Encyclopedia of Distance Learning
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Patricia Rogers
*Bemidji State, USA*

Gary Berg
*Chapman University, USA*

Judith Boettcher
*Designing for Learning, USA*

Carole Howard
*Touro University International, USA*

Lorraine Justice
*Hong Kong Polytechnic University, Hong Kong*

Karen Schenk
*University of Redlands, USA & North Carolina State University, USA*

Volume III
Ins–Ret
A Learner-Centered Perspective on E-Learning

Hyo-Jeong So
Nanyang Technological University, Singapore

Curtis J. Bonk
Indiana University, USA

Robert A. Wisher
Department of Defense, USA

INTRODUCTION

For the past decade, e-learning has emerged as a prominent delivery mechanism in educational settings. Now, it is not uncommon to find courses that are delivered fully online or in a blended learning (Bonk & Graham, 2006) mode. In addition, with the pervasive use of handheld, mobile, and wireless technologies, mobile learning (i.e., m-learning) and ubiquitous learning (i.e., u-learning) have received extensive attention as promising trends in the field of distance education. Indeed, our goals, related to the design of environments where learning happens at anytime and anyplace, seem more reachable with such emerging educational technologies that maximize mobility, connectivity, and versatility. Add to that options for learner participation and contribution within such an environment, as is seen with many online tools today, and there are many exciting opportunities for learner-centered online instruction.

Despite such significant shifts in technology, however, a pedagogical shift from instructor-centered to learner-centered learning has been slow. A traditional text- or instructor-centered paradigm for teaching and learning is still dominant in many e-learning programs, while learners enrolling in online and blended courses are expecting more inquiry-based activities and learner-centered approaches than in the past. As the adoption of Web-based instruction grows, understanding how to facilitate or moderate student learning in virtual spaces has become an important issue. Online instructors must create situations where students are building knowledge and sharing it with experts and peers who, in turn, offer authentic evaluation and timely feedback. Online instruction, therefore, must fit into an education and learning paradigm that is increasingly learner-centric.

BACKGROUND

Learner-Centered Psychological Principles

What is a learner-centered paradigm and where did it originate? During the early 1990s, the American Psychological Association (APA) announced a set of learner-centered psychological principles (LCPs) (Alexander & Murphy, 1994; APA, 1993)(see Table 1). These principles were derived after an APA Presidential task force reviewed previous research on learning and instruction, motivation, and development since the emergence of cognitive psychology in the 1970s and 1980s. The final set of psychological principles has been widely accepted and assisted many school and university reform and restructuring efforts. The LCPs address areas such as fostering curiosity and intrinsic motivation, linking new information to old in meaningful ways, providing learner choice and personal control, nurturing social interaction and interpersonal relations, promoting thinking and reasoning strategies, constructing meaning from information and experience, and taking into account learner social and cultural background.

Another seminal publication emphasizing a learner-centered paradigm is the National Research Council report on “How People Learn” (Bransford, Brown, & Cocking, 1999). Based on the science of learning research in various disciplines such as cognition, hu-
A Learner-Centered Perspective on E-Learning

Cognitive and Metacognitive Factors

1. **Nature of the learning process.** The learning of complex subject matter is most effective when it is an intentional process of constructing meaning from information and experience.

2. **Goals of the learning process.** The successful learner, over time and with support and instructional guidance, can create meaningful, coherent representations of knowledge.

3. **Construction of knowledge.** The successful learner can link new information with existing knowledge in meaningful ways.

4. **Strategic thinking.** The successful learner can create and use a repertoire of thinking and reasoning strategies to achieve complex learning goals.

5. **Thinking about thinking.** Higher order strategies for selecting and monitoring mental operations facilitate creative and critical thinking.

6. **Context of learning.** Learning is influenced by environmental factors, including culture, technology, and instructional practices.

Motivational and Affective Factors

7. **Motivational and emotional influences on learning.** What and how much is learned is influenced by the learner’s motivation. Motivation to learn, in turn, is influenced by the individual’s emotional states.

