

Preface

The constantly changing landscape of Virtual Learning Environments makes it challenging for experts and practitioners to stay informed of the field's most up-to-date research. That is why Information Science Reference is pleased to offer this three-volume reference collection that will empower students, researchers, and academicians with a strong understanding of critical issues within Virtual Learning Environments by providing both broad and detailed perspectives on cutting-edge theories and developments. This reference is designed to act as a single reference source on conceptual, methodological, technical, and managerial issues, as well as provide insight into emerging trends and future opportunities within the discipline.

Virtual Learning Environments: Concepts, Methodologies, Tools and Applications is organized into eight distinct sections that provide comprehensive coverage of important topics. The sections are: (1) Fundamental Concepts and Theories, (2) Development and Design Methodologies, (3) Tools and Technologies, (4) Utilization and Application, (5) Organizational and Social Implications, (6) Managerial Impact, (7) Critical Issues, and (8) Emerging Trends. The following paragraphs provide a summary of what to expect from this invaluable reference tool.

Section 1, **Fundamental Concepts and Theories**, serves as a foundation for this extensive reference tool by addressing crucial theories essential to the understanding of Virtual Learning Environments. Introducing the book is “*Virtual Learning Environment*” by Saša Mladenovic, Haidi Kuvac, and Maja Štula, laying the groundwork for the field's fundamental interactions between people and their virtual learning technology. In all, the section covers topics including distance learning, learning management systems, blended learning, Web 2.0 professional development, collaborative learning, and many more. Another chapter worth noting within section one is “*Formal and Informal Learning Flows Cohesion in Web 2.0 Environment*” by Malinka Ivanova and Anguelina Popova. Section one serves as a great tool for students and practitioners looking to get an understanding of the current basics within the field of Virtual Learning Environments.

Section 2, **Development and Design Methodologies**, presents in-depth coverage of the conceptual design and architecture of Virtual Learning Environments, focusing on aspects including didactic design patterns, ClassSim, The Recursive Knowledge Development Model, MobiGlam, virtual immersive environments, and Multiplatform Mobile-Learning Environments, to name a few. Chapters are presented in the forms of case studies, architectures, and frameworks for putting together techniques to study, build, and utilize Virtual Learning Environments. Chapters vary in terms of technical and topical scope, with chapter authors from around the globe, such as “*Objective-Oriented Assessment in Desire2Learn for Quality Matters*” by Haomin Wang and Mingming Shao and “*An Architecture for Learning Environments Based on the Lightweight Integration of Intelligent Agents*” by Sergey Butakov, Denis Smoline, Nousheen Naimat Samuel, and Naima Naimat Samuel. The section concludes with “*SOA-Frameworks for Modular Virtual Learning Environments*” by Fredrik Paulsson and Mikael Berglund.

Section 3, **Tools and Technologies**, presents extensive coverage of the various tools and technologies used in the development and implementation of Virtual Learning Environments. The first chapter, “*Second Life Brought to Life*” by Jace Hargis and Kevin Yee discusses a popular platform for virtual learning, Second Life. Where the first two sections laid out planning and fundamentals of Virtual Learning Environments, section 3 includes chapters that detail the technical aspects of the current technological state of the art. Topics include collaboration scripts, content themes, CSCL techniques, process aware systems, LMS implementation strategies, interoperability, Moodle, SMS, ClassSim, and many more. Section 3 concludes with “*An Extendible Simulation Game to Promote Team Spirit on Mobile Computing Devices*” by Vincent Tam, Zexian Liao, C.H. Leung, Lawrence Yeung, and A.C.M. Kwan, a nice transition into the broad category of applications detailed in the next section.

Section 4, **Utilization and Application**, describes how Virtual Learning Environments have been utilized and offers insight on and important lessons for their applications and impact. Section four includes the widest range of chapters because it describes case studies, research, methodologies, frameworks, architectures, theory, analysis, and guides for implementation. Topics range from mobile learning, virtual worlds, avatars, video editing, foreign languages, and writing skills development to many other realms and applications. The section opens with “*A Case Study of Infusing Web 2.0 Tools for Blended Learning*” by Yiu Chi Lai and Eugenia M.W. Ng, detailing some of the latest Web tools for building a hybrid learning environment between the physical and digital classrooms. Section 4 continues with topics such as learning journals, open source assessment tools, and 3D virtual learning environments. The section concludes with “*Improvement of Engineering Students Education by E-learning*” by George A. Sorial and Babak Noroozi.

