

Self-Directed Learning with Web-Based Resources

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INTRODUCTION

Society today is characterized by, among other things, two main factors: (i) the abundance of information and large variety of resources freely available at no cost to learners, and (ii) information communication technologies for easy retrieval of information and communication of ideas. These factors make independent research and learning possible for a wider number of learners anytime and anywhere there is access to the World Wide Web, for example through the use of mobile technologies such as mobile phones and handheld computers (Ng & Nicholas, 2007). Hence, teaching students to be technologically literate to learn independently with Web-based resources is a step towards preparing them to be self-directed, life-long learners.

LIFELONG LEARNING

Dewey (1938) cited in Smith (1996) stated that inculcating the desire to keep learning is the key attitude to be developed in people. Similarly, Drucker (1994) asserted that an educated person is one who considers learning as part of a lifelong process since a substantial amount of learning is acquired through educational processes that are not associated with traditional schooling and that much of the knowledge an individual acquires is encountered well past the formal age of schooling. This is supported by Sargant (1991) who suggested that a large percentage of people is constantly engaged in self-directed learning in informal environments such as in the home or at work. In this regard, work, leisure, learning and collaboration within communities are intertwined activities situated within contexts (Lave & Wenger, 1991) for lifelong learners. Hence learning

about the skills and processes of how to learn should not be confined to pedagogy only at the K-12 and university levels. At these levels, there is a tendency to focus on content and assessment within the framework or syllabus of the institutions. Schools and tertiary institutions should instead prepare students to be more critical thinkers by providing opportunities for them to develop this and other lifelong learning skills that will enable them to learn in many settings throughout their private and work life outside formal education. Being able to self-direct their own learning is one of the major steps in achieving this goal.

A lifelong perspective implies that schools and universities need to prepare learners to engage in self-directed learning processes because this is what they will have to do in their professional and private lives outside of the classroom. Fisher & Scharff (1998: www-jime.open.ac.uk)

SELF-DIRECTED LEARNING

Self-directed learning research originated from adult education (Grow, 1991; Sinita, 2000). A definition of self-directed learning is the development of autonomous learners who are able to take control of and responsibility for their own learning, including seeking help when difficulties are encountered (Garrison, 1992; Tough, 1967). Smith (1996) has explored the key issues around the idea of self-directed learning based on the work, amongst others, of Merriam and Caffarella (1991) and Knowles (1975). Merriam and Caffarella's (1991) definition of self-directed learning is a process where 'self-directed learning is a form of study in which learners have the primary responsibility

ity for planning, carrying out and evaluating their own learning experiences' (p. 41). Knowles (1975, p. 18) defined it as a process in which

individuals take the initiative, with or without the help of others, in diagnosing their learning needs, formulating learning goals, identifying human and material resources for learning, choosing and implementing appropriate learning strategies and evaluating learning outcomes.

Smith (1996) further argued, referring to the work of Brockett and Hiemstra (1991, p. 32) that self-directed learning cannot be separated from social contexts in which it occurs because 'the social context provides the arena in which the activity of self-direction is played out.' He suggested two characteristics of self-directed learning as (i) a continuous activity where the individual decides all aspects of the learning, referring this as 'authentic control' and (ii) the ability to access and select from a range of appropriate resources. These arguments are supported by Sinitsa (2000) who stated that in training students to be self-directed and lifelong learners, and to cater for differences in background and expertise, there needs to be flexibility in both the diversity of resources offered and freedom for the learners to select learning materials. Candy (1991, 2004) in defining self-directed learning as an awareness of alternative choices and being able to pursue a learning goal without being affected by external factors was explicit about the process being a vital part of the digital revolution.

The purpose of this paper is to discuss the potential of the WWW as a provider of an environment for learners to self-direct their own learning about almost any topic of interest that derives from either personal interest or is introduced by their teachers. The Web is able to provide an enormous number of resources that offer variety and choice to cater to individual's learning preferences and style. It is also able to connect self-directed learners to a community of similar learners or teachers/mentors, for example through online management systems, emails or blogs. Hence, it is possible to build a network of people who are not constrained by distance, time or space and who could provide additional support for the education of self-directed learners.

In summarizing the definitions above and within the context of the purpose of this paper, the self-directing

learner is an autonomous learner who has authentic control over his/her own learning. (S)he uses critical thinking skills to seek, select and utilize appropriate resources from the Web to assist with knowledge construction and to undertake individual or collaborative tasks. Upon reflection, the cycle of search, select and use repeats itself until satisfactory understanding or completion of the task has been achieved.

SELF-DIRECTED LEARNING WITH WEB-BASED RESOURCES

The amount and variety of cost-free resources available on the Web have increased dramatically over the last ten years. The potential applications of web-based technologies and resources for learning at K-12 and tertiary levels have been reviewed by Scanlon (1997) and Ng (2006). These applications include virtual field trips, virtual experimentation, homework and online tutoring services, resources for individual and collaborative projects (such as the online concept-mapping *Cmap* project) and online management systems for distance education such as *Moodle*. Other tools that support learning collaboratively in networked communities are wikis, blogs and Skype. However, the most obvious Web-based resource of value that will promote self-directed learning is the vast amount of information itself. A lot of the static or interactive information presented on the Web is supported by multimedia software, which allows students to absorb, trial and test their ideas in their own space and time. Interactive software that provides instant feedback gives another dimension for self-directed learning in enabling students to reflect, re-assess and to re-think their understanding by employing new strategies where necessary.

LEARNING IN A TECHNOLOGY-ENHANCED ENVIRONMENT

The learning theories that best support self-directed learning are educational constructivism and situated learning. Educational constructivism draws on the cognitive and social theories of Piaget (1955, 1972) and Vygotsky (1962, 1978) respectively. It posits that the learner is an active participant in the construction

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