# Preface

## The Book

Managing Learning in Virtual Settings: The Role of Context stresses the dimension of context in a world dominated by the centrality of content, guiding the reader in developing insight on balanced, organic, and successful learning environments and strategies that go largely beyond the dimension of content. It is aimed at all kinds of educators and administrators of education, researchers, e-learning system managers, instructional designers, e-learning-based professional companies, corporate training departments, and all publics interested in e-learning and Web-based learning. Through 17 chapters, divided into an introduction and two parts—"Concepts" and "Experiences"—it discusses the basis for the development and management of learning contexts, with contributions from domains as diverse as learning theories, philosophy, psychology, sociology, epistemology, anthropology, organizational learning, communities of practice, and others. It emphasizes the role of context in the development and management of virtual learning environments and attempts to open up new threads in clarifying the influence of contextual issues on learning, while covering a balanced combination of all the dimensions and components of the learning context.

## The Issues

Most of the literature on e-learning, Web-based learning, and other kinds of learning in virtual settings concentrates on the delivery of content, relegating to a lesser role the contexts and the activity-rich, interaction-rich, and culturally rich learning environments that the use of technology is making possible and where new principles and practices can and should be explored. Striking a balance on such a scenario, this book

is specifically devoted to the issues of context. It is an interdisciplinary book providing a broad and multidisciplinary vision of learning contexts. It does so by offering a sound body of theory on a multiplicity of domains relevant to the understanding of learning contexts, while illustrating and complementing this theory with a variety of real-world experiences. In the choice of its authors, it combines academic knowledge with practitioner experience, putting together visions that come from different professional cultures and parts of the world.

# Organization of the Book

This book is made up of 17 chapters, organized into an introductory chapter followed by two parts: Section I—Concepts, with nine chapters; and Section II—Experiences, with seven chapters. A brief description of each chapter follows.

## *Chapter I*

In the introductory chapter, titled *Context and Learning: A Philosophical Framework*, António Dias de Figueiredo and Ana Paula Afonso present a simple model for the description of learning events and a philosophical framework for the clarification of the nature of learning contexts. The model describes a learning event as involving the learner, interacting with content and context. The philosophical framework differentiates between positivist and constructivist paradigms by formulating three questions, to which each paradigm responds with four principles. The three questions and resulting eight principles are then summarized on a table that can be easily recalled by the reader whishing to analyze the two radically different interpretations of context. The implications of these distinctions are then analyzed, namely in what regards the management of learning contexts, the duality between content and context, and the challenges of designing learning contexts.

## Section I: Concepts

### *Chapter II*

In *Virtual Settings: E-Learning as Creating Context*, Philip Duchastel and Markus Molz maintain that contextual analysis and contextual design of virtual and semivirtual learning environments are essential. They conceptualize learning as a confluence of four co-evolving contextual realms of reality—the realm of subjective experience, the realm of information, the institutional realm, and the realm of community—which they organize into a fourfold model of multiple

embedded contexts. In spite of their shift of emphasis to context, they insist that content remains essential in any design paradigm, though at a higher level of abstraction and moving to expected outcomes rather than encapsulated in a consolidated expression. They discuss the relationship between interaction and activity, recalling that it is the nature of the interaction rather than the activity itself that molds learning. Finally, they examine design issues raised by their model and work toward a paradigm of contextual design for learning, which they complete centering on open high-level issues that must be addressed in conceiving a well-balanced learning architecture.

## Chapter III

Licínio Roque and António Dias de Figueiredo, in *Context Engineering for Learning: A Sociotechnical Approach*, analyze the problems related to the role of context in learning and development, individual and organizational, influenced by anthropology, activity theory, and actor-network theory. Bearing in mind that a virtual learning context is a special case of an information system, they present the context engineering (CE) approach to information systems development (ISD) as a framework to think and organize the development of virtual contexts for e-learning. This approach proposes to achieve an understanding of development as a sociotechnical phenomenon within a cultural and historical envelope and to provide a framework focused on the relationship between a model of context and its mediators. The authors then attempt to translate this approach to the development of virtual learning contexts into fundamental ideas and guiding principles, elaborating on some of the learning and development issues that arise.

## Chapter IV

In *The Role of Context When Implementing Learning Environments: Some Key Issues*, Bernard Blandin emphasizes the role of sociology in clarifying what is at stake when implementing new learning environments. He starts by setting the theoretical scene around a vision of learning as a situated activity. He then confronts the theoretical background with empirical research that studies the influence of contextual issues on learning. He proposes a heuristic model for the design of learning environments that takes context into account, namely in its organizational component. He discusses some implementation issues, arguing that the success of a new learning environment is conditioned by change and adaptations of its organizational context. He closes with a discussion of new learning environments under the light of the sociology of innovation, suggesting pragmatic guide-

lines for the successful development of such environments, inspired by a range of theoretical approaches, from socioeconomical theories and psychosociological theories of influence to organizational learning theories and theories of sociotechnical networks.

