How Technology Benefits Andragogy

"The Art and Science of Helping Adults Learn"

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Every aspect of modern life is affected by technology – from employment to communication to education. People must be able to use technology effectively to be successful in a society distinguished by the rapid development of new modes of information and means of communication. Technology pervades our society and we have become increasingly dependent on it, but it also has an important role as a means to support and enhance learning. This is significant reason to provide adults the chance to use technology as part of their educational endeavors, as it can have immense benefits in meeting the unique needs and learning styles of adult learners.

As unique individuals our ways of thinking and methods of comprehending information differ, and these differences present themselves as learning styles (Ouellette, 2000). Learning styles relate to inherent ways of organizing and representing information, and they consist of both cognitive styles and learning strategies. Differences in learning styles are suggested as the reason for individual differences in learning that are not explained by intelligence or by characteristics such as ability and personality (Harrison, et al, 2003). Therefore, learning styles can be described as the different ways in which people think and learn, and these traits form the unique learning preferences of each student.

The study of learning styles centers on the "interaction between learner characteristics, the nature of the task, and the learning environment" (Harrison, 2003, p. 44), and research has led to different theories about types of learning styles. According

to Gardner's theory of multiple intelligences, people acquire knowledge in different ways. While we have competencies in each of the intelligences (visual/spatial, logical/mathematical, kinesthetic, verbal/linguistic, musical, interpersonal, intrapersonal, and naturalistic), we are dominant in only one (Smith, 1999). The theory of multiple intelligences proposes that there are different pathways to learning; this is relevant to adult education since it emphasizes that intelligence doesn't consist of one single element, but rather a group of unique abilities that are acquired and developed through experience (Ouellette, 2000). Because different people learn in different ways, the individual learning needs of each student (be it child or adult) differ significantly and no single teaching method will work effectively for all learners.

Learning styles have a large impact on the ability to learn effectively, and appropriate instructional materials and methods of delivery should be incorporated into learning situations to address the needs of each student. It is therefore essential that instructional activities appeal to different types of intelligences and technological tools be provided to accommodate the diverse learning styles that are brought into the academic environment. However, in order to effectively design courses specifically for adult students it is necessary to understand how adults learn and how their needs differ from those of children.

Malcolm Knowles theorized that adults have distinct learning characteristics,

and he attempted to differentiate the way adults learn from the way children learn. He used the term andragogy to describe "the art and science of helping adults to learn" (Smith, 1999). Andragogy assumes certain things about how adults learn: they need to know why they need to learn something, they learn from experience, learning is synonymous with problem-solving, and significant learning occurs when the subject is of immediate value and importance to them (Merriam, 2001). Understanding these assumptions is essential to the design of effective learning environments for adults.

When considering adult learning theory it becomes apparent that adults usually attend classes or training sessions wanting to learn and that they already have beliefs about what they are capable of learning (Merriam, 2001). This readiness to learn evolves out of their life experiences; something has evoked an interest in them (be it personal or professional) and with technology their goals can be met. The interest is not always in the technology itself, but in the content that is made available by the technology. However, technology enables adults to learn not only the subject being studied, but about technology itself. When technology is used as an instructional tool, such as online courses available through UT's Office of Information Technology [1], learners can more readily transfer the technology skills used to other settings (Imel, 1999).

Adult learning will not occur unless they are motivated and ready (Smith,

[1] http://oit.utk.edu/cbt/

1999). They understand that their actions have consequences, and that knowledge is necessary to make decisions and grow. This is why adults typically want to know the specific reason that they need to learn something, why it is important, and how it will benefit them. Even before technology is engaged, it is important that adult learners understand how what they will learn will be useful to them. These students are independent and self-directed, and their life experiences have led them to be goal-oriented (Smith, 1999). Because of these reasons, instruction for adults must place high emphasis on the learning process – possibly just as much as the content being taught. Because learning must be meaningful from the adult learner's viewpoint, the design of technology-based instruction is more effective when the principles of adult learning theory are applied.

Adults seek information and knowledge that is relevant to their immediate needs (Merriam, 2001) and most are aware that further education is a great benefit; however, many do not have the time or energy to become involved in a traditional education system. Because of this it is natural that educators look to technology, namely the internet, for increased learning opportunities. This is a benefit of distance education, which is most successful when the students have a clear and significant need for continued learning and have no other interactive access – qualities of many adults who work full-time. In this respect technology doesn't just contribute to the educational process, it

changes it by making new avenues available for meeting goals. Technology can accommodate differences in learning as well as provide access to opportunities in continuing education that might otherwise be unavailable.

Adult learners are both internally motivated and self-directed (Smith, 1999), and the internet can be a powerful tool for self-directed learning. It opens the world to the learner and provides an atmosphere of control that is desirable to adults' unique learning needs. They can choose the subject matter, level of difficulty, time, place, and even the cost. Adults are self-directed learners and they take responsibility for their own educational decisions (Smith, 1999). The nearly unlimited subject material available online allows the them a choice and results in the opportunity to be more self-directed in their selection. They can choose courses that are of value to them, which is important considering that personal meaning and relevancy are key elements in adult learning theory. With all these benefits, using technology and the internet as mediums for instruction delivery enhances learning and meets the needs of adult learners.

Internet use in adult education supports self-paced learning and the possibilities of interactive multimedia instruction are limitless. Though the goal in education is to engage (not merely entertain) the learner, it has been noted that learning is reinforced when the content is presented through both text and graphics (Foreman, 2003) and multimedia tools provide the capacity to do this. Instructional strategies that incorporate multimedia technology and the world wide web can provide a wide range of

activities to accommodate different learning styles and facilitate learning in each intelligence area. The internet can provide stimulating material to heighten the learning experience for all types of learners by using graphics (visual learners), sound (auditory learners), video clips (visual and auditory), and active exploration of virtual environments (tactile learners). By working with the world of information that is available via the internet and technology the unique learning style of each student can be accounted for.

Technology is an integral part of modern life and it makes sense to prepare learners to use it effectively. It has great potential to enhance adult learning, and is rapidly emerging as "both a delivery system and a content area" (Imel, 1999, p. 2). Appropriate use of technology in the learning environment enhances the teaching of content and enables the learner to gain higher skills that are essential in our increasingly technology-dependent society. When integrating technology, educators must be sure to remember the needs of all learners. The goal of using technology in any educational setting is to increase and enhance learning, and being aware of the learning styles and unique learning needs of adults contributes positively to the design and implementation of technology in adult education programs.

References

Foreman, C. (2003). Eleven Common Sense Learning Principles. *T+D Magazine (American Society for Training & Development)*, 57(9), 39-46.

Harrison, G., Andrews, J. & Sakofske, D. (2003). Current Perspectives on Cognitive Styles. *Education Canada*, 43(2), 44- 47.

Imel, S. (1999). New Views of Adult Learning. *ERIC Clearinghouse on Adult, Career, and Vocational Education Digest*, No. 197, 2-5.

Merriam, S. (2001). Andragogy and Self-Directed Learning: Pillars of Adult Learning Theory. *New Directions for Adult and Continuing Education*, 89(Spring), 3-13.

Ouellette, R. (2000) Learning Styles in Adult Education. Online Publication. University of Maryland http://polaris.umuc.edu

Smith, M.K. (1999). Andragogy. The Encyclopedia of Informal Education. http://www.infed.org/lifelonglearning/b-andra.htm