

Editorial for EJEL Volume 15 Issue 5

The papers in this volume originate from various parts of the world and touch upon different subjects and different aspects of education. Four of the contributions in this issue share a focus on barriers for successful implementation of digital learning environments and e-learning, such as: the lack of competencies among vital players (teachers and subject advisors); cultural issues and the need for clear institutional implementation strategies; active support from the organisational management; and in-service teacher training. The contributions from Sadeck and Cronjé, Arnold and Wade, and Li and Hew share some of the same focal points, but from the practice of a teaching and learning perspective; while Chiappe and Lee in their literature-based study show how a technology-centred understanding of Open Teaching tends to ignore the pedagogic dimensions of Open Teaching.

Mirzamohammadi investigated the feasibility of implementing e-learning in an Iranian university, concluding that the university was not prepared for e-learning. Human, infrastructural and cultural factors were found to be moderate- to low-level barriers, while pedagogical and support factor barriers were found to be at a low level. Mirzamohammadi suggests generally applicable strategies like training courses, including e-learning in university strategic plans, monitoring the activities of teaching and research in e-learning environments for students and faculty, and allocating and spending an appropriate budget. Mirzamohammadi also found that e-learning had been implemented as "non-physical presence of teachers and students", thus substituting the traditional face-to-face instruction, which has a long history in Iran's higher education, civilisation and religious teachings. The lack of impact of the master's presence on the student would have no other outcome than failure. Therefore, Mirzamohammadi suggest a gradual replacement of face-to-face training through blended learning in order to inspire students towards independent learning without the current sudden removal of faculty members and students' presence from the teaching and learning scene.

In their study, Sánchez-Mena and Martí-Parreño explored teachers' main drivers and barriers to using gamification in their courses. The main drivers encouraging teachers in Higher Education institutions to use gamification were found to be the belief that gamification produces attention-motivation, entertainment, interactivity and easiness of learning. The main barriers were found to be lack of resources; students' apathy; subject fit; and classroom dynamics. The results suggest that teachers perceive the use of gamification as both beneficial, and as a potential risk. In addition, teachers tend to believe that gamification can be applied only to a limited number of subjects. Some teachers seem to believe that if they are not carefully controlling gamified activities, a potential conflict with colleagues may emerge. The authors suggest that institutional management could offer Teacher Training Programmes to broaden the teachers' perspective and the applications of gamification, and provide resources in the shape of classroom settings suitable for gamification activities.

The Western Cape government (WCG)'s current broadband strategy aims to ensure that all schools are connected to a broadband service within a reasonable time-frame, thus removing the digital divide and enhancing curriculum delivery in schools. Subject advisors are appointed to assist teachers to integrate digital resources into classrooms. Chigona contributes to this issue with a study that explores how the subject advisors perceive of their preparedness to embrace new technologies in their advisory job. The results show that most subject advisors perceive their complex knowledge as inadequate. Therefore, they are hesitant to advise teachers on effective technology integration into classrooms. Chigona argues that in order for the broadband strategy to succeed, the Western Cape Education Department must facilitate the development of the subject advisors' skills, so their training should be subject specific, and the trainers should have adequate knowledge of the content and pedagogies of the specific subjects, and of how technology can be integrated for effective teaching and learning of the subject advisors.

Olaniran Duma and Nzima explored pre-service distance learning teacher trainees in South Africa and their utilisation of e-learning resources. The results revealed a significant gap between the level of access to e-resources and the utilisation of these resources by the respondents. While the electronic resources are available and accessed, the majority of the distant pre-service teacher trainees did not utilise the e-learning resources in the classroom. The study found that the respondents did not have the knowledge and skills to effectively utilise e-resources for classroom teaching, and that there is little transfer between using e-resources for their own learning and incorporating e-resources into their teaching learning activities. Olaniran

Duma and Nzima provide a set of recommendations: adequate training of pre-service teacher trainees in information technology; and establishment of radio stations at institutions providing open and distance learning, as radio provides a common, cheap and powerful means of simultaneously communicating ideas and disseminating information to a large group of people. In addition, distance-learning institutions should collaborate with telecommunication companies and negotiate subsidised and affordable Internet services for distance learners. Finally, due to the spread of mobile phones, the institutions should take social media as one of the major channels of sharing learning resources among learners.

