

Preface

It is time to move the definition of distance learning beyond the metaphor of equivalence to the classroom. Distance learning is rapidly developing new learning environments, which are to be understood on their own merits, rather than by comparison to the familiar campus-based experience. On this, the contributors to this volume would likely agree. While it is premature to expect broad consensus on this definition of this next generation of distance learning, the authors contributing to this volume shed light on some of its likely properties—as well as demonstrating a divergence of views. From this dialog, five broad themes emerge:

Diversity of context: Tradition leads us to the familiar structure of the semester or quarter, the course, and class and the lesson. But in the world of online, continuous learning, many of the authors seem to recognize that the conventional structure is no longer the only option, which should be available. For example, Schwier (Chap. 9) argues that formal learning environments represent only one end of a continuum, with informal learning at the other end of the continuum, and self-directed learning skills playing an increasingly important role. The range of options available is further explored by Cleveland-Innes and Garrison (Chap. 15). The theme here seems to be that the affordances of the online world have led to greater awareness of the many ways learners learn what they learn, and know what they know. If it ever did make sense to design a course as a self-contained, uniform learning experience, that certainly is not the case now. Instead, we can envision online learning environments in which the learners draw on and manage their learning using the full resources of the Web, and the principal activity of the online “class” and the faculty member(s) involved is to mentor and facilitate reasoning, sense-making, and self-directed learning.

Multiple knowledge types: An axiom of instructional design is that different knowledge types require different strategies for instruction and learning. The same could be said of knowledge management systems, as pointed out by Wognin, Henri, and Marino (Chap. 12). This point is important because of the increasing role of various types of intelligent agents in our online working environments, as well as the way in which we allocate the work of formal and informal learning to different knowledge

types. For example, we are already at the point where almost any kind of data can be instantly retrieved online; a clear implication is that learning to synthesize those data into information, and transform the information into knowledge and—ultimately—wisdom becomes the primary goal of formal learning. The simple organization, transmission, and memorization of factual data are no longer worth the instructor's or the student's time, whether online or in the classroom. Any knowledge worker, including our students, should have the habits of mind and the skill set to start any new task with the quick retrieval of the most current data from appropriate sources. All knowledge work begins as a “mashup” (whether done with post-it notes on a board or in a notes program), and the next generation of distance learning should help learners to become skilled in doing it well, within their chosen domain. The technology allows many new forms of knowledge representation, which go well beyond the conventional scholarly forms, and the next generation of students needs to use them all well.

Collaboration and social learning: Many of the contributors chose to explore the complex issues of online collaboration, especially in asynchronous learning environments. We have learned that, whether online or on campus, truly meaningful and productive interaction among learners must be carefully structured and supported, if it is to achieve its goals of building higher-order knowledge and reasoning. This is a challenge in all environments, and it demands considerable skill of both the instructor and the learner. We are still learning how to make this kind of effective collaborative learning a reliable component of any learning environment. The observations by Moller, Robison, and Huett (Chap. 1); Shepard (Chap. 8); and McKeown and Howard (Chap. 6) are representative of current thinking.

The other important reason for collaboration online is to facilitate the important social learning outcomes of the online learning environment. The critical nature of the social learning environment is highlighted by Liu, Carr, and Strobel (Chap. 14), both for instructors and students. It could be an important reason to incorporate video in both synchronous and asynchronous environments, as the work of Maddrell and Watson (Chap. 11) may come to demonstrate. The interaction of collaborative work and social interaction is further discussed by Ghosh, Rude-Parkins, and Kerrick (Chap. 13).

The next generation of distance learning environments should support social learning as effectively as it supports cognitive learning. Of particular interest here is the design studio metaphor with its multiple levels of critique, as described by Hokanson (Chap. 5). He speculates on how parts of the student experience might be implemented online, while cautioning that much could get lost in the translation of what has traditionally been an intensive face-to-face experience.

Application of basic principles of instructional design: Authors who specialize in a given learning technology tend to claim, implicitly or explicitly, that theirs is unique, and the “old ways” are no longer valid with the new tools. In our discussions of the next generation of distance learning, we need to resist this urge and remind ourselves that the principles of instruction and learning still apply—though the way they are

manifested may change. This is the message of Spector (Chap. 2) and of Abrami, Bernard, Bures, Borokhovski, and Tamim (Chap. 4), as well as the bibliography provided by Morrison and Greenwell (Epilogue). This principle is also one of Moller, Robison, and Huett (Chap. 1). The field will move forward only through disciplined, cumulative knowledge building.

There is another implication, as we design the next generation of distance learning environments: We need to remember that these environments are created by specialists from many fields, who may or may not have the luxury of a trained instructional designer contributing. Thus, there is a great need to build tools and intelligent agents to help assure that the learning environments created actually implement what we know about instruction and learning.

Implications for instructional design processes: Creation of distance learning environments has become a task, which is distributed in time and space, across many actors filling many roles, who may or may not act as a team. The design process and project management assumptions of the ADDIE model are a poor fit to this environment, and the field has responded with a great deal of interest in the metaphor of the design culture as an alternative. Gibbons and Griffeths (Chap. 3) propose a new taxonomy of *designed artifacts* as a framework for thinking of how the components of a learning environment are created and assembled. Reese (Chap. 10) reports on a design framework for serious games—one class of such artifacts.

Another dimension of the dialog on design processes has been left implicit by the authors in this volume, however: The resource requirements and life cycle costs of distance learning design and development. It should be clear that many of the main drivers or constraints for change to this new generation of distance learning are economic. In the current practice, we have observed that starting with the cost and life cycle assumptions of the campus classroom has been an all but insurmountable barrier to satisfactory instructional design. In addition, the structures and traditions of today's postsecondary institutions usually preclude the economies of scale, which would allow more costly and sophisticated designs. This cannot be true of the next generation of distance learning. It remains to be seen if the assumptions of the traditional postsecondary institution can be overcome, or if the next generation of distance learning will grow only in new cultures found exclusively in online institutions. It could be that the kind of design culture contemplated here will prevail, precisely because it is more capable of economies of scale through reuse of many of its component learning objects, drawn from many sources. Our goals in developing the next generation of distance learning design processes and tools should be both efficiency and effectiveness—if we want our vision to become the predominant reality.

Taken together, these chapters are a useful start to our thinking about how to move distance learning beyond the classroom metaphor and define it on its own terms. Through the multiple perspectives offered by these authors, we can see movement toward a future that embraces multiple types of learning experiences and roles for the learner and the instructor(s), and unified by common goals and emphasizing collaborative and social processes. Inherent in this view is support of multiple paths to multiple learning goals. We can envision distance learning environments which are

assembled for the purpose as much by the learner as by the instructor (and instructional designer), drawing on multiple sources for their components, and including both data and information, and Gibbons and Griffiths' designed artifacts (or some other definition of learning objects). The skills of both instructor and learner in scaffolding and facilitating the collaborative learning process become paramount. The chapters in this volume offer important first steps toward a coherent consensus for the definition of the next generation of distance learning environments.

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