## Chapter V

Ellen Christiansen, in *Space as Learning Context: The Role of Dwelling in the Development of Academic Education*, argues for the role of space, or "dwelling," in educational settings, claiming that to support self-regulated learning, space has to be laid out in ways that let the learners feel included, guided, and able to transform. She stresses that the important divide with respect to space in education is not between virtual and physical but between empowering and disempowering settings. In her view, course designers should be aware of the ways that support the students in making themselves a dwelling out of the space allocated. She illustrates with a classroom and a workshop as examples of dwellings where self-regulated learning occurs and explores a metaphor where the design of an educational setting is seen as both a window and a mirror. Finally, she comments on the role of the managers of educational settings when supporting the development of self-regulated learners by means of space design, warning that at this level guidance needs to take full predominance over control.

## Chapter VI

In *The Dynamics of Online Collaboration: Team Task, Team Development, Peer Relationship, and Communication Media*, Ke Zhang and Xun Ge propose a framework to help understand and manage the complex dynamics of online collaboration from four perspectives: team task, team development, peer relationship, and communication media. Team task covers four key types of tasks (discussion, problem solving, decision making, and production) as well as task complexity, viewed from the point of view of the cognitive demands it puts upon collaboration. Team development discusses the stages and temporal rhythms of team development, the diverse needs for moderation they elicit, and the relevance of peer control, external moderation, and team contacts. Peer relationships are analyzed from the point of view of affective conflicts and cognitive conflicts and lead to recommendations on how to build up healthy team relationships. Finally, communications media are examined in light of rational media theories (media richness theory and social presence theory) and social constructivist media theories, in an interesting attempt to get the best of both.

*Chapter VII*

Mark Schofield, Andrew Sackville, and John Davey, in *Designing for Unique Online Learning Contexts: The Alignment of Purpose, Audience, and Form of Interactivity*, stress the importance of designing learning environments for interactivity and they argue for the problematization of design at the levels of purpose, audience, and form. They put forward a model for the design of effective online learning environments inspired by the metaphor of a bespoke tailor that makes a jacket for a client, making sure that the jacket fits the body and that subsequent tailoring and adjustments can be made. The jacket surrounds the online learning experience and includes the technology and tools used, the models of pedagogy, the parameters of interactivity, and the conceptions of learning community. The body fits inside the jacket and comprises the conceptualization, design, and delivery of the online learning experience. Tailoring the jacket to fit the body, even when the body changes, calls for meticulous interactivity analysis and constructive alignment of outcomes, pedagogy, and assessment.

*Chapter VIII*

In *Communities as Context Providers for Web-Based Learning*, Ana Paula Afonso provides an evolutionary vision of community by elaborating on three approaches of community: a deconstructivist approach, a (socio)constructivist approach, and a contextual approach. The chapter stresses the lack of consensus around the concept of community and its more recent deployment in the educational domain. It elaborates on how the educational use of virtual settings has neglected the construction of the learning context and tries to show the existence of a broad and solid body of knowledge that may provide useful insight to overcome the limitations of many online learning experiences. The author proposes learning communities as a framework for a contextual approach to the management of learning in virtual settings.

*Chapter IX*

Laura G. Farres and Colla J. MacDonald, in *Activity Theory and Context: An Understanding of the Development of Constructivist Instructional Design Models*, propose a conceptual framework for examining constructivist instructional design model development. Considering that each constructivist instructional design model tends to offer a unique approach to e-learning, based on its own context of development, the aim of the framework is to help identify the unique contribution afforded by each model. This leads to a better understanding of the context of every model, which, in turn, enables the clarification of the ways in which it can be applied. The framework uses activity theory as a lens from which to understand

each context, arguing that activity theory provides a suitable framework for naturalistic inquiry within complex settings, and establishes a language from which better comparisons of context can be carried out. The framework is then applied to two real constructivist instructional design models for e-learning, which illustrate how it can be used to examine the similarities and uniqueness of the models.

