A Handbook of E-Learning: Two Reviewers Comment

The SAGE Handbook of E-learning Research. Richard Andrews and Caroline Haythornthwaite (Eds.). London: Sage, 2007. 560 pp., $130.00 (cloth). ISBN 9781412919388.

A Suitable Textbook for the Classroom. However . . .

A Review by
Christian S. Loh

If you have ever searched for a suitable graduate-level textbook on e-Learning,[1] you will appreciate it when I say the process is like hunting for a needle in a haystack. Many available titles on e-Learning have a business practice overtone. Although this is to be expected, for e-Learning is big business, such books often are unsuitable for a graduate-level course in the field of education. When I finally found and finished reading *The SAGE Handbook of E-learning Research,* I knew I had the right book. It was not only suitable for graduate-level education classes but clearly valuable for doctoral students interested in research and development, learning models, and historical perspectives on e-Learning.

The editors, Richard Andrews and Caroline Haythornthwaite, and 32 other contributors (ranging from graduate student to distinguish professor) took stock of "progress in e-learning research," addressed "a range of issues from student experience to policy," and provided "a foundation for further research and development" (p. 1).

One may wonder if a mere 560 pages can do justice to the field of e-Learning. However, I found myself quite satisfied by the breadth and the depth of the topics covered. The editors ensured a long shelf life for the book by covering the latest trends in e-Learning development, such as third-generation (3G) mobile phones, immersive (whole-body) virtual environments, and online games. The 23 chapters are grouped into five parts: "Contexts for Researching E-learning," "Theory," "Policy," "Language and Literacy," and "Design Issues." The reader will find treatises on topics such as e-Learning's history ("Development and Philosophy of the Field of Asynchronous Learning Networks," by Starr Roxanne Hiltz, Murray Turoff, and Linda Harasim), efforts to advance distance education ("From Distance Education to E-learning," by Melody M. Thompson), politics ("Digital Divide and E-learning," by Caroline Haythornthwaite), the development of theory and methodology ("Learning Sciences Theories and Methods for E-learning Researchers," by Christopher Hoadley), and policy and practice ("An International Comparison of the Relationship Between Policy and Practice in E-learning," by Gráinne Conole).

Educators in languages, reading, and writing will be delighted to find sections devoted to the discussion of reading, writing, bilingualism, and second-language learning in an e-Learning environment. Also addressed is the fascinating human journey from paper-based to digital reading and writing, as well as the increasingly complex modes of writing and message composition in the Internet Age, from single-mode (text based) to dual-mode (text and image), to multimodal (incorporating multiple media, e.g., text, audio, and video). It is evident from the arguments presented in this book that computing technology and the Internet are not only changing modes of lesson delivery but also reshaping the rhetorical space in which literacy and learning occur.

Although a number of research methodologies are mentioned in passing by individual authors, the chapter titled "Learning Sciences Theories and Methods for E-learning Researchers" could give the impression that the handbook is skewed toward learning sciences only. Even though this is a very well-written chapter and particularly helpful for doctoral students interested in looking at e-Learning research through a scientific lens, I would have liked to see other, similarly titled chapters that examined the relevance of other research theories and methodologies that are equally suitable for e-Learning researchers—educational data mining, formative research, and design-based research, to name a few.

Similarly, the handbook contains many excellent chapters that cover the historical aspects of e-Learning research (indeed, they read like well-written literature reviews from dissertations). Among the topics covered are the rise of asynchronous learning networks (chap. 2), the use of online games and simulations in e-Learning (chap. 5), the rise of learning sciences in e-Learning research (chap. 6), how writing and literacy evolved through many iterations of technology change (chaps. 3 and 18), computer-supported collaborative learning (chap. 11), and the rise in learning-styles research pertaining to personality, age, and gender issues (chap. 15). It is ironic that the handbook does not include a chapter expounding the rise of the term *e-Learning* itself, from limited commercial application to cult success status in today's society.

Affordances

In the very first chapter, the editors expressed their concern about the overemphasis on technology found in the e-Learning literature. They took issue with the definition of e-Learning set forth by the Higher Education Funding Council for England (HEFCE; 2005):

> the use of technologies in learning opportunities, encompassing flexible learning as well as distance learning; and the use of information and communication technology as a communications and delivery tool, between individuals and groups, to

Educational Researcher, Vol. 36, No. 9, pp. 573–578
DOI: 10.3102/0013189X07313230

> support students and improve the management of learning.