8. **Intrinsic motivation to learn.** The learner’s creativity, higher-order thinking, and natural curiosity all contribute to motivation to learn. Intrinsic motivation is stimulated by tasks of optimal novelty and difficulty, relevant to personal interests, and providing for personal choice and control.

9. **Effects of motivation on effort.** Acquisition of complex knowledge and skills requires extended learner effort and guided practice. Without the learner’s motivation to learn, the willingness to exert this effort is unlikely without coercion.

Developmental and Social Factors

10. **Developmental influences on learning.** As individuals develop, there are different opportunities and constraints for learning. Learning is most effective when differential development within and across physical, intellectual, emotional, and social domains is taken into account.

11. **Social influences on learning.** Learning is influenced by social interactions, interpersonal relations, and communication with others.

Individual Differences

12. **Individual differences in learning.** Learners have different strategies, approaches, and capabilities for learning that are a function of prior experience and heredity.

13. **Learning and diversity.** Learning is most effective when differences in learners' linguistic, cultural, and social backgrounds are taken into account.

14. **Standards and assessment.** Setting appropriately high and challenging standards and assessing the learner as well as learning progress, including diagnostic, process, and outcome assessment, are integral parts of the learning process.

For a full text of the principles listed as well as additional rationale and explanation, refer to the APA Website: http://www.apa.org/ed/lcp2/lcp14.html or write to the APA for the December, 1995 report The Learner-Centered Psychological Principles: A Framework for School Redesign and Reform. Permission to reproduce this list has been granted by APA. This document is not copyrighted.

Man development, neuroscience, and technology, this report suggests that learning environments should be learner-centered and linked to larger communities beyond a single classroom or school. Teachers who are learner-centered recognize the importance of culturally relevant pedagogy (Ladson-Billings, 1995) that considers sensitivity to individual students’ cultural practices and incorporate them into their instruction. Additionally, teachers with a learner-centered philosophy are well aware of the needs, interests, and epistemological beliefs that learners bring to educational settings, and use them to promote active learning for deep understanding, rather than passive learning with surface knowledge (Bereiter & Scardamalia, 2006).

Previous studies have indicated that the LCPs hold great promise for designing e-learning environments (Bonk & Cummings, 1998; Bonk & Reynolds, 1997; McCombs & Vakili, 2005). For instance, Bonk and Cummings (1998) document a dozen recommendations for designing Web-based instruction from a learner-centered perspective. Their guidelines describe the need for psychologically safe online environments, changes in the instructor role from sage to moderator or facilitator of learning, the emergence of new electronic mentoring practices, and other related ideas.

Similarly, McCombs and Vakili (2005) suggest that learner-centered principles can be applied to enhance
A Learner-Centered Perspective on E-Learning

In addition, computer-supported collaborative learning (CSCL) has emerged as a field that examines how online learning environments should be designed to promote intentional learning, collaborative inquiry, and learning communities. One of the foremost of these CSCL efforts was the development of Knowledge Forum, formerly known as computer-supported intentional learning environments (CSILE) (Scardamalia & Bereiter, 1994). At the Ontario Institute for Studies in Education (OISE) within the University of Toronto, Marlene Scardamalia and Carl Bereiter (2003) have developed a knowledge-building community model that utilizes a tool called the Knowledge Forum to support learner-centered pedagogy and collaborative-inquiry learning. Through idea sharing and community discourse with minimum guidance from teachers, learners in knowledge-building environments can improve both their own and the community’s understanding (Hewitt, 2002).

As these brief examples illustrate, technology-rich environments support learner engagement in meaningful contexts, thereby increasing ownership. As a result, instructors need to configure their new roles as moderators of e-learning tools. Clearly, the “learn anytime, anywhere, by anyone” mentality will foster additional expectations for greater learner control and learning options. In online settings, learners can decide when to explore additional resources or progress to more complex concepts or modules.

