GROUNDED DESIGNS FOR ONLINE AND HYBRID LEARNING SERIES

GROUNDED DESIGNS FOR ONLINE AND HYBRID LEARNING

ONLINE AND HYBRID LEARNING DESIGNS IN ACTION

EDITED BY ATSUSI "2C" HIRUMI

Hawker Brownlow
EDUCATION

Contents

IST1949 • 9781760011949 • © 2014 Hawker Brownlow Education

Introduction

Atsusi "2c" Hirumi

Designing innovative, student-centered online or hybrid learning environments can be difficult, particularly if you haven't experienced one yourself. Many of you may have taken (or designed your own) online or hybrid courses or training programs. But have you ever taken a course or module that was truly learner-centered? Have you experienced online or hybrid environments that were based on a variety of learning theories and instructional strategies?

Over the past 10 to 15 years, I've had the privilege of working with hundreds of students, educators, and designers from across the United States and abroad to design e-learning programs for K–12 and higher education, as well as for business and industry. During these experiences, I've found that fewer than 10% of the people I've worked with have taken a problem-, case-, or inquiry-based online course, and even fewer have designed or delivered a totally online or hybrid course based on different learning theories or instructional strategies. If educators and instructional designers would like to or are expected to create innovative e-learning environments, they need concrete examples to facilitate their efforts. Of all the tools and techniques that I've prepared for class and used in presentations and workshops on designing online and hybrid learning environments, participants ask for examples of innovative, online, student-centered coursework more than any other resource. This book, *Online and Hybrid Learning Designs in Action,* compiles such examples.

Grounded Designs for Online and Hybrid Learning Series

The book you're holding is the second in a three-book series. The first book in the series, *Online and Hybrid Learning Design Fundamentals,* covers basic tasks associated with the systematic design of online and hybrid learning environments. It emphasizes the importance of and illustrates methods for aligning learner assessments to learning objectives, and it presents a framework for designing and sequencing meaningful e-learning interactions. The first book also provides tactics for searching vast repositories of existing, sharable content objects and compares Web 2.0 to prior technologies to facilitate the delivery of your course. In addition, the book discusses practical tools for preparing students for successful online learning and interprets laws and provides examples of how online instruction should be universally designed for children with special needs. The series' first book concludes by discussing how e-learning may be designed and delivered to meet ISTE's NETS for teachers and students and to follow quality guidelines for distance learning.

This second book in the series, *Online and Hybrid Learning Designs in Action,* presents examples of how to apply a range of instructional strategies that are grounded in cognitive information processing, as well as inquiry, experiential, and game-based theories of human learning. This book begins with two instructional strategies that may be relatively familiar to you. In Chapter 1, Abigail Hawkins shows us how to apply Gagné's nine events of instruction to design a totally online and a hybrid lesson. In Chapter 2, Kelley Rogers illustrates how WebQuests utilize existing web resources to implement inquiry-based learning. Continuing with inquiry-based pedagogies, Shelly Wyatt, Natalie Dopson, Yana Keyzerman, and Janet Daugherty exemplify the application of the 5E Instructional Model to develop e-learning in Chapter 3. Then, in Chapter 4, Kent Crippen, Leanna Archambault, and Cindy Kern depict the use of VeeMaps to scaffold e-learning, based on the processes and products of scientific investigations. For Chapter 5, Scott Waring proposes the use of authentic historical investigations that combine inquiry-based and experiential theories of learning to teach students how to search for and interpret primary sources of evidence to explain historical events from multiple perspectives. The next two chapters then focus on two different applications of experiential learning theory. In Chapter 6, Naomi Malone and Kendra Minor illustrate how guided experiential learning uses expert demonstrations to help students learn from authentic experiences. In Chapter 7, Christopher Stapleton and I explain how the Inter*PLAY* instructional strategy integrates key conventions of interactive entertainment (i.e., stories, play, and games) with experiential learning principles to engage learners and promote e-learning. To conclude this book, Matthew Laurence, in Chapter 8, continues with the notion of using concepts from the entertainment industry to design game-like environments that are grounded in brain-based learning principles.

