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## LITERATURE REVIEW (TBE 540)

### *(Effectiveness of Web-Based Instruction for adult learners)*

Information technology is influencing continuing education for K-12 administrators and in-service teachers, especially with regard to asynchronous education for professional development. Implementation of instructional technology applications has required a major restructuring of the learning environment. The restructuring has included the use of computer software applications to introduce new pedagogies; enhanced electronic communications; multimedia and video graphics; wireless and mobile technology; and importantly, Internet-based education. This is causing faculty to make changes in their teaching approach to afford opportunities beyond the traditional classroom in a unique and accessible way. This case study reveals that the implementation of online technology-based curriculum not only fosters learning but offers a multifaceted experience for administrators and teachers to capitalize upon professional development opportunities (**Carr & Vivienne, 2010**). Current endeavors to integrate competency-based learning approaches with e-learning systems designed for delivery of training to adult learners in the workplace are growing. However, academic efforts in examining learners' perceptions of, and reactions toward, this technology-delivered pedagogical innovation are limited. Drawing together perspectives from the literature on training and instructional design and technology acceptance, this research proposed a conceptual model to examine the influences of perceived individual and social learning support on employees' acceptance of competency-based e-learning systems. Structural equation modeling and multi-group structural equation modeling techniques were applied to sample data collected from work settings in Mainland China. The results show the positive effects of perceived individual learning support and perceived support for promoting a norm of cooperation on employees' intention to use the competency-based e-learning system. It was also found that perceived support for enhancing social ties had a negative effect on employees' behavioral intention. The gender, age, prior experience, and work experience differences in the main effects were also investigated. Besides, qualitative data collected via semi-structured in-depth interview provide complementary evidence to the findings (**Cheng, Wang & Yang, 2011**). The study sought to assist higher education administrators in investment decisions on distance education programs among its schools. The focus of the study was to determine differences in schools within public 4-year universities in the use of *technology-based distance education (TBDE)*. Specifically, the study examined the differences with respect to interest, knowledge, administration, extension or enhancement; as well as a perceived impact on self, students, and interdisciplinary activities. The results revealed that a greater proportion of nursing faculty taught using TBDE than faculty of other schools. The nursing and education faculty showed greater TBDE interest, enhancement, and concern for its impact on students and faculty collaboration, than the faculty of the other schools. The findings reflect the characteristics of groups predisposed to the use of TBDE in *instruction*, i.e., educators inclined to use the facilitative approach in *instruction*, who have a great need to increase the number of their graduates in the field; and who tend to have *adult-learners* as students. The faculty of the schools of nursing and to a lesser extent the faculty of the schools of education fit this profile (**Ansah, Neill and Newton, 2011**). Increasing numbers of *adults* are pursuing higher education. The demand exists, to some measure, on changing demographics, rapid advancements in *technology*, global interconnectiveness, and more recently, a global economic downturn. Thus, there is a far greater need today for *adults* to acquire new skills or to be re-trained. Because of this, increasing numbers of higher education programs have begun to focus on the needs of the *adult learner*. This study was developed to explore how *adult learners* at a two-year technical institution perceive *instruction* and how their perceptions contribute to their overall academic success. The research on andragogy confirms that the methods of *instruction* are important to meeting the needs of *adult learners* and their success. The researcher gathered information on how students based their perceptions of *instructional strategies*, and how these perceptions factored in the students' academic success. The underlying goal was to provide information about how *adult learners* at this

two-year technical institution perceived their *instruction* as being significant to their needs and academic success. A quantitative approach was used in this study, administered to students during a one-week period enrolled at this two-year institution. The data gathered were analyzed using descriptive statistics such as means and standard deviations. The study resulted in a clear picture of how student perceptions of *instructional* strategies are connected to academic success (**Clerk, 2010**). *Adult* learners often face barriers to participation in traditional classroom *instruction*. As *technology* access grows and *adults* naturally incorporate *technology* into their daily lives, *adult* education programs are finding innovative ways to blend *technology* with *instruction* through quality online learning opportunities. This article highlights the tips, strategies, and best practices learned from the deployment of GED-i, a nationally recognized online GED test preparation curriculum developed at the Center for the Application of Information Technologies at Western Illinois University. However, the procedures presented are applicable to all online/distance learning options and are based on solid administrative leadership strategies such as determining benchmarks, establishing and communicating clear processes and procedures, and setting professional development goals (**Olesen-Tracey, 2010**). This article describes a research-based approach for developing new *instructional technologies* for higher education. The argument is made that the most common *instructional* methods used by faculty and educational *technology* in colleges and universities are based on *adult* learning theories that have not been supported in the past half-century of research. A four-stage process is offered to guide the analysis of research on *adult* learning and motivation in order to increase the effectiveness of classroom, lecture hall and media delivered higher education *instruction*. The process emphasizes the identification and application of the "active ingredients" of effective *instructional* methods and a strategy for translating active ingredients into the most effective *instructional technologies* for diverse higher education organizational and individual cultural orientations (**Clark, 2009**). The Internet provides a powerful delivery system for learning. With improvements in *web-based* applications and information *technology* come new opportunities and challenges for educators to design, develop, and deliver effective *instruction*. Over the past few years, an increasing amount of research has been devoted to the design of online learning communities that embrace learning as a social and constructive process. As online learning matures, it is important for both theorists and practitioners to understand how to apply new and emerging educational practices and *technologies* that foster a sense of community and optimize the online learning environment. To accomplish this goal, it is critical that researchers continue testing *instructional-design* theories and models in different online contexts and either build upon those theories and models or develop new ones that will provide appropriate and relevant guidance. This article proposes an *instructional-design* theory that supports a sense of community. The theory may also serve as the basis for further development of specific *instructional* design prescriptions for how to use some of the new and emerging *web* tools that are available in the Read/Write Web such as blogs, wikis, podcasts, and virtual worlds, to create a sense of community among *adult* learners. This theory originates from formative research conducted to design an online learning community for older *adults* in non-academic settings. In this article, situations that describe when a particular method works best were added to suggest how this theory might apply to *adults* enrolled in online graduate programs (**Syder, 2009**). The purpose of this article is to highlight the results of the online Delphi research project; in particular the procedures used to establish an online and innovative process of content validation and obtaining "rich" and descriptive information using the internet and current e-learning *technologies*. The online Delphi was proven to be an excellent tool in establishing content validity for an HRD-related construct, e.g. *adult* learning principles. A review of related literature revealed no existing research that used a *web-based* Delphi technique to validate measurements used in training and development (T&D) or HRD.

