Mapping the Research Literatures Related to Distance Teaching and Learning

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Mapping the Territory

Describing the current state of research on distance education and eLearning, Orrill, Hannafin, and Glazer (2004) have asserted that “Literally thousands of studies related to computers and learning have been published during the past three decades. The problem has been one of making sense of the enormous, and growing, body of available research” (p. 335). Moreover, many of these publications are case studies that are difficult to generalize from one context to another. Berge and Mrozowski (2001) in their review of research in distance education during the 1990s found that almost 75 percent of the research involved descriptive studies. So too Nichols (2003) laments that “… the vast bulk of literature in eLearning is practice-based and is typically presented in a descriptive format” and that “… the body of literature appears fragmented and there are few common terms used consistently.”

The literature on eLearning and distance education, and the research related to instruction and learning with technology in general, is indeed a vast bulk. Álvarez and Bilbourn (2002), in their review of literatures related to information society studies, argue that such efforts “… should be viewed as an educational problem, one that has implications for how we construct curriculum and for how we teach about the Information Society, particularly in the field of educational technology.” Pascarella and Terenzini (1998), as well, have identified the uneasy relationship between our fast-moving objects of study (instructional approaches, learning theories, and technological artifacts) and the methods being developed to understand them: “The range and volatility of instructional information technologies not only present serious research design problems, they may also produce a fragmentation that will put knowledge development itself at risk of bogging down in a flood of studies based on single course, single learning settings (let alone single institutions) which have few characteristics in common whether in their independent or dependent variables” (pp. 161-162).

For researchers motivated to understand and to map the research associated with instruction and learning with technology, it is critical that we be able to articulate the parameters of those literatures, to identify critical issues for further research, and to establish future directions for research energy and development. These abilities, after all, enable consumers of disciplinary discourse to achieve the “rhetorical self-consciousness” of producers who, as Bazerman (1988) posited, are able to interpret, contribute, critique, amend, and elaborate on that discourse because they understand “… the structure of the literature, the structure of the community, and [their] place in both” (pp. 324-326).

The motivation for attending carefully to the vast stores of research related to instruction and learning with technology is twofold: first, with the exception of retrospective reviews of literature related to research in this area (Allen, Bourhis, Burrell, & Mabry, 2002; Álvarez & Kilbourn, 2002; Berge & Mrozowski, 2001; Bernard, Abrami, Lou, Borokhovski, Wade, Wozney, Wallet, Fiset, & Huang, 2004; Larreamendy-Joerns & Leinhardt, 2006; Liao, 1999), many published articles and studies quickly narrow their review of the research to immediate, pragmatic research gaps covered in two-to-three page literature review sections (Onwuegbuzie & Leech, 2005); second, a broad review of the literatures related to instruction and learning can inform a conceptual framework for everyday instruction that, in turn, can help us approach the exponentially-growing number of studies devoted to instruction and learning.

Mapping the research literatures related to distance teaching and learning, however, represents itself as a considerable challenge. Journals related to distance education and eLearning have enjoyed unprecedented development over the last three decades, from four peer-reviewed journals prior to 1992 (the American
Journal of Distance Education, Distance Education, the Journal of Distance Education, and Interactive Learning Environments), to 10 by 1998, to 27 by 2005 (see Table 1).

Table 1: Peer-reviewed distance education and eLearning journals, 1979-2006.

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<thead>
<tr>
<th>Distance Education &amp; eLearning (27)</th>
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<tr>
<td>- American Journal of Distance Education (1987-present, <a href="http://www.aide.com">www.aide.com</a>, library)</td>
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<td>- Asian Journal of Distance Education (2003-present, <a href="http://www.asianjde.org">www.asianjde.org</a>)</td>
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<td>- Distance Education (1979-present, <a href="http://www.tandf.co.uk/journals/carfax/01587919.html">www.tandf.co.uk/journals/carfax/01587919.html</a>)</td>
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<td>- Indian Journal of Open Learning (1992-present, <a href="http://www.ignou.ac.in/ijol/ijol.html">www.ignou.ac.in/ijol/ijol.html</a>)</td>
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<td>- Interactive Learning Environments (1990-present, <a href="http://www.tandf.co.uk/journals/titles/10494820.asp">www.tandf.co.uk/journals/titles/10494820.asp</a>)</td>
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<tr>
<td>- International Journal of Distance Education Technologies (2003-present, <a href="http://jdet.mine.tku.edu.tw">jdet.mine.tku.edu.tw</a>)</td>
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<td>- International Journal of Interactive Technology and Smart Education (2004-present, <a href="http://www.troubadour.co.uk/itse">www.troubadour.co.uk/itse</a>)</td>
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<td>- Internet and Higher Education (1998-present, <a href="http://www.scis.nova.edu/ih/default.htm">www.scis.nova.edu/ih/default.htm</a>)</td>
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<td>- Journal of Distance Education (1986-present, <a href="http://cade.athabascau.ca">cade.athabascau.ca</a>)</td>
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<td>- Journal of e-Learning and Knowledge Society (2005-present, <a href="http://www.je-lks.it/homepage.html">www.je-lks.it/homepage.html</a>)</td>
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<tr>
<td>- Journal of Online Learning and Teaching (2005-present, <a href="http://jolt.merlot.org">jolt.merlot.org</a>)</td>
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<tr>
<td>- Online Journal of Distance Learning Administration (1998-present, <a href="http://www.westga.edu/%7Edistance/imain11.html">www.westga.edu/%7Edistance/imain11.html</a>)</td>
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<tr>
<td>- Open Learning: The Journal of Open and Distance Learning (1999-present, <a href="http://www.tandf.co.uk/journals/carfax/02680513.html">www.tandf.co.uk/journals/carfax/02680513.html</a>)</td>
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<tr>
<td>- Texas Journal of Distance Learning (2004-present, <a href="http://www.tjdl.org">www.tjdl.org</a>)</td>
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<tr>
<td>- Turkish Online Journal of Distance Education (2000-present, <a href="http://tojde.anadolu.edu.tr">http://tojde.anadolu.edu.tr</a>)</td>
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The number of journals related to educational, instructional, and communication technology, too, have increased exponentially. Five journals devoted to the area existed before 1985 (Computers and Education, the International Journal of Instructional Media, the Journal of Research on Technology in Education originally named the Journal of Research on Computing in Education, Learning and Leading with Technology, and Media, Culture & Society), sixteen existed by 1995 and, between 1996 and the present, that number grew to 39 peer-reviewed journals.

