INTEGRATING ADULT LEARNING PRINCIPLES IN WEB BASED OPEN LEARNING

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Abstract: It is evident that one of the driving forces towards a learning society resides in the role and power of information and communication technology. While the power and potential of technology is clear, the challenges lie in using technology wisely to advance the lifelong skills. The educational arena of web based learning is still in its infancy. While there are many institutions that are offering web based courses for adult learners, an in-depth understanding of the pedagogical issues related to integrating adult learning in web still remains an unexplored frontier. While literature provides some evidence of the effectiveness of using web based open learning, little is known about which learning strategies should be used to integrate adult learning principle in web to make it useful, interesting and exciting.

INTRODUCTION

A number of underlying social, economic, and technological forces are coming together to escalate the demand for lifelong learning and training. The present era demands retraining of workers at least five times in their working life. Changes in technology demands new ways of working, new business processes and new ways of delivering education. One of the options to meet the demand for life long learning while providing a range of open & flexible choices is online education. During the past few years, the world witnessed a phenomenal growth in communication technology, computer network and information technology. With the development of new broadband communication services, convergence of telecommunication with computers, recent developments in the field of communication protocol (Internet & WWW) have fostered numerous proposals for the uses of these tools for open & flexible learning (OFL). The technology evolution from distributed to interactive, and then to collaborative has offered unprecedented opportunities to implement enhanced form of open and flexible learning (OFL), anytime & anywhere in collaborative environment. OFL has played a significant role in the transformation of universities to places of lifelong learning. Information technologies are playing a key role in this expansion. However, the use of information technology does not necessarily equate with open & flexible learning, and it is a common misconception to confuse technology as being the end product rather than means of delivery.

Developing a web based open learning material requires more than an understanding of hard technology i.e. bit & bytes, electronics & satellites, CGI, search engine or HTML. What we need to understand is the soft aspect of the technology that provides a conceptual framework to develop courses in web for life long learning. Designing effective web based training requires knowledge of the unique characteristics of adult learners and understanding of the facilitator's role. It is easy to lose sight of the importance of the principles of adult education when caught up in the necessary tools and technology inherent in web. Present paper discusses the different dimensions of adult

learning and highlights the importance of integrating adult learning principle in web based open learning to make it relevant, useful and exciting.

OPEN LEARNING AND WEB

Open learning is the term internationally accepted to apply to learning where learners have some choices as to what and when and where and how the learning takes place. Open learning is not a specific mode or way of delivering education, it is a philosophy about how education can be delivered in an open way. It is primarily a goal or an educational policy. The provision of learning in a flexible manner, built around the geographical, social and time constraints of individual learners, rather than those an educational institution. Bates (1995). Open learning philosophy focuses upon two major ideals:

>**The access ideals:** Where access refers to the reduction or elimination of any thing that stands between the prospective learners and the learning environment, it may be time, place or others

>**The learner centered ideal:** Where learner centered ideal refers to the provision of learning opportunities to the individual learners by providing control over the pace and style of their learning. It enables learners to have greater independence and control over the learning process.

Open learning approaches in education and training offer increased opportunities for people to learn over lifetime. One way of explaining the philosophy of open learning is the extent to which flexibility of options and choices (content, place, time, and pace of study) are provided for the learner. With the convergence of computer and communications technology through the World Wide Web, we now have the capacity to offer enhanced forms of flexibility. The capacity of the web to hyperlink and layer information, provide interactivity and support multimedia formats makes it a valuable and exciting tool which can used to develop, deliver and manage flexible learning programs at any time and anywhere. At its simplest the Web can be used to co-ordinate and manage learning and act as a point of communication for staff and students. At its most sophisticated it can be an online or offline virtual learning environment that facilitates the entire educational process. Information technology has made it possible to implement OFL program at its fullest extent. However, the use of information technology does not necessarily equate with open & flexible learning, and it is a common misconception to confuse technology as being the end product rather than means of delivery. Designing effective web based OFL materials for life long learners requires to know about adult learners particularly their characteristics, context and needs. This will help to shape the materials in complexity, amount, details, breadth and relationship.

ADULT LEARNERS ARE VARIED

The term adult learners represent a wide spectrum of mature learners. This includes but not limited to single mothers, middle aged man seeking a change in career, women returning to the workforce after having spent years caring for their children and families, persons who did not have the opportunity to attend college between the ages of 18 to 22 due to financial limitations, but also worker at large need training for change in technology. In as much as each of these learners has different circumstances associated with becoming an adult learner, they do share a common set of needs and expectations from the educational experience and environment. It is now becoming

imperative to understand the unique characteristics of adult learners to design effective and appropriate web based on-line courses.