Section 5, **Organizational and Social Implications**, includes chapters discussing the organizational and social impact of Virtual Learning Environments. The section opens with “*Collaborating to Learn*” by Penny Barker, Julie Marklin, William Edward Roberts, and Nita J. Matzen. Managers and academics alike will find troubleshooting technologies and tools for addressing their information technology needs when designing development strategies and course curricula. Other selected chapters within the section include “*Implementing and Promoting Blended Learning in Higher Education Institutions*” by Lixun Wang and “*Examining Race Hate Crime with Students using a Cross Cultural International Virtual Learning Environment (VLE)*” by Julian Buchanan, Steve Wilson, and Nirmala Gopal. It concludes with “*Individual and Collaborative Approaches in E-Learning Design*” by Abel Usoro, Grzegorz Majewski, and Len Bloom, detailing a framework for how to approach e-learning design from the viewpoint of cooperation and collaboration.

Section 6, **Managerial Impact**, presents focused coverage of Virtual Learning Environments as it relates to effective uses of learning outcomes assessment, security and privacy management, human capital, case-based learning, and much more. When a business or university’s success depends on Virtual Learning Environments, it is the duty of the leadership to understand what they should be doing to help manage information. The section opens with “*Using a Learning Management System to Facilitate Learning Outcomes Assessment*” by Steven F. Tello and Luvai Motiwalla. It continues with topics including diversity, systems selection, service oriented systems, and performance monitoring, to name a few. Section 6 concludes with “*Effective Design and Delivery of Learning Materials in Learning Management Systems*” by Mohammad H. Khoobkar and Mehregan Mahdavi, a look into how learning materials can effectively be designed to enhance learning management systems.

Section 7, **Critical Issues**, presents coverage of academic and research perspectives on Virtual Learning Environments tools and applications. The section begins with an expository chapter, “*But Do*

They Want Us in 'Their' World?" by Tim Brown and Amanda Groff. This chapter opens the section by providing discussion points for the divide between digital natives and immigrants. Section 7 has many chapters like this, detailing theory and analysis more so than technologies or management strategy. Critical issues include culture, emotion, constructivism, perceptions, and social construction, to name a few. Other highlights in section 7 include “*Enculturation of the Utilization of Learning Management System*” by Hamidah Meseran, Zaidan Abdul Wahab, and Aida Suraya Md. Yunus, and “*At the Intersection of Learning*” by Nita J. Matzen, Louisa Ochoa, and Geraldine Purpur. Section 7 concludes with “*The Centralisation Dilemma in Educational IT*” by Martin Weller, a fascinating look at the notion of fallibility within the design of systems.

Section 8, **Emerging Trends**, highlights areas for future research within the field of Virtual Learning Environments, opening with “*Into the Great Wide Open*” by Dirk Thißen, Volker Zimmermann, and Tilman Küchler. Section 8 offers the cutting edge within the field, and suggestions for the future research directions in Virtual Learning Environments. The final two chapters of the book include the latest research in technology and implementation of Virtual Learning Environments: “*An Exploratory Study of Student Self-Assessment in an Online Learning Context*” by Chien-hsing Wang, and “*Evaluations of Online Learning Activities Based on LMS Logs*” by Paul Lam, Judy Lo, Jack Lee, and Carmel McNaught.

Although the primary organization of the contents in this multi-volume work is based on its eight sections, offering a progression of coverage of the important concepts, methodologies, technologies, applications, social issues, and emerging trends, the reader can also identify specific contents by utilizing the extensive indexing system listed at the end of each volume. Furthermore to ensure that the scholar, researcher, and educator have access to the entire contents of this multi volume set as well as additional coverage that could not be included in the print version of this publication, the publisher will provide unlimited multi-user electronic access to the online aggregated database of this collection for the life of the edition, free of charge when a library purchases a print copy. This aggregated database provides far more contents than what can be included in the print version, in addition to continual updates. This unlimited access, coupled with the continuous updates to the database ensures that the most current research is accessible to knowledge seekers.

As a comprehensive collection of research on the latest findings related to using technology to providing various services, *Virtual Learning Environments: Concepts, Methodologies, Tools and Applications*, provides researchers, administrators and all audiences with a complete understanding of the development of applications and concepts in Virtual Learning Environments. Given the vast number of issues concerning usage, failure, success, policies, strategies, and applications of Virtual Learning Environments in organizations, *Virtual Learning Environments: Concepts, Methodologies, Tools and Applications* addresses the demand for a resource that encompasses the most pertinent research in technologies being employed to globally bolster the knowledge and applications of Virtual Learning Environments.