The third and final book in the series, *Online and Hybrid Learning Trends and Technologies,* looks further into several key areas that I've found of interest and value for designing online or hybrid learning environments. Like the first two books, the chapters in this volume also focus on instructional components of an e-learning system; however, these authors look at overarching e-learning trends and technologies, such as managing large classes, creating podcasts, using virtual worlds in education, and developing virtual schools in North America and around the world.

All three books are written for K–12 educators, including teachers, education coaches, and administrators, as well as instructional designers who may be creating educational materials for K–12 online and hybrid courses. However, if you teach in a college or university setting or design educational and training materials for higher education or business and industry, I think you'll find that the fundamental principles, processes, and examples covered in these books offer insights and apply to design of e-learning environments across settings.

The three books in the series are based on three basic premises. To increase quality (reduce variance) and design effective, efficient, and engaging online and hybrid courses, we should (1) ground the designs of our coursework on research and theory; (2) follow a systematic design process to align basic elements of instruction (namely, objectives, assessments, and instructional strategy); and (3) think and, whenever possible, act systemically to ensure that all necessary components of the educational system are aligned and work together to facilitate e-learning.

IST1949 • 9781760011949 • © 2014 Hawker Brownlow Education

This volume, *Online and Hybrid Learning Designs in Action,* serves as the heart of the three-book series, Grounded Designs for Online and Hybrid Learning. It illustrates how you can apply an assortment of instructional strategies, grounded in research and theory, to create an effective array of online and hybrid learning environments. While most strategies in this book depict learner-centered approaches to teaching and learning, teacher-directed strategies are also included so that you can compare methods and determine which approach is more appropriate for you to use, depending on your students and your desired learning outcomes (as discussed in the first book in the series, *Online and Hybrid Learning Design Fundamentals*).

Grounded Design

Grounded design is defined as "the systematic implementation of processes and procedures that are rooted in established theory and research in human learning" (Hannafin, Hannafin, & Land, 1997, p. 102). Grounded design articulates and aligns theory with practice for the purpose of optimizing learning. Regardless of your underlying educational values and beliefs, grounded design provides a procedure that you can use in a variety of settings.

To facilitate the process of aligning theory with practice, Hannafin et al. (1997) posit four criteria for grounded design:

1. The application of a defensible theoretical framework clearly distinguishable from other perspectives,
2. The use of methods that are consistent with the outcomes of the research conducted,
3. The ability to generalize beyond one particular instructional setting or problem, and
4. Iterative validation through successive implementations.

Using these criteria gives you a solid foundation for designing coursework, as well as for improving your methods and materials over time. However, grounding the design of your lessons and courses does not necessarily guarantee that your students will achieve targeted outcomes in an effective and efficient manner. A number of tasks must be completed before and after you design your course to facilitate e-learning.

Systematic Design

To create an online or hybrid course, you may or may not follow a systematic design process. Those who use a systematic process utilize the results of one task as input for subsequent tasks to link them sequentially. For instance, an educator or instructional designer following a systematic process may use (1) analyses to identify essential skills and knowledge; (2) the skills and knowledge to generate, cluster, and sequence objectives; (3) the objectives to define and align learner assessments; (4) the objectives and assessments to formulate an instructional strategy; and (5) the strategy to select tools and technologies for facilitating achievement of the objectives.

Systematic design is vital for a number of reasons:

- **It provides clear linkages between design tasks.** The resulting alignment of instructional objectives, strategies, and assessments is essential for facilitating learning in online, hybrid, and conventional classroom learning environments.
- **It begins with an analysis of the target learners and desired learning outcomes.** Such analyses are necessary for proper planning and decision making. Without it, key instructional components may be missing or misaligned.
- **It is based on a combination of practical experience, theory, and research.** Key design decisions are informed by what is known about human learning, instruction, and emerging technologies to avoid haphazard investments in unsubstantiated fads or opinions.
- **It is empirical and replicable.** To increase return on investment, instruction is designed to be used more than once with as many learners as possible. The costs associated with systematic design are worth the investment because the resulting materials are reusable.
- **It is generalizable across delivery systems.** The resulting materials may be used to support the delivery of instruction in conventional, hybrid, and totally online learning environments.

A number of limitations are also associated with systematic design. For instance, systematic design takes time and expertise—vital resources that may be spent on other projects. Educators and instructional designers are rarely given enough time and support to adhere to a systematic design process. Interim products (e.g., paper-based design documents) are not very flashy and may not capture the attention of key stakeholders, whose support is essential if your efforts are to be effective.

