiveness and work force preparation—leading to integration of academic education and progression from associate degrees to Bachelor's degrees. (KC)
The concept of a "seamless education" has taken hold of the public imagination in recent years. Changes in the way society views higher education and what it expects from education are forcing colleges to reconsider the way learning is structured and credentials are awarded. Likewise, the importance of education as preparation for work, in particular for the high performance jobs of the future, has taken on new significance as the nation focuses on regaining its global competitiveness. The following four national trends identified in the literature summarize the forces of change that underlie the need to examine seamless education and to make it a reality in postsecondary vocational and technical education.

Education and the Quality of Life

Higher education in the United States was originally conceived of as a privilege for a few (the "brightest and the best" - and the wealthiest). Today higher education is seen not only as a right for all citizens but as a requirement for our nation (Bender, 1990). The establishment of community colleges in nearly every state has opened the doors of higher education to millions who would otherwise have been excluded. The public increasingly views education as a system of interdependent and complementary, not competing, institutions (Bender, 1990). What matters to many--if not most--students is the process of continuing study and credentials completion, not necessarily what type of institution they attend. Higher educational opportunities for job/career retraining and advancement at all levels are seen as having a critical impact on the quality of life for individuals and for the country.

Institutional Accountability to the Public

Traditionally colleges have had a high degree of institutional autonomy in both fiscal and curricular matters. Faculty have always played a central role in the control of program content and admission standards (Bender, 1990). The image of the ivory tower protected academia from public scrutiny and criticism in the past. Today there is a clear trend nationally towards increased legislative and other policy-mandated activity representing the public interest, particularly in publicly-funded colleges (Bender, 1990; Knoell, 1990). Higher education is no longer immune to calls for improved quality in education and the national education reform movement, as evidenced in several recent national reports critical of education.

With greater demands on public funds at the state level from all public agencies, and increasing requests for funding higher education growth, legislators are more responsive to taxpayer complaints about the high costs of college education and the perceptions of waste, abuse, duplication, and claims of superiority resulting from the current systems of higher education.
When state-supported colleges do not recognize courses taken at other state-supported colleges and postsecondary technical institutes and thus require students to repeat courses, it extends the time needed to complete a degree. Legislators and taxpayers are strongly questioning the waste of public funds through duplication of effort, as well as the waste of student time and expense (tuition or financial aid) required to complete a college education.

**Educational Access and Social Equality**

The traditional college student has typically been a recent high school graduate, enrolled full-time and living on campus. However, the demographics of college attendance - who goes to college and when - have changed dramatically over the past few decades. The "typical" college student today is often older, employed full- or part-time while attending college part-time, and raising a family. The commuter community colleges have responded to the need for lifelong learning among adults needing job skill training/retraining/upgrading, as well as providing general and liberal arts education typically identified with the first two years of a baccalaureate degree. College students today also are more mobile, relocating for job or family reasons, and dropping in and out of college study as life demands change. The increasing mobility of adult learners makes credit course transfer even more critical to associate and baccalaureate degree completion (Berman et al, 1990).

Access to higher education, including completion of degree programs, has long been seen to be a key to social-economic advancement for members of underrepresented racial and ethnic minorities and economically disadvantaged populations in the United States. Since two-year community-based colleges are key access points to higher education for these groups, barriers to continuing higher education through transfer restrictions raise concerns about social equity and artificial limits on economic opportunity for some citizens (Rendon, 1992). Rendon (1992) points out that community colleges are where minority and low- or medium-income students are concentrated, and that studies show that over 50% of community college students express an intent to transfer. The actual rate of transfer is much lower, resulting in criticism of both two- and four-year colleges for their failure to provide opportunities for ongoing higher education (NCAAT, 1991).

**Global Competitiveness and Workforce Preparation**

Concerns about the impact of educational quality on America's international competitiveness and the need to provide advanced training for high technology/high performance skills and careers have been identified in several national reports (America's Choice: High Skills or Low Wages; Workforce 2000). Recent legislation at the federal and state level (Perkins Act with its focus on Tech Prep, and the School-to-Work Opportunities Act) has moved vocational-technical education to a place of prominence in the public debate on educational reform (Hayward and Benson, 1993). The national trend is toward redefining, expanding and integrating academic and vocational competencies taught in occupational education to better meet workforce needs of the future.

Along with this is a growing demand from associate degree graduates for baccalaureate opportunities (Prager, 1988). The concept of a "terminal" degree (the AAS or AAT degree) is being
reconsidered (NCAAT, 1991), given the increasing rigor of paraprofessional, mid-manager, and technician occupational programs at the postsecondary level. The strengthened academic and occupational competencies taught at the two-year colleges, along with increased demand for high performance technology in many occupations today, has increased pressures for transfer of credits from occupational programs to bachelor's degree programs (Bender, 1990; Prager, 1988).

The distinction between thinking versus doing, which has characterized the distinction between academic versus vocational learning, is being diminished by the realities of a world-class workforce which will demand high skill levels for all workers in the future. For the US to be competitive globally, it will have to reconsider how it structures higher and vocational education (Marshall and Tucker, 1992).

REFERENCES


GDTAE Briefing Papers are prepared by the Occupational Research Group, School of Leadership and Lifelong Learning at the University of Georgia, under contract to Georgia Department of Technical and Adult Education, to summarize emerging issues in the national literature on postsecondary technical education.

CONTRIBUTORS:

Dr. Richard L. Lynch, Director, School of Leadership and Lifelong Learning, University of Georgia

Dr. Dorothy Harnish, Coordinator, Occupational Research Group, University of Georgia

Mr. Teddy G. Brown, Graduate Research Assistant, Occupational Research Group, University of Georgia