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Foreword

The 2006 reauthorization of federal legislation for career and technical education included a requirement that each recipient of funds authorized by this Act must offer at least one program of study (POS). A POS must be designed to link secondary and postsecondary instruction within defined occupational areas, include rigorous academic and technical content that is aligned with challenging academic standards, and lead to the attainment of an industry-recognized credential or an associate or bachelor's degree. This may appear to be a major expansion of the traditional role of career and technical education (CTE), but it actually represents Congressional endorsement of changes that have been occurring in the field for more than 25 years.

I want to thank Dr. Greenan and the Editorial Board of *Career and Technical Education Research* for this special edition of the Journal and the invitation to introduce it. The articles in this edition are based on a publication of the National Research Center for Career and Technical Education, University of Louisville and an independent study of POS in Oklahoma. That Center publication represented the literature review underlying three longitudinal studies examining programs of study that were started at the National Center in 2008. These studies are described in more detail at www.nrccte.org. This issue provides an opportunity to make the findings of that review more available to researchers interested in high school occupational preparation and the transition to postsecondary education and employment.

The emergence of the global economy and the rapid pace of technological innovations during the past quarter century have produced a need for workers who have the skills and flexibility to continually learn and adapt to changing demands. In 1983, the National Commission on Excellence in Education issued *A Nation at Risk* that claimed American schools were not producing students who had the skills needed to compete in this new economy. Regardless of the validity of that claim, it was widely accepted, and from 1983 to today, educators have been pressured to improve the performance of American students.

Tech Prep, career clusters/pathways, and youth apprenticeships were three of the major initiatives within CTE that attempted to respond to these new demands. Each had all the basic components required of POS, with the possible exception of alignment with challenging academic standards. And a shortfall in academics appears to have been their major weakness. In the paper, *Effectiveness of Previous Initiatives Similar to Programs of Study: Tech Prep, Career Pathways, and Youth Apprenticeships*, Morgan Lewis examines the evidence on whether these initiatives achieved their goals. He concludes that, overall, they did not. The best evidence that is available indicates that relatively few of the participants in these programs attained postsecondary credentials or degrees. The major barrier appears to be academic deficiencies that required students who had completed the high school portion to take

developmental courses at the postsecondary level before taking the technical courses that they really wanted to study. Lewis recommends that if programs of study are to achieve their goal, they must place an explicit emphasis on using occupational context to strengthen the academic skills of their students.

Dual and concurrent enrollments that enable high school students to earn college credits also expanded greatly during the past 25 years. Limited initially to high achieving students, these courses became available to more students as a way of increasing both the efficiency and effectiveness of high school education. Taking college-level courses increases the rigor of the high school experience for participants, and the credits earned should reduce the time and cost of postsecondary education. In recent years, the Early College High School Initiative, targeting students who are traditionally unrepresented in postsecondary education, has received extensive support from several foundations. *Dual and Concurrent Enrollment and Transition to Postsecondary Education*, by Morgan Lewis and Laura Overman, reviews the research on CTE students who took dual/concurrent enrollment courses and the effects of these courses on postsecondary experiences. On some outcome measures (initial enrollment, persistence, grade point average) dual enrollment was related to statistically significant, but modest, benefits. On total credits earned, dual enrollment was associated with more meaningful differences, the equivalent of about one semester's total credits, when compared to similar non-dual enrollment students. The difficulty in interpreting these results is the self-selection of students into dual enrollment courses. The research that was reviewed statistically controlled for many of the variables associated with postsecondary enrollment and performance, but there may be other unmeasured influences, such as parental support and encouragement, that also affect the outcomes.

McCharen used archived data on healthcare students in Oklahoma secondary technology centers to explore programs that include many of the elements of programs of study and the extent to which students in these health care programs matriculated to related college programs or obtained related employment. The findings suggest, at best, a modest relationship.

The author concludes that the connection between health career programs at technology centers and colleges may not be well-defined for students and that the current framework for connecting high school students to related postsecondary studies or employment is not adequate for meeting the legislative intent of Perkins IV. The author recommends further research to identify or create models for implementing an effective program of study.

The fourth article in this issue, *State Plans for Implementing Programs of Study*, summarizes the methods states will use to support the implementation of programs of study. This summary is based on a review of the plans that states submitted to the Office of Vocational and Adult Education (OVAE) to qualify for the funds made available by the 2006 Perkins reauthorization. All states plan to provide professional development and technical assistance and to approve local plans. In two-

thirds of the states, local districts will develop their programs of study using criteria and templates provided by the state. In most of the remaining states, the state office responsible for CTE will develop model programs for adoption at the local level. Three-quarters of the states plan to organize their programs of study using the 16 career clusters adopted by OVAE. Virtually all the states plan to use channels they have in place, such as student handbooks, course catalogs, newsletters, and Web sites, to inform students and parents about programs of study.

The final article in this issue, *Growth and Exploration: Career Development Theory and Programs of Study*, by Natalie Kosine looks at programs of study through a career development lens. Virtually all high school students are in the exploratory stage of their careers. During this stage, they are attempting to find a match between their abilities and interests and the demands of occupations. Enrollment in CTE courses is for many, perhaps most, students less a commitment to particular occupational areas than it is an opportunity to determine how well these areas match their expectations and aspirations. Given the realities of career development, it is not likely that large proportions of students will obtain postsecondary certificates or degrees in the occupational areas of the programs of study they entered in high school.

In addition to my appreciation to the Editor and Editorial Board of *Career Technical Education Research* for this special issue, on behalf of the authors, I want to thank the individuals who conducted the anonymous peer reviews. Their careful reviews contributed significantly to improving the focus and clarity of the articles.

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