**MAIN FOCUS: PEDAGOGICAL CONCERNS AND OPPORTUNITIES**

With the proliferation of information and fast-changing job roles, there are increasing expectations that learners will soon be guiding much of their own learning (Wisher, 2004). Consequently, instructors need to develop pedagogical strategies and employ technological tools that foster self-directed student inquiry and investigation. In such environments, tools and tactics for student discovery and manipulation of information, generation of artifacts, and sharing of knowledge are highlighted. In addition, students can examine problems at multiple levels of complexity, thereby deepening their understanding, while instructors provide the task structuring, feedback, and overall moderation or facilitation (Kim & Bonk, 2006).
Advances in interactive and collaborative technologies are forcing instructional designers and technology users to confront and envision learner-centered instruction as well as their role within it (Doherty, 1998). Fortunately, the Web is emerging as a viable teaching and learning platform for learner-centered instruction at the same time that there is a call for incorporating learner-centered approaches in education. It is difficult to tell whether this will lead to serendipitous or tremulous events or both. What is clear, however, is that there currently is a dearth of pedagogical tools and ideas for Web-based instruction (Bonk & Dennen, 1999, 2007; Bonk & Zhang, 2006; Carmean & Haefner, 2002, 2003; Oliver, 1999; Phipps & Merisotis, 1999). Consequently, most Web tools available today fail to transform or revolutionize education.

As John Stephenson (2001), from Middlesex University, pointed out, online learning has the potential to give learners power and control over their own learning. One can now access experts for advice, download relevant documents, self-assess progress, and collaborate with others around the planet. Too often, however, online courseware is simply meant to facilitate course administration and registration procedures. Most focus remains on how course management systems can help one to organize or manage a course, track student work and resulting grades, facilitate the turning in of assignments, post syllabi, and other administrative tasks (Kvavik, Caruso, & Morgan, 2004). As a result, support for rich and engaging learner interactions is noticeably absent (Hewson & Hughes, 2005). Instead of innovative and dynamic online experiences, providing access to knowledge repositories, portals, and content objects is in vogue (Oliver & McLoughlin, 1999).

Leading educators in the online field have not given up, however. They continue to point to the pedagogical promise of e-learning in finding ways to design interactive and engaging learning activities (DeLacey & Leonard, 2002; Oliver, Herrington, & Reeves, 2006; Palloff & Pratt, 2001; 2005; Salmon, 2002), rather than ways to simply provide more content. For instance, there are dozens of ways to address student motivation (Dennen & Bonk, 2007) and learning preferences (Bonk & Zhang, 2006) online. Additionally, Wisher and Graesser (2007) address how the process of question-asking and interpreting answers influence learning and student satisfaction in distributed learning environments. Student questions are learner centric because they reflect the learner’s lack of specific knowledge or inability to comprehend.

Perhaps satisfaction with one’s online content comes before embarking on innovative learner-centered pedagogy. As support for this hypothesis, in a study of Web-enhanced pedagogy at seven different institutions in the United States, Wingard (2004) found that instructors tend to initially use technology for pragmatic reasons (e.g., posting course materials, announcements, etc.), instead of pedagogical ones (e.g., interactive debates or mock trials). However, Wingard also found that pedagogically related issues and concerns rise to the forefront later on. Similarly, Carmean and Haefner (2003) point out that there may be pragmatic needs that often outweigh, and must be fulfilled prior to, more interesting and important pedagogical or instructional ideas.

Given the growth of learning management systems (LMSs) and course management systems (CMSs), it is clear that many educational institutes and organizations are finding these tools valuable (Olsen, 2001). However, as noted, such management systems and tools, by themselves, do not guarantee quality learning. They do not foster student reflection, metacognition, interdisciplinary learning, collaborative knowledge building, or higher-order thinking. Additionally, students often display frustration and dissatisfaction with their online courses due to lack of interactions, engagement, and communication (Hara & Kling, 2000). As a result, many online learners are simply being warehoused on the Web instead of engaging in rich case experiences and interactive simulations as has been promised by e-learning vendors and other zealots. It is as though online learning tool designers have forgotten to consider learner and instructor needs.