Many also associate systematic design with ADDIE (Analysis, Design, Development, Implementation, and Evaluation), a well-known model for producing training and educational programs. ADDIE has been used successfully by the military and corporations across the United States and around the world for decades. Variations of ADDIE (e.g., Dick, Carey, & Carey, 2009; Smith & Ragan, 1999) continue to be adopted by educators and instructional designers to produce training and education in a systematic fashion for the reasons mentioned earlier. Critics of ADDIE, however, argue that it is too linear, too time consuming, too resource intensive, and too inflexible—that it fails to accommodate changes in learner needs and instructional materials during development and delivery. Critics also point to poorly designed instructional materials, said to be based on the ADDIE process, that are not effective, efficient, or engaging. Yet, experienced instructional designers realize that more often than not, ineffective, inefficient, and unappealing instruction results from inappropriate or inadequate applications of ADDIE (e.g., people cutting corners due to lack of time, training, or resources), rather than inherent problems with the model itself. ADDIE also does not have to be applied in a linear fashion, which is a common myth; spiral and other iterative models of ADDIE are widespread.

Experts now advocate what are referred to as agile approaches to design, such as the Successive Approximation Model (SAM) that further accentuates the iterative and collaborative nature of design (Allen, 2012). Figure I.1 depicts what Allen has named the Extended Successive

IST1949 • 9781760011949 • © 2014 Hawker Brownlow Education

Approximation Model (SAM2) for projects that require significant content or e-learning development and more advanced programming.

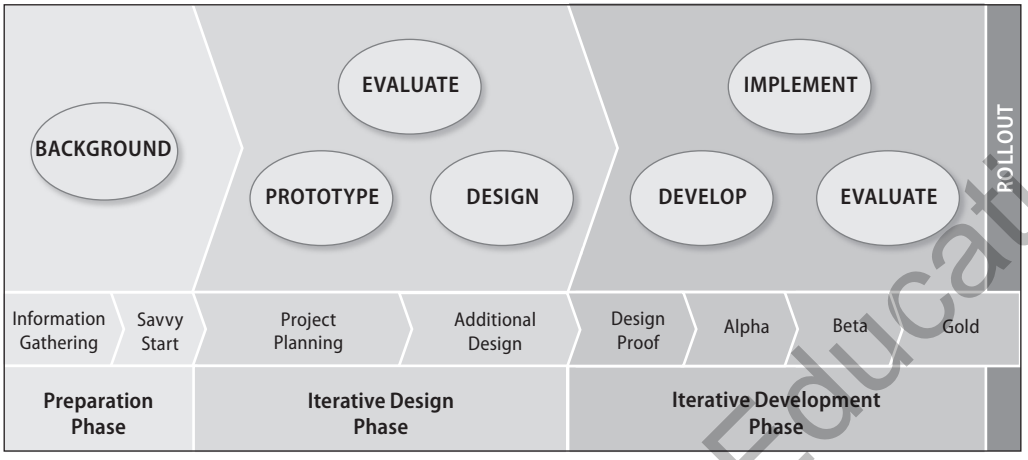

FIGURE I.1 ▶ The three-phase extended successive approximation model or SAM2 *(This figure is reprinted from Allen, 2012, with permission from ASTD Press.)*

Whether you use ADDIE, SAM2, or other processes you have tried, combined, or devised, it is important to remember that a focus on tangible results without sufficient planning or testing may result in a false sense of economy. The impact of poorly designed instruction may not be evident until would-be learners are asked to perform key tasks for which they are not prepared. Dissatisfied learners may also drop out and warn others to avoid your program. The bottom line is that you should use a process that ensures the alignment of objectives, assessments, and instructional strategies and leads to the development of instructional materials that consistently result in desired learning outcomes on time and in budget. Systematic design helps ensure alignment between fundamental instructional elements and reduces variance without inhibiting creativity if applied in an appropriate manner. Nevertheless, grounded and systematic design may not be sufficient for ensuring your students achieve targeted learning outcomes.

