

The Online Learner: Characteristics and Pedagogical Implications

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Abstract

Globalization has stretched the scope of the online learner population from a homogeneous profile of mostly adult, mostly employed, place-bound, goal-oriented, and intrinsically motivated to one that is heterogeneous, younger, dynamic, and responsive to rapid technological innovations. This paper describes the emerging characteristics of the online learner and ensuing pedagogical implications and suggests that exploratory and dialogical online learning pedagogical models are most effective for supporting and promoting these characteristics.

The research to date has not converged on an archetypal profile of the online learner. Although some situational, affective, and demographic characteristics may cut across this learner population, what seems to be more prevalent is the changing or emerging nature of the online learner and the multiplicity of learning styles and generational differences represented. This situation carries considerable pedagogical implications for the design of online learning environments and necessitates a review of the research to determine the characteristics and skills of the emerging online learner. Determining the characteristics and educational needs of the online learner may not necessarily guarantee success in a distance education course or program (Galusha, 1997). It could, however, significantly help administrators, teachers, and instructional designers understand (a) who is likely to participate in online learning, (b) what factors or motivators contribute to a successful online learning experience, and (c) the potential barriers deterring some students from participating in or successfully completing an online course. In order to better understand the characteristics and perceived skills of the online learner and the underlying motivations and barriers that impact successful online learning experiences, a review of the characteristics of the traditional or classic distance education learner is essential.

The Classic Distance Education Learner

Earlier profiles of the online learner can be traced to classic distance education settings (e.g., correspondence or home study) where most learners were adults with occupational, social, and family commitments (Hanson et al., 1997). The National Home Study Council (NHSC) founded in 1926 collected information about its students and created the following demographic profile for home study students (Lambert, 2000): “Average age is 34 years; 66% are male; 25% have a college degree; over 50% have had some college education; and over 75% are married” (p. 11). Home study students were also described as self-motivated, goal-oriented, and disciplined self-starters.

A student’s academic self-concept was also shown to be a key predictor for success in a distance education setting. Dille and Mezack (1991) studied the profile of students who enrolled in telecourses (courses delivered through television) focusing on locus of control (internal/external attribution of success and failure) and learning style (e.g., verbal, visual, or kinesthetic) as predictors of success among college distance education students. They found that locus of control is a significant predictor of success and persistence in distance education courses. Specifically, students with an internal locus of control (those who attribute success and failure on tasks to personal behaviors and efforts) were more likely to succeed (receive a grade of C or better) and persevere (complete a telecourse) in a telecourse than did students with an external locus of control (those who attribute success and failure on tasks to external or uncontrollable factors such as luck or task difficulty).

Several other studies examined student attitudes, personality characteristics, study practices, course completion rates, and other academic, psychological, and social integration variables to identify barriers to persistence in distance education and determine predictors for successful course achievement (e.g., Bernt & Bugbee, Biner, Bink, Huffman & Dean, 1995; Fjortoff, 1995; Garland, 1993; Laube, 1992; Pugliese, 1994; Stone, 1992; 1993;). Overall results of such studies indicated that intrinsically motivated learners possessing a high internal locus of control, coupled with a positive attitude toward the instructor and a high expectation for grades and degree completion were more likely to succeed in a distance education course.

Interestingly, individual learning style did not prove to be a significant predictor of success, the rationale being that distance education is inherently accommodating for a variety of learning styles (Dille & Mezack, 1991). This finding is consistent with the pedagogical characteristics of technology supported learning environments and, in particular, Web-based or online learning environments that emphasize interaction and collaboration. Such environments are multimodal (support audio, video, and text), provide individual and group interaction spaces in synchronous and asynchronous formats, support linear and nonlinear representation of content, and provide a variety of learning tools to cater to a variety of individual learning styles. As Brown (2000) stated, “The Web affords the match we need between a medium and how a particular person learns” (p. 12).

The Changing Nature of the Distance Education Learner

This research demonstrates that although distance education learners share broad demographic and situational characteristics, no concrete evidence indicates that this group is homogeneous or unchanging (Thompson, 1998). In fact, the current profile of the online distance learner can be characterized as emerging, responsive to rapid technological innovations and new learning paradigms, and progressively including a younger age bracket. In a recent Sloan Consortium report on the state of online learning in the United States, Allen and Seaman (2006) reported that undergraduates represented

82.4% of the total population of higher education students taking at least one course online.

