Chapter 16
The Role of Adult Education in Online Delivery of Career and Technical Education

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ABSTRACT
As online education continues to grow, there is a consensus that online courses and programs should be designed based on the needs of adult learners. This premise is also relevant to growing career and technical education (CTE) programs offered online. However, much of the literature in online CTE lacks implicit connections to emerging notions of adult development and learning. This article provides an overview of the status of online education in CTE offered in higher education, and discusses adult learning development as a means to inform curriculum design and instruction. The article concludes with an outline of emerging trends bridging adult learning and online education relevant to career and technical education.

INTRODUCTION
For years, the rise of online education was seen as another fad that would eventually fade away like many other non-traditional instructional methods. Online education was largely spearheaded by proprietary colleges set to deliver educational programs for a small market of working adults interested in further education largely ignored by traditional institutions in higher education (Washburn, 2005). As online programs became more prominent in the 1990s, they were often derided as diploma mills and traditional universities were cautious in embracing this delivery system (Johnson, 2006). However, with information technology serving as the catalyst for anytime-anywhere access, the growth of online education has been dramatic in the last decade. This time, mainstream higher education is paying attention and is also vying for a share of the growing enrollments in online courses and degree programs (Johnson, 2006).

Presently, practically all institutions of higher education offer online education opportunities to
meet the demand from students seeking alternatives to traditional classroom instruction (Allen & Seaman, 2008). Career and technical education (CTE) is no exception to this trend as the field has experienced similar growth at the undergraduate and graduate education level including doctoral programs (Flowers & Baltzer, 2006b; Havice & Havice, 2005). However, as online education continues to grow, there are lingering concerns about the quality of curriculum and instruction, student experiences, and use of technology (Hernández, Kirby, & McGee, 2004; Flowers, 2001; Kim & Bonk, 2006). Furthermore, although the adult population is the target audience for CTE in teacher preparation and graduate degree programs, there is limited literature examining the connections to adult development and learning principles. Much of the literature focuses on demand for online education, related curriculum and program development, and perceptions about quality and barriers and opportunities for adoption (Flowers, 2005; Flowers & Baltzer, 2006b; Schmidt & Gallegos, 2001). As such, there is a need for an examination of adult learning principles in the context of online education and the implications for curriculum development, teaching, and use of technology (Ausburn & Brown, 2006; Wonacott, 2002). To this end, the objectives of this article are to review the status of online education with an emphasis in career and technical education, highlight adult learning developments with potential to inform curriculum design and instruction, and outline emerging trends in online delivery relevant to teaching adult learners in higher education.

BACKGROUND

Distance education encompasses a wide array of formal and informal strategies bridging physical separation between instructors and students (King, 2008). Online education represents a formal asynchronous instructional system offered by educational institutions through courses and entire programs. Online education is characterized by the use of communication networks building upon varying combinations of online technology such as the Internet, electronic libraries, web-based conferencing, virtual discussions, and e-mail communication. Typically, the delivery of online education is organized through a web-based management system (e.g., Blackboard, WebCT) with many variations in delivery and support services depending on institutional resources and the nature of individual courses (e.g., size of student enrollment) (Aragon, 2003; Conrad, 2008; Paloff & Pratt, 2001).

Formal online education opportunities for adults are offered in higher education, often referred to as post-secondary or tertiary education. Although the term “higher education” is often associated with universities and colleges, it also includes formal programs leading to credentialing at community colleges as well as baccalaureate and graduate degrees granted by private and public universities (Clark, 1983). In higher education, CTE contributes with programs and services designed to help adult students promote their career development and transition into specific occupations or further education. Informal programs are also available in community and corporate settings for technical training and re-training purposes. Teacher preparation programs and opportunities for professional advancement through master’s degrees and doctoral programs are available at universities, while technical preparation and entry-level occupational credentialing are offered at two-year colleges (Hernández-Gantes & Blank, 2009; Johnson & Benson, 2003). Thus, the focus of this article is on reviewing issues relevant to teaching adult learners in online CTE programs in higher education.

CURRENT ISSUES

As online education continues to grow, it is important to review online learning trends and