The key question Stephenson (2001) argued is not whether online learners will be granted more responsibility for their own learning in the future, but how much they are going to be offered. Of course, the amount offered depends on the tools that are afforded, the pedagogical activities that are designed and used, and the general acceptance and promotion of any new tools and approaches within the online teaching community.

The current situation facing many online learners and instructors is not surprising since the prevailing CMSs and LMSs (or virtual learning environments as some refer to them) emanate from a behavioral learning model (Firdyiwek, 1999). Most systems are embed-
A Learner-Centered Perspective on E-Learning

...ded with tracking and controlling devices for student learning, rather than innovative ways to nurture student ownership and progress for learning. At the same time, there are emerging instructional techniques, some for student creativity and others for student critical thinking, related to teaching on the Web, that hold great promise for fostering student learning in online environments (Bonk & Reynolds, 1997; Bonk, Hara, Dennen, Malikowski, & Supplee, 2000; Oliver et al., 2006). Levin and Waugh (1998) detailed approaches such as Web resource searching and evaluation, project generation and coordination, and student publication of work. Such techniques emphasize individual exploration as well as small group collaboration and sharing.

Some new models look at the degree to which the Web is embedded or integrated into a course (Bonk & Dennen, 2007; Bonk, Cummings, Hara, Fischler, & Lee, 2000; Mason, 1998) as well as the forms and directions of interaction utilized by such Web courses (Cummings, Bonk, & Jacobs, 2002). At the same time that such model building is taking place, researchers are reacting to the lack of pedagogical tools for the Web by building specific tools for team projects, critical thinking, mentoring, online debates, URL postings, reflection, concept mapping, student surveying, and electronic discussion (Oliver, 1999; Oliver et al., 2006). In addition, researchers have explored the use of interactive technologies such as two-way videoconferencing (Smyth, 2005), virtual chats (Stahl, 2006), and knowledge building tools (de Jong, Veldhuis-Diermanse, & Lutgens, 2002) to foster learner-centered interaction and more opportunities for collaborative problem solving. In step with the learner-centered movement, these camps are focused on building constructivist tools that foster active and authentic learning, goal setting, student articulation, social interaction on collaborative tasks, and metacognitive reflection.

FUTURE TRENDS

The Rise of Learner-Centered Technologies (i.e., the Web 2.0)

Recently, new types of Web technologies, known as Web 2.0 (O’Reilly, 2006) have emerged as promising tools for creating learner-centered online environments. With new Web 2.0 tools such as blogs and wikis, learners can become active producers of learning content and activities rather than passive consumers of pre-determined material and resources.

As John Seely Brown (2006) argued, with the Web 2.0, we are entering a participatory learning culture. In effect, participatory learning is based on notions of building, tinkering, reflecting, and sharing. Even Time magazine noticed these trends in late 2006 when it named “You” as the person of the year (Grossman, 2006/2007a). As this designation symbolizes, during the past few years, learners have been empowered with technology that encourages them to generate new ideas in personal blogs, share ideas with online friends and communities, and build new Web sites or pages within Wikipedia or Wikibooks, instead of simply reading or browsing through existing content. (Grossman, 2006/2007b).

This new read-write Web, with tools such as wikis, podcasts, blogs, online photo albums, social networking software, and RSS feeds, is a significant shift in the direction toward learner-centered online instruction. Such tools bring people together to share, collaborate, and interact in ways that previously were unheard of or imagined. This new read-write Web signals opportunities for personalized learning environments (PLEs) and individualized instruction, thereby enhancing the power of individuals.

Emerging technologies change the role of instructors as well as learners. To maximize online learning success, online instructors who view learners as contributors of knowledge or vital participants in the learning process need to act as both a partner and a facilitator or colearner (Beldarrain, 2006). What is more promising with Web 2.0 tools and resources are the socio-technical aspects that foster social interaction and collective intelligence among the networked learners. For instance, some instructors now use wiki-related tasks wherein their students write the books that they read and use online, instead of, or in addition to, purchasing books from publishers (Allen, O’Shea, Curry-Corcoran, Baker, 2007; Evans, 2006; Sajjapanroj, Bonk, Lee, & Lin, 2007). Along these same lines, Rick and Guzdial (2006) found that collaborative learning among college students was successfully supported with the learning culture and learning tasks compatible with the use of a wiki.