Research also suggests that today's youth, who are increasingly growing up with Internet and Web-based technologies such as search engines, instant messaging, massive multiplayer online role-playing games ([MMORPG](#)), [podcasting](#), [vodcasting](#), [social bookmarking](#) and [folksonomies](#), are well prepared to engage in online learning activities that support interaction and collaboration (Dabbagh & Bannan-Ritland, 2005). In addition, distributed online learning delivery models such, as knowledge networks, learning communities, asynchronous learning networks, and knowledge portals, are designed to effectively meet the characteristics of this emerging learner population. These models support interacting with peers in virtual spaces on team projects, engaging in online discourse, researching term papers using Web-based resources, and developing Web sites and digital products to demonstrate learning. Although Generation Xers (born 1960-1980) continue to represent the majority of online distance education learners, generation Nexters (born 1980-2000) will soon represent a sizable portion of this population, bringing with them new communication and technological skill sets.

The distance education population as a whole is also becoming more heterogeneous or diverse, encompassing students from a variety of cultural and educational backgrounds (Dabbagh & Bannan-Ritland, 2005). Globalization of distance education has enabled students from across the globe to participate in online learning activities, such as joining moderated listservs, participating in online seminars, and sharing information through knowledge portals. Additionally, distance education learners are becoming less location bound. Thompson (1998) elaborated on this point as follows: "Increasingly, students in close proximity to traditional educational institutions are choosing distance study not because it is the only alternative, but rather because it is the preferred alternative" (p. 13). Attraction to innovative technology-mediated learning environments and flexible course delivery schedules are two of the reasons listed for the desire to be outside the educational mainstream.

The Emerging Online Learner

The concept of the independent, place-bound, adult, self-motivated, disciplined self-starter, and goal-oriented learner, which largely characterized the classic distance education learner, is now being challenged with socially mediated online learning activities that de-emphasize independent learning and emphasize social interaction and collaboration. As stated by Anderson and Garrison (1998), "The independence and isolation characteristic of the industrial era of distance education is being challenged by the collaborative approaches to learning made possible by learning networks" (p. 100). Therefore, online learners must be ready to share their work, interact within small and large groups in virtual settings, and collaborate on projects online or otherwise risk isolation in a community growing increasingly dependent on connectivity and interaction. Given this new context, what are the perceived characteristics and skills of the emerging online learner?

Research indicates that interpersonal and communication skills and fluency in the use of collaborative online learning technologies are critical competencies for the online learner (Dabbagh & Bannan-Ritland, 2005). Williams (2003) found that interpersonal- and communication-related skills (which include writing skills) dominated the top 10 general competencies across all roles in distance education programs supported by the Internet. Powell (2000) described the online learner as someone who is "very comfortable with written communications, somewhat savvy with Web technologies, and proficient with computers." Additionally, Cheurprakobkit, Hale, and Olson (2002) reported that lack of

knowledge and skill in the use of online learning technologies, particularly communication and collaborative technologies, could present barriers to learning for students in online learning settings.

Another important characteristic of the online learner that carries forward from the profile of the classic distance learner is self-directed learning. Self-directed learning can be described as the skill of “learning how to learn,” or being metacognitively aware of one’s own learning (Olgren, 1998, p. 82). Cheurprakobkit et al. (2002) reported that students in online learning environments must possess “self” behaviors such as self-discipline, self-monitoring, self-initiative, and self-management, which are characteristics of self-regulated or self-directed learning. Given the physical absence of an instructor in online learning, the ability of learners to monitor and regulate their own learning is critical.

Furthermore, online learners must understand and value the learning opportunities afforded by collaborative and communication technologies in order to engage actively and constructively in learning. Some learners are inherently drawn to peer interaction or collaboration, while others need to understand the educational value of these pedagogical constructs. Being inherently drawn to interaction can be characterized as an individual difference referred to in the literature as the need for affiliation. In online learning environments the need for affiliation can be interpreted as the need to be connected or to belong to supportive groups (MacKeracher, 1996).

A community of practice (COP) is an example of how the need for affiliation can manifest itself in online learning environments. Members of a COP understand that a social mind is at work and that knowledge is a shared intellectual capital. COP is a pedagogical model grounded in a theory of learning as a social process and implemented in an online context through knowledge networks, asynchronous learning networks, and other Internet and Web-based collaborative and communication technologies (Wenger & Snyder, 2000). Although online learners still need to (a) act competently on their own; (b) have confidence in their knowledge, skills, and performance; and (c) learn how to create and manage a personal presence; sensing or exhibiting a need for affiliation is key to a successful and meaningful online learning experience (Dabbagh & Bannan-Ritland, 2005).

Characteristics of the Online Learner

In summary, the following characteristics and skills are perceived as critical to the success of the online learner:

- Having a strong academic self-concept.
- Exhibiting fluency in the use of online learning technologies.
- Possessing interpersonal and communication skills.
- Understanding and valuing interaction and collaborative learning.
- Possessing an internal locus of control.
- Exhibiting self-directed learning skills.
- Exhibiting a need for affiliation.