The editors felt that the HEFCE definition "portrayed technology as simply a delivery mechanism" (p. 2) and failed to take into consideration the reciprocal influence between technology and its users. In other words, the advent of new information and communication technologies (ICT) will change the way users pursue e-Learning, which will, reciprocally, result in the development of new ICT, and so forth. Although I do not necessarily consider the HEFCE definition to be as limiting as the editors suggested, I agree that the success of e-Learning as an education/learning method can be explained not so much by the mode of delivery as by the ways that people make use of the technology.

As suggested by the editors, the *affordances* of Internet technology—not only "the explicit features of technology" but what those features "allow or facilitate for users" (p. 11)—are what has empowered the human users in what they do, be it lesson delivery, communications, or social interactions across the vast separation of physical space. Because my doctorate is in instructional technology, I learned to embrace the term *affordance* early on. Throughout my training (which started nearly a decade ago), the field of instructional technology emphasized the integral relationships among message design, technology, and education/learning. While I was still a graduate student, my professors cautioned me not to fall into the trap of believing in technology as the magic pill or silver bullet for education/learning. Now, having doctoral students of my own, I have been diligent in passing along that advice and reminding them to look beyond technology when framing their thinking and research questions.

Thus I was rather confounded to read the following in the handbook:

> In choosing to use the term "e-Learning" we have turned away from other names that might equally have been useful, such as computer-assisted learning, technology-enhanced learning, instructional technologies or online learning. To us, these terms fall into the trap that many previous studies of the relationship between technology and learning/education have fallen into, of assuming that learning exists independently of technologies and that in various ways technologies enhanced it. (p. 2)

Moreover, I was taken aback to find that the editors included the term *instructional technologies* in the list of "equally . . . useful" names. Although I have heard various arguments about the differences between *instructional* technology and *educational* technology, and which is a better name for the field, I have never seen the term *instructional technology* used synonymously with *computer-assisted learning*, *technology-enhanced learning*, or *online learning*. Not only is instructional technology an independent field of research (just like the learning sciences), but it is also named in the titles of well-respected graduate and doctoral degrees offered by many top-tier universities in the United States.

A Commercial Term

Arguably, self-study courses have been in existence since the 1840s, when they took the form of shorthand correspondence courses. Over the years, there have been numerous attempts to rename this type of course, depending largely on the prevailing technologies—from snail mail to e-mail, from bulletin board to CD-ROM to online environment. At a seminar that I attended in 2002, several colleagues and I had an opportunity to research the rise of the term *e-Learning*. Although we could not pinpoint the inventor of the term, we found the term used broadly to promote the learning opportunities made possible (i.e., afforded) by the advent of networking (online) technology. We arrived at the conclusion that *e-Learning* was largely a commercial term, a part of the marketing hype fueled by the frenzy during the 1990s to place computers in classrooms and then to connect the computers to the Internet.

In subsequent years, while journalists and reporters quickly latched on to the term *e-Learning,* many educational researchers (and editors) purposely steered away from using it in their writings because of the business connotation; they preferred using other terms instead—most commonly, *online learning.* Hence I can understand why, in the publication industry, one would use "E-learning Research" in the title of a handbook rather than "Online Learning Research" or "Distance Learning Research," even though the three names mean the same to me and, I believe, to many other educators.

Thus, if *computer-assisted learning, technology-enhanced learning,* and *online learning* are equally useful terms (by the editors' own admission), it is not clear to me how they fall in the "trap" of "assuming that learning exists independently of technologies" (p. 2). Even though I can attest that there was a time when one-way (causal) research methodology was employed to examine the effects of technology on learning, this should not be taken to mean that researchers of today still hold that primitive viewpoint. These days, educational researchers have been very creative in how they dissect e-Learning classrooms, as evidenced by the many excellent chapters in the handbook. Although some of the above-mentioned technologies may have become outdated, I argue that all of them reflected the thinking in the learning and research community and rightly deserve their historical places in the literature.

On the other hand, the term *e-Learning* remains ambiguous, to say the least. A quick search on Google reveals that there is no agreement about the term, either in the way it is spelled (e.g., eLearning, e-learning, elearning, "e"learning, e-Learning) or in the way it is defined. Many will argue that the *e* in e-Learning should never be capitalized, and just as many will define e-Learning to fit their business or argument. For instance, NetTel@Africa's Network for Capacity Building and Knowledge Exchange defines e-Learning as follows: "the effective teaching and learning process created by combining e-digital content with local community and tutor support along with global community engagement" (Beebe, Tusubira, & Twaakyando, 2002). To the Open and Distance Learning Quality Council (ODLQC) of the United Kingdom, e-Learning is "the effective learning process created by combining digitally delivered content with (learning) support and services" (Waller & Wilson, 2001).