ADULT LEARNERS ARE UNIQUE

Adult learners are people who come to us with their unique backgrounds, personal experiences, conceptual understanding and approaches to learning under personal circumstances. Authors such as Knowles (1998), Brookfield (1990), has described the special characteristics of adult learners. Adult learners bring a wealth of real-life experience to training that can be a resource for learning and they are motivated to learn as a response to problems in their lives. They prefer to learn at their own pace, own time, and own place and often around fellow learners. They like to manage and control of their own learning. **.** So adult learners prefer to have

- ❖ Problem-based learning
- ❖ Real-life experience
- ❖ Active learning
- ❖ Varied learning styles
- ❖ Meaningful learning
- ❖ Action oriented learning
- ❖ Self directed learning
- ❖ Autonomous learning

PROGRAM DESIGN AND WEB

The primary epistemology, which guided the design and development of the web course for adult learners, is constructivism. According to the constructivist, learners construct different cognitive structures based upon their previous knowledge and what they experience in different learning verses.

It is believed that constructing knowledge requires teaching and learning strategies and an environment, which present learners with knowledge building structures. There are three distinct viewpoints of the constructivist epistemology: a personalistic view, the social point of view and academic modes of knowing . Each of these views provides important frameworks, Merickel (1997), for the design and development of on-line courses. The personalistic view focuses on the students and their interaction. It focuses on the individual personality within the context and assist individuals in understanding themselves and their relationship to the world. The social point of view centers on the students constructing knowledge together. This framework establishes that knowledge building is based on the social processes provided by the context. The academic modes of knowing, also known as the academic inquiry view, centers on the academic disciplines. This view poses that the function of schooling is to provide students with the academic tool set to assist them with constructing knowledge. Information processing theory provided a good framework for the use of academic tool set. In constructivism, learning is seen as a constructive process in which learners have an active role and learning is based on their cognitive functioning. The learners obtain new knowledge by constructing it on the basis of their earlier knowledge, upon their active functioning in continuos interaction with the surrounding reality, and from other learners.

Developing problem-solving and critical thinking skills are essential components for adult learning. PBL is a critical –thinking process whereby learners utilize systematic approach in isolating root causes of problems, which lead to corrective action. Researchers such as Davis (1992) and Perkins (1986) have championed instructional techniques that address student's divergent or creative thinking. WWW has provided a large array of tools and environment to implement instructional techniques that address the students divergent or creative thinking. Web browsing software now exist to explore and search, find pattern and relationship, rank ideas, view results and send findings to peers and instructor. Apparently, the Web is an ideal tool to nurture the students willingness to take risks, commitment to task, curiosity, openness to experience, broad interest, originality, imaginative play, intuition, attraction to novelty, artistic ability, metaphorical thinking, problem finding, elaboration of ideas and breaking away from the norm - all of which are attributes of creative people, Davis (1992), Young (1985). The anonymity of pen names and pseudo roles during electronic discussions encourages student idea experimentation and risk taking disclosure, Harasim et al. (1995). Some of the suggested techniques for web to enhance creativity in electronic environment are:

- ➢ Brain storming & Reverse brain storming : Focus on Idea generation
- ➢ Assigning thinking roles : Anyone in the roundtable is assigned a role
- ➢ Creative writings: One starts writing, another expands the idea.
- ➢ Just suppose you are education minister- what will be your priority?
- ➢ Idea-spurring questions: Suggestions to modify & improve.
- ➢ Semantic webbing: Give a word in the middle of semantic map, suggest attributes related to the concept.
- ➢ Simulation & Role-play: Role playing in simulated environment.

It has been observed that discussion and interaction under asynchronous conferencing in different time & different place tend to be more extended and engaging for the learners than traditional environment. Learners can reflect their opinion in much relaxed way and their own convenient time, which creates a congenial environment for creative reflection.