Competency in the use of online learning technologies, particularly communication and collaborative technologies, does not guarantee meaningful interaction, collaboration, and knowledge building in online learning environments (Lindblom-Ylanne & Pihlajamaki, 2003). Therefore, in addition to the previously listed characteristics and skills, online learners should possess or develop collaborative learning skills independent of these

technologies. These skills include social learning skills, discursive or dialogical skills, self and group evaluation skills, and reflection skills (Comeaux, Huber, Kasprzak, & Nixon, 1998; Spector, 1999). Each of these skill sets are briefly described in the following section.

Social Learning Skills

Social learning skills support decision-making, communication, trust building, and conflict management, all of which are important components for effective collaboration. Social learning skills are needed to assume leadership roles as well as other roles typically assigned in teamwork.

Discursive or Dialogical Skills

Discursive or dialogical skills include the ability to discuss issues (being discursive), share and debate ideas, negotiate meaning, demonstrate openness to multiple perspectives, and possess good articulation and listening skills.

Self and Group Evaluation Skills

Self and group evaluation skills include learning how to be individually accountable for (a) being active and engaged in group activity (b) doing a fair share of the work and (c) helping other group members to demonstrate competence and learning achievement (i.e., promotive interaction).

Reflection Skills

Reflection skills include the ability to apply frequent and substantive consideration and assessment of one's own learning process and products and the group's learning process and products. Learners must be skilled in time management and orienting strategies that help them prepare to learn, and in cognitive learning strategies that help them interact meaningfully with the learning content. In addition, time-management skills and orienting strategies have a direct impact on collaborative learning in terms of effectively and efficiently carrying out the responsibilities of being an active and accountable member of a group. Cognitive learning strategies, on the other hand, are perceived to be most relevant to an individual's ability to reflect upon, monitor, and assess one's own learning when carrying out a learning task.

To summarize, a successful online learner should

1. Be skilled in the use of online learning technologies, particularly communication and collaborative technologies.
2. Have a strong academic self-concept and good interpersonal and communication skills.
3. Have a basic understanding and appreciation of collaborative learning and develop competencies in related skills.
4. Acquire self-directed learning skills through the deployment of time management and cognitive learning strategies.

Pedagogical Implications

To effectively accommodate, support, and promote the characteristics and skills of the successful online learner as discussed in this paper, online learning developers, instructors, and teachers should consider two pedagogical models when designing their online courses and learning interactions: exploratory and dialogical.

Exploratory Pedagogical Models

Exploratory learning models are based on the theoretical construct of discovery or inquiry-based learning, in which learners are provided with a scientific-like inquiry or authentic problem in a given content area and asked to generate a hypothesis, gather relevant information using a variety of resources, and provide solutions, action plans, recommendations, and interpretations of the situations (Dabbagh & Bannan-Ritland, 2005). Examples of such models include Microworlds, simulations, WebQuests, cognitive apprenticeships, situated learning, and problem-based learning. These models support collaborative learning, interpersonal and communication skills, social learning skills, self and group evaluation skills, reflection skills, and self-directed learning skills, all of which are characteristics of the successful online learner.

The exploratory or experiential mode of learning is provided within online learning through the use of several online learning technologies, including hypermedia, multimedia, search engines, digital audio and video, graphics, and self-contained instructional modules developed using a variety of authoring tools. Examples of how exploratory models can be implemented in online learning include the following:

- Using Web-based authoring tools and scripting languages to develop self-contained instructional modules such as [Microworlds](#) and simulations that engage students in exploratory-type activities.
- Providing Web-based resources using hypermedia and multimedia links to support students' exploratory activities.
- Providing a link to a search engine in the course site enabling students to search for Web-based resources to promote exploration.
- Providing links to online databases and knowledge repositories that provide real time data such as up-to-date weather information and other scientific data and statistics.
- Providing students with a Web posting area and appropriate tools to publish their work (e.g., draft papers, problem solutions, etc.). Students can then engage in an exercise of peer evaluation of each other's work, prompting reflective thinking.

When designing online learning based on exploratory pedagogical models, the decision as to which learning technologies or combination of learning technologies to use will rest ultimately on the expertise of the online learning developer, the available resources and technologies, the characteristics of the audience, and the instructional characteristics of the pedagogical model implemented (Dabbagh & Bannan-Ritland, 2005). A popular online learning activity with K-12 teachers that supports many of the instructional characteristics of exploratory learning models is a WebQuest. A WebQuest

is an inquiry-oriented activity in which most or all of the information used by learners is drawn from the Web. [WebQuests](#) are designed to use learners' time to help them focus on using information rather than looking for it, and to support learners' thinking at the levels of analysis, synthesis and evaluation. (Dodge, n.d.)