Systemic Thinking and Action

Well-designed instructional materials and coursework are essential but not necessarily sufficient for facilitating e-learning. In an online environment, an instructor may not be readily available to fill in gaps and make up for inadequacies in the instructional materials. Students may not be able to just drop what they are doing and see an advisor to address logistical issues. If students cannot readily register for and access coursework, acquire materials, submit assignments, obtain feedback, receive advice, access technical support, and otherwise navigate the training or educational system, it doesn't matter how good the instruction is—learning may not occur. Students may actually prefer an online program with high-quality student services and mediocre course materials rather than a program with mediocre student services and high-quality online coursework.

Systematic design is not sufficient for establishing effective and efficient online and hybrid programs. You must also think systemically; in other words, you must view e-learning as part of a larger system that consists of a set of interrelated components that must all be aligned to achieve a common goal. Figure I.2 depicts nine functional components of an e-learning system that must work together to facilitate student achievement (Hirumi, 2000, 2010). Figure I.2 also highlights the focus of this book series, instruction that is designed to facilitate achievement of specified outcomes, along with two very closely interrelated components—curriculum and assessment.

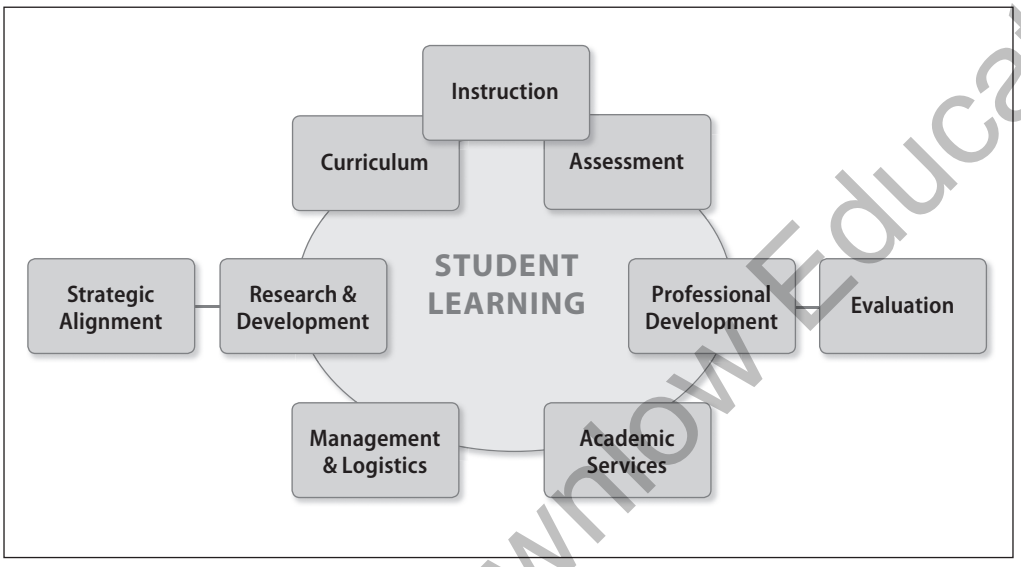

FIGURE I.2 ▶ e-learning system components

The nine functional e-learning components are the following: (1) strategic alignment, which aligns the mission and plans of the e-learning system with the mission and plans of the larger educational institution, organization, or system; (2) research and development, which facilitate the integration as well as the dissemination of new knowledge and information generated outside and within the system; (3) curriculum, which specifies and organizes learning outcomes; (4) instruction, which involves the deliberate arrangement of events, including tools and techniques, for facilitating achievement of specified learning outcomes; (5) assessment, which defines the methods and criteria for determining to what extent students have achieved the curriculum outcomes; (6) management and logistics, which bring together the human and physical resources necessary to support the system, including strategic plans, policies, procedures, and budgets; (7) academic services, which cover a wide range of support for students, such as, but not limited to, admissions, registration, fee payment, financial aid, academic advising, and so on; (8) professional development, which ensures all system stakeholders have the skills and knowledge necessary to fulfill their roles and responsibilities; and (9) evaluation, which serves to improve the effectiveness and efficiency of all system components. Addressing each system component in detail is well beyond the scope of this book series. Rather, these three books focus on the instructional components of the system, covering different instructional strategies, tools, and techniques for facilitating e-learning, which, in turn, necessitate some discussion of curriculum and assessment.

IST1949 • 9781760011949 • © 2014 Hawker Brownlow Education