The ODLQC went on to elaborate on certain key concepts in this definition:

- *Effectiveness.* There are many types of learning, but some are ineffective. It is pointless to state or apply a definition to something that fails.
- *Combination.* It is the combination that makes the difference, not the individual parts, although each part is perfectly valid on its own
- *Digitally delivered content.* This excludes paper-based materials, which,

although a valid medium for learning, are not e-Learning. I will return to this element later.

- *Support.* A CD-ROM–based program can, theoretically, be used anywhere and anytime but often is not supported by tutors, although of course it could be. (Waller & Wilson, 2001)

One must wonder if the editors will ever find the perfect definition for e-Learning. In the meantime, there needs to be a compromise. I am happy to recommend this handbook despite my disagreement with the editors. Anyone who studies the field must come to realize that such is the nature of e-Learning. Or is it E-learning?

NOTE

[1]The variety of spellings for "e-learning" continues to grow, in a seemingly haphazard manner. In earlier days, however, there were special considerations concerning how the word was to be written. Many agreed that the *e,* which stood for *electronic,* should be hyphenated as in *e-mail.* It was further argued that the *e* should remain lowercase—that any capitalization should be reserved for the *L* in *learning* because that was the more important part of the term. The spelling "E-learning" highlights the electronic delivery system, whereas "e-Learning" highlights learning. I am old-school in wishing to emphasize learning: Hence my choice of "e-Learning" for this article. Sadly, my choice may soon be beside the point as the world becomes increasingly caught up with technology.

REFERENCES

Beebe, M., Tusubira, F. F., & Twaakyando, H. (2002). *Africa's e-Learning program in ICT policy and regulation.* Retrieved November 15, 2007, from http://www.dot-com-alliance.org/newsletter/article.php?article_id=138

Higher Education Funding Council for England. (2005, March 8). *Using technology to transform higher education.* Retrieved November 20, 2007, from http://www.hefce.ac.uk/news/hefce/2005/elearning.htm

Waller, V., & Wilson, J. (2001, October). A definition for e-learning [Electronic version]. *Open and Distance Learning Quality Council Newsletter.* Retrieved November 17, 2007, from http://www.odlqc.org.uk/n19-e.htm

AUTHOR

CHRISTIAN SEBASTIAN LOH is an assistant professor of instructional design technology and one of two coordinators of the Collaboratory for Interactive Learning Research at Southern Illinois University Carbondale, Curriculum and Instruction, College of Education and Human Services, 625 Wham Drive, Mailcode 4610, Carbondale, IL 62901–4610; *csloh@siu.edu.* His research interests include assessment of learning with digital and online games, game modding for serious play, and content management system design and delivery.

Manuscript received September 3, 2007
Accepted September 14, 2007

Bold Promises: Sampling Literature, Building Theory, and Examining Methods in E-Learning Research

A Review by
P. G. Schrader

Over the past several decades, research has indicated that learning is a multidimensional interaction among cognitive factors (e.g., prior knowledge, aptitude, experience) and noncognitive factors (e.g., affect, motivation; Alexander, Jetton, & Kulikowich, 1995; Murphy &Alexander, 2002; Pintrich & Schrauben, 1992). Other research has included the influence of the environment on learning (i.e., sociocultural context; Brown, Collins, & Duguid, 1989; Greeno, 1998; Lave & Wenger, 1991). Taken as a whole, learning is dependent on the learners, their characteristics, and the context in which learning takes place. Traditional learning environments vary significantly along these spectra, challenging researchers to develop rigorous yet comprehensive research strategies.

The challenges associated with existing methodologies are evident in the field of educational technology research. In this field, specifically e-learning, the variety and breadth of contexts and user variables afford endless technological tools, research paradigms, and theoretical perspectives. In addition, research *into, on,* or *about* e-learning is also conducted from a vast number of disciplines that maintain their own traditions and approaches to defining data and interpreting results (e.g., human computer interaction vs. educational psychology).