CRITICAL THINKING ON THE WEB

Critical thinking is reasonable, reflective thinking that focuses on deciding what to believe or do. Learners learn to look at a concept or phenomena aware of their own biases and approach the situation objectively and logically. Creative thinking on the other hand is the ability to form new combination of ideas to fulfill a need or to understand a specific natural occurrence. Despite extensive divergent thinking avenues, enhancing critical thinking pathways may be an equally strong dimension of the web. Some of the emergent ideas on critical thinking in web are:

- ➢ Graphic Organizer: Emphasizing on spatial representation like model, Venn diagram etc. It facilitates critical thinking by helping learner to sort out the hierarchy and logical flow of ideas.
- ➢ Ranking Methods: To rank and categorize brainstorming ideas in web.
- ➢ Reflection: Writing, to think, activities for reflection and critical evaluation.
- ➢ Mock trial & debate: Encourage to come-up with arguments.
- ➢ Case-Based Reasoning: Case study and comments

Any activity which encompasses search for cause and effect, find pattern and relationships, rank ideas, develop timeliness, build taxonomies is a worthwhile exercise of critical thought, Bonk & Reynolds (1997). In web, there are plenty of opportunities to enhance cause and effect relationship by using simulation and animation program in Web/ CBT packages.

Apart from implementing critical and creative thinking on web, there is a need to involve learners in planing and evaluating. Adult learners should be empowered to become self-directed learners, to define program goals, create exercises, and evaluate their own progress. Web-based training is well suited for collaboration between learners and the instructor because there is ample opportunity to communicate synchronously and asynchronously using various web tools. There is always need to design learning experiences that require adult learners to become actively involved. Graphics, videos, images, hypertext, and audio help adult learners understand concepts more easily than conventional text based presentations. Multimedia provides learners with alternative ways to examine problems and learn new skills. Adult learners like. environment in which learners are valued as individuals and feel comfortable participating. It is imperative to design online forums, exercises, and feedback loops with the above perspectives . The principal design consideration for developing online courses involves learning by doing, learning to learn, learning to digest and learning to feedback philosophy.

Adult learners need encouragement to explore new ideas and alternative ways of solving problems, critical reflection and group exercises. They always want to assume responsibility for their own learning which is the core of autonomous learning.

COLLABORATIVE LEARNING ON THE WEB

Earlier generations of distance learning media and methods were ill suited to the active learning model and had a bias towards straightforward teaching. More recent initiative on on-line learning can create the potential for new forms of collaborative learning through technology. It has spawned on-line learning which are based on a collaborative learning instructional paradigm rather than the self-instructional model of multimedia authoring systems. As such, they make extensive use of the asynchronous and synchronous collaborative tools available in web.

But simply making an on-line conferencing available and asking learners to use it is not collaborative learning. The way a learner learns in on-line setting has not been extensively studied. Most current use of on-line education transfers traditional classroom instruction to on-line setting, recasting reading into web based materials, lectures into on-line lecture notes or video clips and discussion into on-line conferencing, Bourne et al. (1997). Which is basically nothing but Internet based correspondence courses, which rely on information acquisition and reflect low level learning. Are we utilizing the real strength of collaborative technology while designing on-line courses? As we reposition our course materials from traditional to web learning, the paramount concern should reside on the question as to how to develop the features of a collaborative learning environment in true sense.

Unlike the teacher-centered models that view the learner primarily as passive recipients of knowledge, collaborative learning is based upon a learning team-centered model that treats the learner as active participants. The conversation (verbalizing) multiple perspectives (cognitive restructuring) and arguments (conceptual conflicts resolutions) that arise in co-operative groups may explain why collaborative groups facilitate greater cognitive development than the same individuals achieve when working alone, Sharon (1980), Webb (1989).

CONCLUSIONS

Designing and developing effective on-line courses for adult learners require a new approach to various pedagogical dimensions of on-line environment. There is a paradigm shift in educational practice of teaching and learning in web. Where learning through facts, drill and practices, rules and procedures was more adaptive in earlier days, now learning through projects and problems, inquiry and design, discovery and invention, creativity and diversity, action and reflection is more fitting for the present times. So there is a need to develop a conceptual framework on the pedagogical dimensions of on-line learning based on collaborative learning strategies. So there is need of an urgent pedagogical shift, Majumdar (1999), from instructivist to constructivist, behavioral to cognitive, didactic to facilitative, controlled to autonomous, fixed to open, interactive to collaborative, rigid to flexible, passive to active, surface to deep, content to learning to learn, learner centered to learning team centered approach to meet the demand of the on-line adult learners of next millennium. If on-line courses are designed incorporating the desired changes in pedagogical dimensions, the difference between teaching and training on the web and traditional methods for adult learners can be profound.

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