## Chapter X

In *The Distance from Isolation: Why Communities are the Logical Conclusion in E-Learning*, Martin Weller argues that the popularity of the Internet stems from three of its key design features—openness, robustness, and decentralization—which have developed into social features and become embodied in cultural values. Taking as a reference some sociologically successful developments—Napster, blogging, and open source software development—he argues that an analysis of the presence or absence of the three core values is useful in predicting what developments, technologies, and approaches might be successful for a generation of learners that have been enculturated into such values. Bearing in mind the benefits of communities in learning processes, he then uses the three core values perspective to examine the potential of communities in e-learning. He closes with a discussion of the realization of such communities by means of a five-stage model of community evolution that facilitates analysis through a dynamic balance of people, process, and technology.

# Section II: Experiences

## Chapter XI

In *Narrative Designing for Context in Virtual Settings*, Patricia Arnold, John D. Smith, and Beverly Trayner focus on the role of narrative in negotiating and revealing contexts. Drawing on Bruner's work on narrative and on situated theories of learning, the authors explore how narrative can help reveal individual and community contexts, resorting to the narrative genre themselves, in the shape of three stories of learning in designed and emerged virtual settings. They conclude by translating these stories into guidelines for the design of virtual learning settings.

## Chapter XII

Kathy L. Milhauser, in *The Voice of the Online Learner*, introduces a new perspective in this book: that of the online learner. Through four biographical stories, she explores the process of transformative learning undergone by the learners of a

strongly contextual online course, upholding that learners are the best designers of their own learning. The author then concludes with the discussion of a set of key elements of transformative online learning environments, building on the experience of designers and on the postulates of constructivism, social constructivism, constructionism, and situated learning.

## Chapter XIII

In *Learning Agency in New Learning Environments: An Australian Case Study of the Influence of Context*, Hitendra Pillay, John A. Clarke, and Peter G. Taylor explore the Bandurian concept of learner agency, broadening it to the more inclusive concept of learning agency. In the chapter, the authors explore this concept empirically using data collected in a longitudinal study about the students' approaches to learning, their perceptions of the learning environments, and their epistemological reflections on themselves as learners. After an exhaustive analysis of the data, the authors conclude by suggesting that the individuals' approach to learning arises from mutual interaction between individual and contextual agency.

## Chapter XIV

Michael Forret, Elaine Khoo, and Bronwen Cowie, in *New Wine or New Bottles: What's New About Online Teaching?*, present a case study on the nature of successful online tertiary teaching and learning, while arguing that quality pedagogy, either face-to-face or virtual, is founded on a well-considered view of learning. They first develop a sociocultural view of learning, building on the principles of constructivism, socioconstructivism, and situated theories of learning, from which they identify a set of key characteristics of quality pedagogy, whose applicability is shown to be supported by their research findings.

## Chapter XV

In *Quality Assurance During Distributed Collaboration: A Case Study in Creating a Cross-Institutional Learning Community*, Rita M. Vick, Brent Auernheimer, Marie K. Iding, and Martha E. Crosby describe the design of a cross-institutional hybrid asynchronous-synchronous course, with a deeper focus on its synchronous part—that is, the nature and level of interactivity in this hybrid virtual learning environment. They then elaborate on the use of local and global virtual learning communities to stimulate a collaborative learning environment. The case con-

cludes with the empirical analysis of students' interactivity and satisfaction levels based on qualitative and interpretative analysis. The authors also provide an insightful discussion on the lessons learned from this experience.

## Chapter XVI

Sulayman K. Sowe, Athanasis Karoulis, and Ioannis Stamelos, in *A Constructivist View of Knowledge Management in Open Source Virtual Communities*, address the domain of free or open source software development (F/OSSD) as an example of an online learning community. They elaborate on a constructivist view of knowledge management within these communities, exploring the learning activities that take place in these online collaborative environments. Their focus is on the resources and activities that promote collaborative learning and on the process of learning transfer from the virtual to the real-life setting. The chapter concludes with some proposed guidelines regarding educational issues in F/OSSD.

## Chapter XVII

In *Building a Learning Community Online*, Tessa Owens and Petra Luck bring a different perspective to this book by introducing the subject of work and gender into the learning domain. Their case study describes the experience of an e-learning project aimed at working students from the nursery sector that promoted the emergence of a community of practice. The authors conclude by considering that the problem-based learning approach used provided an appropriate learning context and that the context of gender further enhanced its value.

# Mailing List

A mailing list, context@dei.uc.pt, has been set up for reader interaction with the authors and editors of this book and between themselves on the topics of the book. To subscribe to this mailing list, please send a message without subject to majordomo@dei.uc.pt and write in the body of the message: subscribe context@dei.uc.pt. You will receive an acceptance message as soon as your subscription is approved.

António Dias de Figueiredo, Universidade de Coimbra, Portugal
Ana Paula Afonso, Universidade de Coimbra, Portugal