Dialogical Pedagogical Models

Dialogical learning models emphasize social interaction through dialogue and conversation. The idea is to assist learners in constructing new knowledge primarily through dialogue as a form of interaction. Internet and Web-based technologies provide various mechanisms for supporting dialogue related to both informal and formal learning situations. For example, a Web-based group forum (discussion board) can support a formal conversational exchange that occurs in support of specific instructional objectives or an informal conversational exchange based on content interest (Dabbagh & Bannan-Ritland, 2005). Both of these conversational exchanges foster a sense of community and belonging. Examples of dialogical pedagogical models include learning communities, knowledge building communities, and communities of practice. These models emphasize discursive or dialogical skills such as articulation, reflection, collaboration, and social negotiation, as well as self and group evaluation skills, which support the characteristics of successful online learners.

Online learning technologies supporting the implementation of dialogical pedagogical models include asynchronous and synchronous tools, such as email, bulletin boards or discussion forums, listservs, computer conferencing, groupware, document sharing, virtual chat, and video conferencing. Examples of ways dialogical pedagogical models can be implemented in online learning include the following:

- Setting up online group discussion areas focused around a topic or specific activity, goal, or project, such as a case study, using asynchronous discussion forums to promote collaboration and social negotiation. Some group discussion areas can be open ended and unmoderated, allowing students to solicit information from each other, while others can take the form of a structured online discussion.
- Designing activities that allow group members to share documents related to a group project. Sharing documents online is a collaborative activity and can range from simply displaying the document in a designated Web posting area to having group members work simultaneously on a document using groupware (an application sharing tool). When the document is displayed, group members can discuss its contents via email, videoconferencing, or chat. When [groupware](#) is used, group members can co-edit the document online and annotate the document if the groupware has built-in annotation systems.
- Engaging students in synchronous communication activities using virtual chat and videoconferencing. Real-time collaborative activities allow groups to brainstorm ideas, debate problems, and develop action plans in a finite and short period of time.

Additional examples of online learning applications that support dialogical pedagogical models are [MUDs and MOOs](#) (Dabbagh & Bannan-Ritland, 2005). MUDs and MOOs are knowledge networks that emphasize social interaction and negotiation through role-playing. A MUD (Multiple User Dungeon or Multiple User Dimension) is a "complete virtual world in which you become the body of a character you adopt to navigate that world" (Hall, 2001, p. 55). Users explore the virtual world in real time and typically at the same time as other users who are also controlling characters. Users can talk to each other and form teams. Theme, content, and style vary from one MUD to the next. MUDs originated in a game called Dungeons and Dragons developed for multi-users on the Internet. In educational settings, MUDs are being used as a collaborative tool for students. "In Web-based learning, simulated role portrayal can be facilitated through Multi-User Dialogue (MUD) environments, in which instructors create a multi-user space with a central theme, characters and artifacts" (Khan, 2001, p.81).

A MOO (Multi-User Object Oriented environment) is a type of MUD that gives users the opportunity to experience virtual worlds as players of a game or explorers of a theme or course. An essential difference between MOOs and MUDs is that MOOs make use of multimedia, whereas MUDs are primarily text based. Additionally, MOOs developed into social spaces, lending themselves more readily for use as a virtual classroom or as spaces for conferences and meetings (Center for Teaching Enhancement Workshop on Synchronous Communication, 1997). For example, [Tapped In](#) is a COP that supports the implementation of MOOs in classroom contexts. To see an example of how MUDs and MOOs are used in the classroom, go to <http://ti2data.sri.com/info/teachers/mare.html>.

Conclusion

The profile of the online learner population is changing from one that is older, mostly employed, place bound, goal oriented, and intrinsically motivated, to one that is diverse, dynamic, tentative, younger, and responsive to rapid technological changes. This change in profile poses considerable pedagogical challenges that can be addressed through a better understanding of the emerging online learner. The emerging online learner can be described as someone who has a strong academic self-concept; is competent in the use of online learning technologies, particularly communication and collaborative technologies; understands, values, and engages in social interaction and collaborative learning; possesses strong interpersonal and communication skills; and is self-directed.

In order to support and promote these characteristics and skills more effectively, the online course developer, instructor, or teacher should focus on designing online learning environments that support exploratory and dialogical learning. Exploratory and dialogical learning environments engage learners in online learning activities that require collaboration, communication, social interaction, reflection, evaluation, and self-directed learning. As the characteristics and skills of the online learner population continue to emerge across generations and future technologies, more immersive pedagogical models will develop, transforming the design of online learning environments.

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