Design/methodology/approach: Research methods included: a thorough review of the literature to construct an item pool of *adult* learning principles and *instructional* methods, and a Delphi expert panel consensus. The mean, mode, standard deviation, interquartile range, and skewness of the data were calculated from the voting procedures for determination of consensus. Evidence of reliability was indicated by the inter-rater reliability coefficient from a field test. In addition, the Gunning FOG Index for readability was calculated to improve the readability of the instrument. Findings: To address the first research question the authors suggest that a valid instrument can be developed by a diverse Delphi expert panel that measures the

application of *adult* learning principles to fully-mediated world wide *web-based* training. The second research question was answered by illustrating that the internet can assist a group of diverse and geographically dispersed subject-matter experts in establishing a content valid measurement of *instructional* methods and techniques that demonstrate the application of *adult* learning principles to fully-mediated *web-based* training. And, finally, the paper concludes that a Delphi process can be established as a *web-based* method to validate research measures. Practical implications: This research helps to address the critical issue of how research is used in practice. Reasons why this research lends itself more to practice than other HRD research using more common qualitative or quantitative methods include: it is a relatively simple procedure requiring less than expert-level skills; the Delphi uses expert opinion that is commonly used in training and development practice; and results are easy to interpret and practical. Originality/value: This research is unique in its approach to developing a content valid instrument using state-of-the-art *technology* coupled with a updated Delphi method. It is valuable to HRD and other professionals and researchers interested in developing valid measures across cultures and where experts are geographically dispersed (**Hatcher & Colton, 2007**). The landscape of education was permanently changed with the onset of online (*web-based*) distance education. As the number of participants in online education increases, providing effective *instruction* that focuses on the needs of *adult* learners is paramount. While the idea of taking a standard course curriculum and using a different vehicle to facilitate learning seems like a logical and somewhat uncomplicated initiative, teaching and learning online takes more than a mere shift in modalities. To create effective online learning, curriculum objectives must be solid, course activities must be value laden, and the main focus of the educational experience must be the students. These outcomes are difficult to achieve without proper planning. Distance education plans offer a vehicle *for* creating, maintaining, and sustaining a successful online learning experience. This article provides the 6 components of distance education plans *for* a 16-week freshman English class. These include assessment, guidance, building community, communication, humanizing, and evaluation. (**Du-Charme-Hansen & Dupin-Bryant, 2005**). *Web-based instructional systems and cognitive style, students' perceptions of the scientific collaborator system and their social interaction learning style preferences, approaches to studying and perceptions of academic quality in a short Web-based course, Web-based learning interaction and learning styles, individual differences in learning entrepreneurship and their implications for Web-based instruction in e-business and e-commerce, self-reported involvement in Internet supported dishonest academic practices, Web sites as educational motivators for adults with learning disabilities, adaptive navigation support in educational hypermedia, the design and evaluation of a prototype for learning modules compliant to the Sharable Content Object Reference Model (SCORM) standard, and a design rationale and guidelines for adaptive Web-based learning systems that use individual differences as a basis of system's adaptation. An introduction to the special issue is also provided (Chen & Paul, 2003). A special issue on online learning and information technology in the Asia-Pacific region. The articles discuss South Korea's attempts to introduce online education for adults; Hong Kong's move toward online learning; China's attempts to develop online education; recent developments in online learning in Taiwan; the implementation of information and communications technology in education and online learning in Japan; the Singapore Ministry of Education's efforts to establish IT infrastructure, equipment, and resources in all Singapore schools; a case study of staff and student experiences at the purpose-built flexible learning campus of Griffith University—the Logan Campus in Australia; online learning at the University of Guam; and online learning at Massey University in New Zealand (Hung & Chen, 2003). Part of a special issue on online learning and information technology in the Asia-Pacific region. South Korea's attempts to introduce online education for adults are outlined. South Korea's three attempts to develop and implement online education for university students and adult learners involved the development of single-mode virtual universities, online education in conventional universities, and Web-based virtual corporate training. The country's experiences with online education highlight the need to adopt a systems approach in instructional design, establish a quality management system, develop organized training programs, implement cost-saving policies, implement open policies, improve accessibility, and consider factors affecting the effective use of information and communications technology for adult learning (Jung, 2003).*

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