In their study Sadeck and Cronjé look into how teachers in South Africa approach and are using technology with regard to the extent of use and actual e-learning practices. The study is based on 76 survey respondents and 15 interviews among teachers in primary and high schools, who had received ICT training, and that were known to be using technology in their classrooms. The study has highlighted patterns in the use and practice of technology integration in school education, mapped to continuums of use and practice along a continuum from personal use, through administration, to teaching and learning. The study found that teachers used social networking progressively less along the continuum from personal to teaching to learning. Also, teachers maintained some traditional ways of doing their work and were progressively advancing their practice when it made sense to them in a progressive, incremental and transformative way.

Chiappe and Lee present a literature study on Open Teaching that combines meta-synthesis and content analysis of research published over the last twenty years in major peer-reviewed databases. The study finds that Open Teaching is associated with various concepts over the years, and holds no consensus on its meaning in the academic community. They find especially that the current trends equate Open Teaching to free access to educational content through the use of Open Educational Resources (OER) and via Massive Open Online Courses (MOOCs). Chiappe and Lee argue that this trend tends to ignore important pedagogic “openness” attributes, such as adaptation, sharing, remixing or collaboration and prioritising the learning power of content to the learning power of practices. Chiappe and Lee do not reject ICT in relation to Open Teaching, but e-learning via Open Teaching should be oriented towards creating better spaces, resources and opportunities to learn, which are equally accessible and fruitful, while remembering the social function and grounds of education that are expected in 21st century education.

In their contribution to this issue, Arnold and Wade argue that the notoriously high failure rate of the U.S. defence industry’s system development projects partly stems from the engineering education, which does not provide the time for students to acquire the skills which are generally considered the key to successful development of large-scale systems. Taking at the outset that in recent research and theory these years can be reduced through the use of simulation software, Arnold and Wade present Project Robot, a defence systems engineering simulator designed to facilitate the acquisition of systems engineering skills such as engineering- and systems-thinking at an increased rate. So far, Project Robot has been tested by 12 players who stated that they felt they had gained Systems Engineering insight through the game. In the future the authors suggest applying the simulation to a larger group of subjects as a more formalised research effort, as well as applying an evaluation method that formally assesses learning outcome. Based on the initial test, the authors suggest that the game may be developed further to allow learners to experience engineering projects in accelerated time according to specific learning objectives, and to encompass advanced levels of progression in various ways.

Li and Hew take at the outset the proved learning effectiveness of storytelling. Their study aims to compare and differentiate the feasibility of traditional storytelling and multimedia storytelling for non-native novices’ learning of Chinese idioms. A Chinese idiom test and survey questionnaires were distributed among one group of students learning in a conventional setup, and one group of students learning in an experimental setup. The results showed that the students in the experimental multimedia group scored higher and had greater satisfaction towards the Chinese idiom learning than the learners from the conventional group - despite the fact that both groups expressed motivation and satisfaction with their Chinese idiom learning. The findings support the thesis that the prototype, which was developed based on cognitive theories of multimedia learning, has assisted the students to learn better; and the multimedia approach is accordingly feasible to be served up as a self-learning tool and be used by the non-native novices to learn Chinese idioms.

Collectively these papers provide a snapshot of research in a vast and widespread domain of e-learning, adding to the evidence that e-learning can provide effective methods of learning in many different content areas. The

papers also show that there are still many issues to address, especially with respect to how e-learning is implemented, supported and designed; and how learning outcomes can be supported by awareness of the pedagogical dimensions, rather than the sole focus being on the technology.

Journal Editors

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