

## Book Review

# Cases on Smart Learning Environments

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As technology advancements in information and communication technology (ICT) spark numerous possibilities in learning environments, and transform classrooms from e-learning environments to a smart learning environments (SLEs) (Peng, Ma, & Spector, 2019), the need for reshaping students' learning behaviors and teachers' teaching methods are getting more attention (Kinshuk *et al.*, 2016; Thomas, Parsons, & Whitcombe, 2019). In light of this situation, editors of the book “Cases on Smart Learning Environments” gather intriguing cases from around the world to help readers fully explore the possibilities of SLEs under different circumstances and resources. This book is divided into three sections: SLEs for Learners, SLEs for Educators and Stakeholders, and SLEs for Transformational Learning Spaces.

Section one, a collection of seven articles which focus on learners, depicts the various development of Information and Communication Technology applied in different parts of the world, spanning from Arabian Peninsula, Africa to the islands of the Caribbean. For instance, one chapter mentions building mobile phone apps for students to experience virtual field trips (VFTs) and augmented reality field trips (ARFTs); another case describes the effect of applying a series of mobile apps for digital storytelling in media courses. Also included are studies on educators designing online tools such as interactive game-based system, finding suitable learning models for specific learners, and applying robotics as a part of disruption innovation to develop students' STEM capabilities. All of these are real-life implementations of SLE in various learning institutions and learning environments.

While the first section focuses on learners, in the second section, the spotlight falls on educators and stakeholders. Teachers' perspectives regarding their training process and e-lessons or e-content are reviewed, as well as their proficiency in using smart devices and tools. The changing role of the teacher in SLE is also discussed; for example, the author in chapter ten suggests that a supervising teacher could play not only the tutor role, but also serve as moderator and cooperator throughout the smart events in learning process. Other elements such as micro-courses, immersive experiences, participation in social networking, reward and recommendation system, and learning analytics, along with tools that could be of service to the new generation of teachers, are also focused on in this section. An interesting note is that in the opening chapter of this section, the authors contributing to this book are asked to share opinions about the keys along with its importance in each work. From the characteristics provided by authors (such as seamlessness, dynamic, social, customized, generative,

guided, expressive, etc.), readers could better understand the framework of how SLEs are being implemented in real life.

Section three, titled SLEs for Transformational Learning Spaces, turns readers' focus from educational institutions to the library. Authors propose that modern libraries could broaden their services and space design to accommodate changes in technology and pedagogical concepts. If libraries could be a part of learners' lifestyle, learners could benefit from both formal and informal educational institutions through a more systematic collaboration. In this section, the case regarding Cabot Library at Harvard stands out. After going through renovation, the concepts of SLE are directly realized by adapting to learner needs and retaining flexibility to promote effective learning. The building not only contains all sorts of display equipment and multimedia tools, the seating and tables in open areas can be easily rearranged to suit users' learning purposes. The tools available on site (writable glass wall, all kinds of boards and smart devices that provide immediate information) could spark more interaction and brainstorming among group members. Feedback from users stimulates more provocative suggestions that support both informal and formal learning, all these ideas have transformed a library from its traditional role to a platform for automated interactions. Also, in the last chapter, authors introduce a significant element in SLEs called Open Learner Models (OLMs). This makes up the on-the-go mentoring aspect of SLE, for OLMs are aimed to improve learners' self-reflection and self-regulated learning by allowing for diverse learning data to be accessed, visualized and acknowledged by the learners or other stakeholders.

SLEs are more than just a simple application of ICT devices; they are the combination of technology and pedagogy, where learners, educators and other stakeholders could participate actively (Kinshuk *et al.*, 2016). The purpose of these SLE measures is to develop learners' abilities in analyzing and solving problems, and also to nurture their self-esteem and interpersonal relationship skills, and eventually improving students' learning outcomes. With this aim, each article chosen for this book serves as precious evidence witnessing the efforts made by SLE participants. The encouraging feedback and surveys included this book makes readers want to see more inspiring SLE examples from other parts of the world, such as those in Asia, where education is taken very seriously. As a suggestion for a future edition, the book editors should consider that scholars in Asian countries must have much to offer to different dimensions of SLE.

## REFERENCES

- Kinshuk, C., Chen, N.-S., Cheng, I.-L., & Chew, S. W. (2016). Evolution is not enough: Revolutionizing current learning environments to smart learning environments. *International Journal of Artificial Intelligence in Education*, 26(2), 561–581. doi:10.1007/s40593-016-0108-x
- Peng, H., Ma, S., & Spector, J. M. (2019). Personalized adaptive learning: An emerging pedagogical approach enabled by a smart learning environment. *Smart Learning Environments*, 6(1), 9. doi:10.1186/s40561-019-0089-y
- Thomas, L. J., Parsons, M., & Whitcombe, D. (2019). Assessment in smart learning environments: Psychological factors affecting perceived learning. *Computers in Human Behavior*, 95, 197–207. doi:10.1016/j.chb.2018.11.037

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