Given the nature of the field, e-learning research is not a particularly consistent or cohesive body of literature. Moreover, theories that frame e-learning research are not well developed. Unfortunately, research frameworks guide the development of research questions, selection of variables, analyses, and inferences (Fraenkel & Wallen, 2000; Schrader, Lawless, & Mayall, in press). As a result, *The SAGE Handbook of E-learning Research* is an attempt to (a) consolidate research *into, on,* or *about* e-learning; (b) offer a theoretical lens to ground e-learning discourse; and (c) discuss methodological limitations and opportunities.

In their substantial introduction, editors Richard Andrews and Caroline Haythornthwaite describe the major issues associated with e-learning research and provide two general theoretical frameworks from which one might read the subsequent chapters (i.e., rhetorical theory and social informatics). Although the field is diverse and unwieldy, the handbook succeeds in covering key elements such as learners, teachers, information and communication technology, local and societal knowledge, and embedding contexts.

Each of the handbook's five parts includes four or five chapters written by experts in the field. Similar in breadth, the chapters cover topics from many disciplines and topics. In most cases, one chapter from each part is oriented toward defining the field (e.g., asynchronous learning networks). For knowledgeable readers, these summaries may not be necessary, but they provide a clear foundation for the work. In addition, the authors provide a similar conceptual foundation for each chapter's subject matter as well as links between the subtopics and e-learning.

Consolidating Research

By far the greatest strength of *The SAGE Handbook of E-learning Research* is the breadth of its content. Andrews and Haythornthwaite acknowledge that the term *e-learning* is broad on two counts. Both *e* (typically short for *electronic*) and *learning* have multiple and profoundly different meanings to researchers in various disciplines. Although the 23 chapters are grouped according to general themes, they represent 23 distinct perspectives and nearly the same number of technological contexts. This conceptual diversity proves an appropriate entrée for researchers who are new to the field. Although the authors examine their topics at a deep level, the handbook is essentially a synthesis of existing work. Readers are afforded the chance to experience an

overview of the field while delving deep into specific areas. The handbook provides major foci that are significant in the field (literacy, design, video games, etc.).

However, the resulting range of environments, paradigms, frameworks, and grain sizes may also limit the handbook's utility for knowledgeable researchers. Readers who seek specific information that is directly related to their work may not find beneficial chapters in the handbook. Instead, readers are pressed to interpret the findings and make general conclusions about e-learning across distinct topics in terms of content (technology, subject, etc.). Nevertheless, because the selection is so diverse, one is likely to find at least some of the content relevant.

Theoretical Lens

In academic arenas, theory serves multiple purposes. It guides the selection of research questions, frames methodology, and provides a context to interpret results. A sound theoretical perspective for research enables its findings and data to be shared across disciplines. Andrews and Haythornthwaite's general theoretical lenses—rhetorical theory and social informatics—are not intended to constitute a grand unified theory of e-learning, but many of the chapters examine e-learning in terms of sociocultural interactions. This consistency presents readers with the opportunity to examine some of the ideas across domains, disciplines, approaches, and contexts, even if the content is not strictly relevant.

E-Research Methodologies

One of the major objectives of the handbook is to provide an overview of the methods and methodologies associated with e-learning research. However, readers seeking innovative approaches may be disappointed. Although the information and content presented in each chapter are current, the principal aim of the handbook appears to be to consolidate research in the field. To this end, existing research methods and methodologies are often critiqued but not clarified, modified, or improved. As a whole, the handbook offers clarifications, definitions, and explanations of e-learning but lacks substance in terms of direction for researchers. Even the chapter dedicated to theory and research methods left this reader unsatisfied.

Overall, a variety of methods and methodologies are described in a cursory sense. Nevertheless, there is an obvious lack of technological methodologies present in the research. Some contributors note that the technology invites methodological concerns. However, it also invites solutions to those concerns. By leveraging technology as a data collection tool, researchers are afforded new ways to evaluate learning in electronic contexts at a variety of grain sizes that were otherwise unavailable. For example, several hypertext researchers have examined learning on the World Wide Web by means of navigation trails collected by servers (Herder & Juvina, 2004; Mills, 2001; Schrader & Lawless, 2007). The technology (the server log) permits very deep analysis of process-oriented data and corresponding methodologies. This and other known methodologies are not adequately represented in the handbook.

Culling a field as diverse as e-learning into a meaningful handbook is an ambitious goal fraught with challenges and limitations. The handbook chapters represent a diverse set of contexts and theoretical foundations. Many of the book's shortcomings stem directly from the nature of the e-learning field, which is disjointed, full of methodological issues, and diverse in terms of research perspectives. Nevertheless, the handbook can benefit a wide audience for various reasons. Less experienced individuals will appreciate the collection of articles as a whole. Those familiar with e-learning will be able to pick chapters that are relevant and useful.