As indicated earlier, another exciting movement toward a learner-centered paradigm is the emergent use of mobile and wireless technologies. As handheld and wireless devices have become pervasive in our
daily lives, there have been increasing interests as to how mobile technologies can be utilized to create more effective learning experiences in both traditional and nontraditional settings, including the use of desktop computers and Web applications. Mobile and wireless tools have promising capabilities that can alter the relationship between teachers and learners by supporting learners as active participants and providing immersive learning experiences (Colella, 2000; Roschelle, 2003). While there has been scant research on the application of mobile technologies in e-learning and blended learning environments, the exploration of m-learning and u-learning, mentioned earlier, should help nurture the digital learning skills required of twenty-first century learners.

CONCLUSION

Final Remarks and Next Steps

As documented in this chapter, opportunities for learner-centered online instruction continue to mount. Given governmental reports calling for more self-directed learners, widespread concerns about online student motivation and retention, and well documented needs for more meaningful and engaging online learning experiences, this is a fortunate occurrence. This is especially fortuitous for the generations of learners enrolling in blended and fully online courses who grew up with the technologies that allow for a more learner-centered approach. While course management systems remain stuck in an instructor-centered learning paradigm that “manages” learners, the shift from online learning consumption toward the production of online learning content, in the form of podcasts, wikis, blogs, and other emerging technologies, has begun to arouse a significant change in online learning practices and expectations.

Today, instructors in all types of learning settings and sectors, including K-12, higher education, military, non-profit, and corporate settings, are no longer expected to simply lecture to students online or provide a set of prepackaged content materials for them to browse through in a semi-orderly and non-interactive fashion. Instead, the focus is on enhancing course interactivity and learner engagement within such settings. As this occurs, it is likely that online environments will showcase exciting learner-centered events, activities, and opportunities that will simultaneously boost online enrollments, as well as reverberate into significant changes in more traditional forms of instruction.

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A Learner-Centered Perspective on E-Learning

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**KEY TERMS**

**Blended Learning**: The combination of face-to-face and online instruction.

**Course Management Systems**: Integrated learning tools or packages that facilitate the tracking and monitoring of student online learning in technology settings.

**Learner-Centered Paradigm**: Viewpoint or learning philosophy that takes the perspective of the learner when considering the design, delivery, or assessment of learning.

**Learner-Centered Psychological Principles**: 14 principles developed by the American Psychological Association based on decades of research on human learning, development, and motivation that focus on ways to help learners learn, and are intended to provide vital information for the redesign of schooling.

**Mobile Learning**: Learning that occurs across learning settings or locations through the use of handheld, portable, or wireless devices by learners on the move.

**Participatory Learning Culture**: Situations wherein individuals can contribute to the knowledge building process instead of passively consuming prepackaged knowledge and information; in such cases, anyone with access to the Web has an opportunity to build, tinker with, or share information that might be of value to a growing knowledge base or learning community.

**Read-Write Web**: Signifies that the Web is no longer limited as a read-only device for passive reception of information or casual browsing; instead, any individual can now contribute to it as seen in such tools as wikis, blogs, and social networking software.

**Ubiquitous Learning**: A type of learning that utilizes the capabilities of mobile and wireless technologies to support seamless and connected learning.

**Web 2.0**: Refers to a second generation of Web-based tools, services, and communities, such as blogs, podcasts, RSS feeds, wikis, and social networking software that allow users to interact, collaborate, share, and construct new knowledge collectively. From an educational standpoint, such technologies allow learners to participate in their own learning and contribute to the learning of others, instead of simply passively receiving information and knowledge from experts and course resources. In effect, learning is more personalized, shared, and participatory.

**Wiki**: A collaborative online authoring technology wherein users can easily view, modify, update, delete, and share content in the form of Web pages, sometimes freely without a password or account registration. Such pages can also link to other online objects and resources.