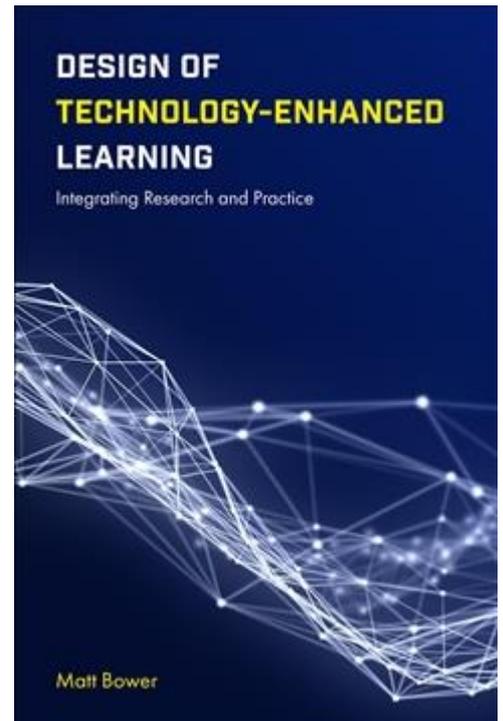


Design of Technology-Enhanced Learning: Integrating Research and Practice

Review by Peter Albion

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The fields of Instructional Design and Educational Technology are subject to rapid change that generates both need and material to sustain publication of a variety of books. Those tend to fall into two broad categories, textbooks intended to support instructors and students or collections of research chapters to inform ongoing research in the field. The former draw on research but are necessarily limited in the detail that can be included in a broad overview — the latter report current research in detail but with limited advice about its practical application. This book adopts a middle path, seeking to integrate research and practice in ways that can directly inform practitioners using technology to enhance the design of their instruction. That sets it apart from most likely competitors.

The book is intended to serve a spectrum of audiences from practising and preparing educators to researchers in relevant fields. The overall structure and approach provide effective support for that goal. Although they are not identified as such, the book is in three broad sections. Chapters 1 to 6 provides broad conceptual and theoretical background. Chapters 7 to 10 are informed by that background as they address the possibilities of specific recent technologies for education. Chapters 11 and 12 reflect on that material to abstract principles that can be applied to learning design and speculate on future directions.

A key feature of every chapter is the comprehensive referencing that supports key ideas and examples of practice. The sources are drawn from a wide range of respected books and international journals supplemented by some lesser known sources such as conferences and online archives. Thorough searching and careful selection have resulted in chapters that are well supported by both seminal works and current research.

Chapter 1 introduces the book by establishing the importance of technology integration in education and outlining the approach to be taken through the remaining chapters. In Chapter 2, the Technological Pedagogical and Content Knowledge (TPACK) framework is described, and its implications for technology-enhanced learning are briefly explored. The following three chapters deal respectively with pedagogy, technology and content. Chapter 3 considers behaviourist, cognitivist, constructivist, and connectivist perspectives for understanding learning and specific pedagogical approaches including problem-based learning and game-based learning. It concludes with a review of specific pedagogical strategies and a discussion of the aims of education. Discussion of technology in Chapter 4 is developed around affordance theory and multimedia learning principles as complementary approaches to understanding how technology can best support learning. Using technology to represent content for different areas of learning is the focus of Chapter 5 which concludes with a useful introduction to intellectual property rights, open resources and creative commons. The treatments of some of these topics are necessarily brief but sufficient to alert beginners to relevant areas with references that will permit further exploration as necessary. Chapter 6 rounds out the first section with a substantial introduction to design thinking as a basis for learning design. It describes multiple models for learning design and tools for representing learning designs.

Having established necessary background, the next four chapters address the design of learning using selected current technologies. Chapter 7 begins by considering the characteristics of Web 2.0 that can support learning and then briefly describes examples of designs using wikis, blogs, and other Web 2.0 applications before moving to a more general consideration of potential benefits and limitations. Two ‘vignettes’ are presented in some detail as examples of Web 2.0 learning design, and the chapter is rounded out with 20 recommendations for Web 2.0 learning design and a brief conclusion. All parts of the chapter are well supported by references with almost 150 sources listed for the chapter. Chapters 8, 9 and 10 use the same structure to address educational design with social media, mobile devices, and virtual worlds. The chapters vary in length but are equally thorough in their treatment and referencing. Together they provide an effective illustration of how the background principles presented in the first section can be applied to the design of technology-enhanced learning.

The final two chapters provide a degree of future proofing for the content of a book that deals with a rapidly developing field. The earlier chapters have presented a solid conceptual foundation for learning design using technology and a set of examples to demonstrate how those foundational ideas can be applied. Chapter 11 works over the previous chapters to abstract principles for the design of technology-enhanced learning. Armed with those principles supported by the background and examples of the earlier chapters, readers of the book should be able to confidently approach the design of learning using new technologies as and when they become available in classrooms. In that sense, the book applies the ancient dictum that teaching somebody to fish is more effective than gifting them a fish to eat. There are many practical ideas in the earlier chapters that could be immediately applied to benefit learners at all levels, but the greater long-term benefit will come from applying the principles



abstracted in Chapter 11. Chapter 12 offers some brief conclusions and ideas about future directions. It rightly notes the critical role of educators and the need to support them. Learners, educators, and the contexts in which they work are sufficiently idiosyncratic that top-down prescriptions cannot offer universal solutions. Educators must be trusted to apply well-established principles in their own unique situations.

This book makes a valuable contribution to the design of technology-enhanced learning at all levels. Although it is unapologetic in its scholarship, citing many and varied sources to support its claims, it is simultaneously approachable even for relative novices in the field. The language is rigorous but conversational in tone, making it accessible and useful to both scholars and practitioners. It is comparable in price to many textbooks that may offer more practical suggestions that are immediately applicable in classrooms but lack the substantial treatment of background, links to recent research, and demonstration of how to abstract principles for broader application offered by this book. The professional libraries of educators at all levels and researchers interested in the educational application of technologies would be enhanced by the addition of this book.