REFERENCES

Alexander, P. A., Jetton, T. J., & Kulikowich, J. M. (1995). The interrelationship of knowledge, interest, and recall: Assessing a model of domain learning. *Journal of Educational Psychology, 87*(4), 559–575.

Brown, J. S., Collins, A., & Duguid, P. (1989). Situated cognition and the culture of learning. *Educational Researcher, 18,* 32–41.

Fraenkel, J. R., & Wallen, N. E. (2000). *How to design and evaluate research in education*. New York: McGraw-Hill.

Greeno, J. G. (1998). The situativity of knowing, learning, and research. *American Psychologist, 53*(1), 5–26.

Herder, E., & Juvina, I. (2004). Discovery of individual user navigation styles. In G. D. Magoulas & S. Y. Chen (Eds.), *AH2004 Workshop on Individual Differences in Adaptive Hypermedia.* Eindhoven, Netherlands: Springer-Verlag.

Lave, J., & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation.* Cambridge, UK: Cambridge University Press.

Mills, R. J., (2001). Analyzing instructional software using a computer-tracking system. *Information Technology, Learning, and Performance Journal, 19*(1), 21–30.

Murphy, P. K., & Alexander, P. A. (2002). What counts? The predictive powers of subject-matter knowledge, strategic processing, and interest in domain-specific performance. *Journal of Experimental Education, 70*(3), 197–214.

Pintrich, P. R., & Schrauben, B. (1992). Students' motivational beliefs and their cognitive engagement in classroom academic tasks. In D. Schunk & J. Meece (Eds.), *Student perceptions in the classroom* (pp. 149–183). Hillsdale, NJ: Lawrence Erlbaum.

Schrader, P. G., & Lawless, K. A. (2007). Dribble files: Methodologies to evaluate learning and performance in complex environments. *Performance Improvement, 46*(1), 40–48.

Schrader, P. G., Lawless, K. A., & Mayall, H. J. (in press). The model of domain learning as a framework for understanding Internet navigation. *Journal of Educational Multimedia and Hypermedia.*

AUTHOR

P. G. SCHRADER is an assistant professor of educational technology in the College of Education, University of Las Vegas, 4505 Maryland Parkway, M.S. 3505, Las Vegas, NV 89154–3005; *pg.schrader@unlv.edu.* His research involves understanding learning in complex nonlinear digital environments such as massively multiplayer online games and hypertext.

Manuscript received September 13, 2007
Accepted September 14, 2007

A Response to "Bold Promises," by P. G. Schrader

Response by
Christian S. Loh

Even though I have differences with the editors of *The SAGE Handbook of E-learning Research,* I found enough substance in it to recommend it as a suitable text in a higher education classroom. In my opinion, the value of the textbook is to be found in the historical reviews of the development of technology, the currency of the information presented, and the broad coverage of topics about e-Learning research. The research methodologies described by various authors should provide enough

insights to doctoral students about how researchers in the field conduct inquiries, and the opinions offered by the authors are diverse enough to stimulate a good discussion during a seminar.

Hence I was intrigued by the stance adopted by P. G. Schrader in his review. He has approached the handbook from a perspective that is somewhat different from mine (i.e., as a fellow researcher). But I find more similarity between our reviews than differences. For example, Schrader too found "the breadth of its content" to be "the greatest strength" of the handbook and the "information and content presented" to be "current." He noted that the "diversity proves an appropriate entrée for researchers who are new to the field"—for example, doctoral students. Both of us observed that many chapters in the handbook are "essentially a synthesis of existing work" and that these literature reviews could prove to be highly useful to doctoral students seeking relevant information.

I will further agree with Schrader that fellow researchers "may not find beneficial chapters" related to their work because the handbook does not adequately present some of the latest methodologies used by researchers of e-Learning. One important example he cites is the collection of users' Internet "navigation trails" by researchers, in the form of server logs, for "very deep analysis of process-oriented data"—what I call educational data mining.