Along with a detailed understanding of the numerous journals related to distance learning and eLearning (27 journals) and educational, instructional, and communication technology (42 journals), it is also necessary to become familiar with the emerging journals related to the teaching and learning
sciences (39 journals). Assuming the dramatic influence of multimedia elements on designs for instruction and learning, research from communication and information design (33 journals) requires review. Anticipating the transformational interaction between technologies, tasks, and humans, familiarity with the research from human-computer interaction and ergonomics (13 journals) is demanded. Indeed, understanding that the landscape and demographics of audiences for distance education go beyond higher education settings, review of the literatures related to training, adult education, and the workplace (39 journals) seems prudent. Finally, keeping abreast of research developments related to distance education that are located in the humanities and social sciences (51 journals), as well as in the science, technology, engineering, and mathematics disciplines, (19 journals) is warranted. These eight broadly defined research clusters, thus, serve to organize 263 associated peer-reviewed journals related to instruction and learning with technology.

### Modelling Teaching and Learning

**Table 2: Five Dimensions of Everyday Instructional Situations**

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<th>5 Dimensions</th>
<th>Relevant Activities or Attributes of Everyday Instructional Situations</th>
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| Learner Background & Knowledge| • highlighting role of learner characteristics and prior knowledge in instructional situations  
• applying skills and abilities, learning and technology experiences, standardized test taking, and general educational success to various learning contexts  
• comprising of the biological attributes (age, gender, race/ethnicity), abilities (cognitive, physical), personal identity (learning style, attitude, motivation, self-monitoring), literacies (computer, domain, textual, visual), and sociocultural context (family, economic, organizational, geographical) of learners in both formal and informal instructional situations |
| Learner Tasks & Activities    | • focusing on the nature of tasks (e.g., requirements, procedures, importance, frequency, time, complexity), user behaviors and expectations, and human problem-solving activities  
• involving actions with learning materials, exercises, goals, processes (e.g., reading to learn, reading to learn to do, reading to analyze, reading to compare, confirm, correct)  
• emphasizing individual or distributed learner activities related to discovering, sampling, comparing, referring, organizing, illustrating, and generalizing |
| Social Dynamics               | • drawing on computer-mediated communication, collaboration and groupwork, social cognition, and communities of interest  
• comprising of socioemotional-affective-cognitive interactions between learners (or groups) and instructors, learners (or groups) and learners (or groups), learners (or groups) and content, learners (or groups) and interfaces, instructors and content, instructors and interfaces, instructors and other instructors, content and content, and institutional support structures  
• requiring responsiveness, social relationships and abilities, personal styles, strategies for scheduling, group management and immediacy, and self-assessment |
| Instructor Activities         | • stressing problem-based goals for instruction and authenticity in projects and learning activities  
• adapting to audience, communication of content, generating objectives, drawing on prior knowledge, information exchange requirements, strategies for topic elaboration, topic pacing and flow, sequencing, methods of evaluation, immediacy of feedback  
• understanding of subject matter, theories of knowledge, pedagogy, and learning transfer |
| Learning Environment & Artifacts| • moving from drill-and-practice to computer-assisted learning to Web-based artifacts that facilitate learners, their tasks, and the purpose and goals of the instruction  
• selecting instructional artifacts (e.g., reading and writing applications, viewing, managing, and disseminating individual and shared documents) that promote mentoring and open exchange of ideas, discussion, pacing and flow, meaningful sequencing, methods of evaluation, immediacy of feedback  
• optimizing ergonomic design for usability, comfortable and functional versus merely aesthetic, promoting discussion face-to-face, virtually, and in-between the two spaces, supporting one-to-one, one-to-many, and many-to-many communication and exchange |


Conclusions

Mapping the research literatures related to distance teaching and learning is an on-going activity and continues to inform the development of a robust framework for everyday instructional situations. It is hoped that these efforts can help both researchers and practitioners as they navigate the complex terrain that characterizes research on distance teaching and learning.

References


**Biographical Sketch**

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