Chapter 8
Educating IT Professionals Using Effective Online, Pedagogical, and Scheduling Techniques

Jeffrey Hsu
Fairleigh Dickinson University, USA

Karin Hamilton
Fairleigh Dickinson University, USA

John Wang
Montclair State University, USA

ABSTRACT

Information technology professionals comprise an important segment of adult learners seeking a four-year undergraduate degree, and it is important to provide programs that address not only the conceptual and theoretical, but also adult learning needs in terms of career orientation and practicality together with providing real-life applications relevant to the needs of the IT job marketplace. The techniques of employing distance learning, providing modular and practical learning segments, emphasizing adult-oriented learning preferences, engaging users toward learning, and providing appropriate course schedules and sequencing are discussed in the context of an actual adult learner program. This program integrates job and career-oriented needs with that of a well-rounded business education. Examples and illustrations are provided to illustrate how an adult-oriented program was customized to provide needs important to adult learners and IT professionals, with the objective of producing superior and useful learning results.

INTRODUCTION

An evolution in the roles and responsibilities of today's Information Technology (IT) professionals is occurring as employers increasingly view IT as a vehicle to help create a competitive edge in the markets they serve. Companies are looking to their IT professionals to support the development and implementation of strategic initiatives in areas including, but not limited to productivity improvements, streamlining supply chains, aligning and integrating information to create knowledge systems and securing proprietary and increasingly integrated systems (Applegate, Austin, & Soule, 2009; Porter & Millar, 1985). Innovations in computing hardware, software, and networks

will further impact the types of expertise needed by companies as new technologies are brought into the market (Koong, Liu, & Liu, 2008). For example, job opportunities for professionals in technical support, network systems and database development as a percentage of total IT employment are growing, with positions in programming slightly decreasing (Information Technology Association of America, 2004).

Technically-skilled individuals, who possess practical skills and are familiar with the intricacies of hardware and software systems, are still highly valued by today's employers. In fact, one critical area of study concerns what kinds of skills are desired and sought after, but are less frequently found among IT professionals, sometimes referred to as the IS/IT skills gap (Kim, Hsu, & Stern, 2006). However, formal education and training are increasingly being viewed by employers as equally important. "Across all NWCET job categories, hiring managers see the combination of previous experience in a related field (46 percent) and a four-year college degree in a related field (41 percent) as the most important preparation for job obtainment" (Information Technology Association of America, 2004). Therefore, knowing which skills are crucial for IT professionals is a critical issue in research literature (Colomo et al., 2010; Trigo et al., 2010), whether coming from formal education or from previous technical training or work experience.

The likely rationale underlying this thinking is that many technically-savvy individuals without a four-year degree are more likely to be self-taught, or have obtained technical job skills through training and/or certification programs, or from on the job experience. As a result, there is likelihood that they typically would lack the overall background and theoretical knowledge base to approach business-oriented and more managerial tasks both holistically and from viewpoint of end users and the organization as a whole. The knowledge gained in a degree program can thereby help to elevate the perspective and critical thinking skills

of technically-skilled individuals beyond solving narrowly defined problems, towards developing the ability to manage more long-term, integrated, and sustainable problems and solutions.

In fact, the need for a formal baccalaureate four-year education in the 21st century goes beyond that of tech-savvy individuals and IT professionals, to encompass a much broader set of students. Beyond traditional secondary and "vocational" schools" the demographics of today's undergraduate population now extend to include older adult students; homemakers returning to the workplace; previously retired persons who desire a second career; and those who desire a career change or have been moved toward change to meet the demand for updated skills in the workplace (National Center for Educational Statistics, 2002).

Most undergraduate university programs are designed to meet the learning preferences and scheduling needs of young, "traditional" high school graduate age students pursuing degrees in preparation for a future career. Adult students, however, pursue degrees for different reasons than their counterparts.

Consequently, educational programs, as well as the tools, curricula, and services designed to address educational needs, should similarly evolve to be appropriate and useful to the new populations they intend to serve. Beyond learning specific skills to complete a job, educational knowledge should be delivered so as to enable adult students to master the problem-solving and critical-thinking skills required of workers in the global economy. This is especially important for IT professionals, who, given the rate of change and the complexities of computing technologies, may focus more on technical skills development, rather than broader goals and abilities required for supervisory or managerial tasks (Information Technology Association of America, 2004).

A study of the means by which university programs can be made more suitable for adults in these areas is the objective of this paper. The intent is to provide ideas and examples of focused

16 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage: www.igi-global.com/chapter/educating-professionals-using-effective-online/64090

Related Content

Project Managers' Competence Identification
Heli Aramo-Immonen, Andrea Bikfalvi, Núria Manceboand Hannu Vanharanta (2011). *International Journal of Human Capital and Information Technology Professionals (pp. 33-47).*
www.irma-international.org/article/project-managers-competence-identification/51356

Coordinating Meaning and Joint Identity: Cultivating Leadership and Cross-Cultural Communication in a Divided Community
Samuel Peleg (2015). *Cross-Cultural Collaboration and Leadership in Modern Organizations (pp. 13-34).*
www.irma-international.org/chapter/coordinating-meaning-and-joint-identity/132615

Recruiting, Selecting and Motivating Human Resources-: Methodological Analysis and Case Studies Applications
Konstantinos C. Zapounidisand Glykeria Kalfakakou (2010). *International Journal of Human Capital and Information Technology Professionals (pp. 19-35).*
www.irma-international.org/article/recruiting-selecting-motivating-human-resources/43887

Understanding the Self-Efficacy of Data Scientists
Alamir Costa Louro, Marcelo Moll Brandãoand Larissa Alves Sincorá (2020). *International Journal of Human Capital and Information Technology Professionals (pp. 50-63).*
www.irma-international.org/article/understanding-the-self-efficacy-of-data-scientists/249144

Interaction of Knowledge Spirals to Create Ontologies for An Institutional Repository of Educational Innovation Best Practices
María Luisa Sein-Echaluce, Ana Rosa Abadía-Valle, Concepción Bueno-Garcíaand Ángel Fidalgo-Blanco (2017). *International Journal of Human Capital and Information Technology Professionals (pp. 72-92).*
www.irma-international.org/article/interaction-of-knowledge-spirals-to-create-ontologies-for-an-institutional-repository-of-educational-innovation-best-practices/176597