Despite the lack of coverage of innovative research methodologies used in e-Learning, the editors belabored the inadequacies of existing research models of e-Learning. They went so far as to propose that current models need to "give way to reciprocal co-evolutionary models . . . in e-learning research" (p. 33). The term *co-evolution* (and its variations) appeared no less than 20 times in chapter 1 alone. Furthermore, I found the editors' assertion that "it is necessary to move towards a model that *biologists* call 'reciprocal co-evolution'" (p. 36) to be illogical. Although a sociologist's view of evolution, meaning "changes over time," would be much more appropriate in this case, the editors' fixation on a biologist's definition is somewhat of a stretch. (I would argue that Czech philosopher Radovan Richta's use of the term "technological [r]evolution" [Nový, Hroch, & Gabriel, 1994, chap. 13] during the 1960s is a metaphorical expression from a philosophical stance.)

Because all technology—both hardware and software—clearly is man-made (i.e., created), it is inappropriate to associate the term *technology* with the biological term *(co)evolution.* Granted, new technology could affect the way humans learn, work, and play, and the ways humans make use of a technology could reciprocate in the *creation* of new technology; but no biological *evolution* has taken place in this process. Hence I find the editors' insistence on and arguments for a reciprocal, coevolutionary model to be flawed. What's next? Should ICT researchers push for a "punctuated equilibrium" theory (see Eldredge & Gould, 1972) about e-Learning research? Let us not be overly eager to adopt the latest pet theory or model from other fields before carefully examining what our own research community has to offer.

RFERENCES

Eldredge, N., & Gould, S. J. (1972). Punctuated equilibria: An alternative to phyletic gradualism. In T. J. M. Schopf (Ed.), *Models in paleobiology* (pp. 82–115). San Francisco: Freeman, Cooper.

Nový, L., Hroch, J., & Gabriel, J. (1994). Czech philosophy in the 20th century: Czech Philosophical Studies, II. In L. Nový, J. Hroch, & J. Gabriel (Eds.), *Technology and Czech philosophy* (Vol. 4, pp. 225). Washington, DC: Council for Research in Values and Philosophy.

Manuscript received September 16, 2007
Accepted September 17, 2007

A Response to "A Suitable Textbook for the Classroom," by Christian S. Loh

Response by
P. G. Schrader

Loh adopted a pragmatic perspective in evaluating *The SAGE Handbook of E-learning Research.* As academics, we are rarely afforded the opportunity to have the breadth of one domain represented within a single source. As previously argued, the variety of tools and approaches found within the handbook is perhaps its greatest strength, from either perspective. However, in adopting a view in terms of the audience, one might still evaluate the handbook based on the promises offered by the editors. In so doing, additional light can be shed on the handbook as a whole and as a tool for graduate students, rather than as a resource for researchers.

The breadth in content and contexts provides graduate students with the opportunity to sample a field. The content provides novices with the opportunity to examine themes across chapters. However, 34 scholars with distinct academic backgrounds, epistemologies, and interests provide the content. As a result, readers experienced in academia will not find the subsequent inconsistencies unusual (or noteworthy). Unfortunately, graduate students with little experience or prior knowledge will not share the experience. Similarly, a variety of technologies are discussed (e.g., 3G, video games, and the World Wide Web), which promotes an overall appreciation of the field. However, students may not be prepared on their own to follow the handbook's examination of relationships across contexts or to detect the subtle variation and connections among chapters.

Similarly, graduate students are likely to have difficulty in appreciating the epistemological differences across the chapters. The editors provide a context for interpretation of the handbook, but the contributors' views range from situated cognition to activity theory. Students undoubtedly will interpret the different theoretical and epistemological perspectives in a superficial way.

A major weakness of the handbook is that it fails to contextualize problems and solutions associated with conducting e-learning research. Technology challenges researchers to operationally define the context, the instructional application, and the theoretical lens from which their research is conducted. These issues determine the variables, the data, and the inferences drawn from the data. Standard methodologies are limited and not necessarily appropriate in e-learning. However, the handbook provides insufficient information in this area. Students and some researchers commonly fall into the "horse race" trap of comparing technology contexts directly to nontechnology contexts. The arguments against this are extensive elsewhere but are treated in a cursory manner in the handbook. From this point of view, the handbook is incomplete.

The field of e-learning is too broad to be adequately sampled in a single book, and many of the issues noted here could not be addressed for that reason. Methods are overlooked, readers may ignore useful information because a specific context

(e.g., language learning) is uninteresting, and the breadth causes the chapters to lose cohesion. However, how do you evaluate a volume in excess of 500 pages covering an impossibly diverse field? Do you judge it by its own goals or by your intended application? Given these two reviews from two perspectives, the answer is, undoubtedly, both. *The SAGE Handbook of E-learning Research* may have something for everyone who is willing to hunt for it.

Manuscript received September 16, 2007
Accepted September 17, 2007