Preface

Cases on Smart Learning Environments is a volume that explores the potential of smart learning for enhanced learning outcomes, as experienced by educators, learners and administrators from various learning institutions across the world. It is aimed at highlighting how ICT tools and various other emerging technologies are used to effectively achieve enhanced learning, teaching and knowledge management outcomes. At a time when ICTs are proliferating throughout various facets of societal life and human interactivity, and increasingly so in the education sector, this strategic volume outlines the ongoing development of approaches to optimize the use of ICT tools and technologies, to not only enhance learning, but to transform learning experiences all together.

This publication is unique in its breadth and diversity of cases included, be it diversity in technological applications, learning situations, challenges, and cultural contexts. The contributing authors of this publication present real-world implementation of SLEs in 11 countries that span across the continents of Asia, Africa, Europe, as well as North and South America.

The chapters document a wide-range of SLE tool implementation; from innovations inside and outside the classroom, tools for teacher training and up-skilling, intelligent resource and knowledge management, design of smart learning spaces, as well as the use of mobile learning and augmented reality as smart learning tools.

This book aims to enrich readers by describing and explaining specific and innovative ways ICT tools and technologies are being introduced and integrated in SLEs. These uses of ICT tools and technologies have the power to change the way we teach and learn. In particular, this volume will address ways that ICT tools and technologies can be responsive to the learners, shaping differentiated and personalized instruction to specific needs, contexts and learner inputs and outcomes. This, in a very general sense, is what "smart learning" means.

The term smart learning environment has been used in many ways in the literature. We take a view, in which:

Smart learning environment is an adaptive system that puts the learner at the forefront; [where it] improves learning experiences for the learner based on learning traits, preferences and progress; features increased degrees of engagement, knowledge access, feedback and guidance; and uses rich-media with a seamless access to pertinent information, real-life and on-the-go mentoring, with high use of AI, neural networks and smart-technologies to continuously enhance the learning environment. (Singh & Hassan, 2017, p. 9)

While the ICT tools and technologies are an essential part of the smart learning, the case studies are not intended to be about the use of the tools and technologies for their own sake. In some cases, the learning tool may be as simple as using a type of social media such as WhatsApp to engage learners in conversations about new concepts. The idea behind this publication is to share how ICT tools and technologies are being utilized and managed in ways that are both sustainable and effective from a learner-centered perspective.

OBJECTIVES

The objectives of this book are to:

- Highlight smart learning practices as they are being implemented throughout the world, across various education institution levels (K-12 and Tertiary Level)
- Present a set of diverse case studies, including diversity in location, culture, education levels, and academia
- Offer guidance to various education stakeholders across the world who are exploring smart learning environments on possibilities that the SLEs present for education and learning enhancement
- Present both the successes and challenges of implementing SLEs in education institutions, with focus on concerns of pedagogy and andragogy,
- Present insights into the ways SLEs can effectively increase the quality of education based experiences across students, academia and education stakeholders

From the collection of case studies highlighted in this publication, the following advantages of a SLE is observed across differing learning institutions, locations, and learner base:

- Higher learner engagement
- Personalised remediation
- Creating learning spaces anywhere and everywhere
- Self-Directed Learning
- Expanded Learning Opportunities
- Real-World Learning and Application

The case studies included in this publication analyses and presents differing levels and usage of attributes related to SLEs and are organized into three main sections:

- SLEs for Learners
- SLEs for Academia and Education Stakeholders
- SLEs to Transform Learning Spaces

Section 1 includes a collection of chapters that explore the advantages, challenges, and implementation approaches toward creating SLEs that are learner-focused, SMART and responsive. In this section, readers are introduced to real-world applications of digital learning tools and platforms for the implementation of a SLE in various learning institutions and learning environments.

Section 2 explores the opportunities and enhancements that SLEs can bring about for different level of education stakeholders, including new approaches toward teacher training, resource management, and education institutions effectiveness. This section explores the applicability of SLEs and implores the possibilities of enhancing the output of academia and stakeholders through the use of smart tools and platforms.

Section 3 explore the possibilities of creating smart learning environments in traditional, non-traditional and the creation of mobile learning spaces. This section examines the potential of SLEs to create learning environments that are engaging, responsive and relevant to the 21-st century learner's appetite, one that extends beyond classrooms, textbooks and traditional learning environment.

Collectively, we hope that this publication will lead academicians, instructors, instructional designers, librarians, educational stakeholders and curriculum developers across various academic institution levels to question and explore the possibilities of SLEs for their respective learning environments.

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