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Exploring opportunities for mobile learning in a post-COVID world

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Research Domains

International contexts and perspectives (ICP)

Abstract

Since the release of the smartphone, mobile learning in higher education has promised teaching and learning any time, anywhere. However, despite this promise, teaching and learning is still largely classroom-based, with mobile learning seen as an add-on or novelty rather than a fundamental way to organize teaching and learning. With the onset of the COVID-19 pandemic, true mobile learning has suddenly become both a possibility and, in many cases, a necessity. In this presentation, two teachers from Japan and Australia will reflect on the possibilities that mobile learning has offered in the last two years. Case study one focuses on how Zoom has increased the possibilities for enhanced communication in foreign language learning; and, the second case study describes the development of collaborative field-based learning systems for scientists to use in the wild.

Full paper

Introduction

Since the release of the smartphone, mobile learning in higher education has promised teaching and learning any time, anywhere (Ozuorcun and Tabak, 2012). However, despite this promise, teaching and learning is still largely classroom-based, with mobile

learning seen as an add-on or novelty rather than a fundamental way to organize teaching and learning. With the onset of the COVID-19 pandemic, true mobile learning has suddenly become both a possibility and, in many cases, a necessity (Miller et al., 2021). It is, therefore, important to examine not just the possibilities that mobile learning offers, but their rich pedagogical potential, as higher education institutions develop their strategies for teaching and learning in a post-COVID world. In this presentation, two teachers from Japan and Australia will reflect on the possibilities that mobile learning has offered in the last two years.

Example 1: Foreign language teaching using Zoom (Japan)

On the surface attending language lessons on Zoom through mobile devices is just a form of 'substitution' (Puentedura, 2010) for the classroom; but there are several differences. Firstly, as students were based at home (or on the move) they could introduce an authenticity to conversation practice that was not possible in a classroom. For example, they would show classmates around their home; display meaningful possessions; and, introduce their family or roommates. If they were outside their homes they could show where they were – one student working in a restaurant joined lessons whilst serving customers. All of these scenarios added reality and presence (Garrison, 2011) to lessons that are highly motivating.

Secondly, the layout of Zoom means that all students and the teacher can see each other and know each other's names. This is particularly useful in large groups where it is difficult to mix easily in a lecture hall. Breakout rooms facilitate groups coming together and dissolving very efficiently. Students can meet a greater number of classmates than in a classroom and are not distracted when changing places or moving around. A teacher, too, can easily monitor interactions and provide support where necessary. In addition, the record function of Zoom means that students can replay the conversations that they had. This is an important opportunity to raise awareness of new vocabulary, errors, or language strategies that are missed in real time.

Of course, there are numerous criticisms of video conferencing, including Zoom fatigue and digital inequity (Selwyn and Jandrić, 2020) but it is also important to recognize that mobile learning can live up to its early promise of changing classroom dynamics and affordances.

Example 2: Development of collaborative field-based learning systems (Australia)

Authentic place-based learning experiences are critical for student development across multiple disciplines, including in the natural and ecological sciences (O'Neil et al., 2020). Despite advances in mobile technology and near-ubiquitous student ownership of smartphones (Pew Research Center, 2019), recent implementation of mobile learning in field-based subjects at the university level has been neither widespread or systematic (Bone et al., 2022), and innovation is largely limited to monitoring applications for citizen science (Rowley et al., 2019).

Our project across three global institutions (Bone et al., 2020; 2022) seeks to develop a collaborative learning system, incorporating a mobile application and shared database that integrate with activities within each institution's learning management system. The system will provide opportunities for collaborative data analysis, debate and reflection. Modular field-based applications with user-driven customisation, such as that offered by the FAIMS3 project (www.faims.edu.au), offer huge scope for the systematic development of coherent mobile learning initiatives across programs. Across institutions, these systems can connect students to both their local field environments, and to other cohorts across the globe in a 'glocal' curriculum (Caniglia et al., 2018; Burt et al., 2019). Thus, these systems can improve mobility of ideas across the digital space, where the mobility of students themselves may be restricted (Ross, 2022).

Conclusion

Online and blended learning are now commonplace at higher education institutions worldwide. The vast majority of approaches initially tended to be substitutions of face-to-face learning (Crawford et al., 2020; Hall et al., 2020) but the last two years have seen growing enthusiasm, and institutional support, for learning design that recognises contextual differences in the online experience, and is mindful of maintaining sound pedagogical principles (Turnbull et al., 2021). The two examples presented in this paper show that incorporating mobile technologies can provide opportunities for students to develop and demonstrate skills in collaboration, communication and self-efficacy, and to exercise autonomy, providing more diverse and equitable learning experiences in a post-COVID world.

References

Bone, E., Greenfield, R., Williams, G. & Russell, B. (2020). Creating a digital learning ecosystem to facilitate authentic place-based learning and international collaboration – a coastal case study. In S. Gregory, S. Warburton, & M. Parkes (Eds.), ASCILITE's First Virtual Conference. Proceedings ASCILITE 2020 in Armidale (pp. 194–200). https://doi.org/10.14742/ascilite2020.0147

Bone, E., Evitaputri, D., & Santaanop, P. (2022). Mobile learning in higher education environmental science: State of the field and future possibilities. Pacific Journal of Technology Enhanced Learning, 4(1), 1-3. https://doi.org/10.24135/pjtel.v4i1.123

Burt, J. A., Killilea, M. E., & Ciprut, S. (2019). Coastal urbanization and environmental change: Opportunities for collaborative education across a global network university. Regional Studies in Marine Science, 26, 100501. https://doi.org/10.1016/j.rsma.2019.100501

Caniglia, G., John, B., Bellina, L., Lang, D. J., Wiek, A., Cohmer, S., & Laubichler, M. D. (2018). The glocal curriculum: A model for

transnational collaboration in higher education for sustainable development. Journal of Cleaner Production, 171, 368–376. https://doi.org/10.1016/j.jclepro.2017.09.207

Crawford, J., Butler-Henderson, K., Rudolph, J., Malkawi, B., Glowatz, M., Burton, R., Magni, P. A., & Lam, S. (2020). COVID-19: 20 countries' higher education intra-period digital pedagogy responses. Journal of Applied Learning and Teaching, 3(1), 09–28. https://doi.org/10.37074/jalt.2020.3.1.7

Garrison, D. R. (2011). E-learning in the 21st century: A framework for research and practice. (2nd ed.). New York, NY: Routledge. http://dx.doi.org/10.4324/9780203166093

Hall, T., Connolly, C., Ó Grádaigh, S., Burden, K., Kearney, M., Schuck, S., Bottema, J., Cazemier, G., Hustinx, W., Evens, M., Koenraad, T., Makridou, E., & Kosmas, P. (2020). Education in precarious times: A comparative study across six countries to identify design priorities for mobile learning in a pandemic. Information and Learning Science. 121, 5/6, 433-442. https://doi.org/10.1108/ILS-04-2020-0089

Miller, A. N., Sellnow, D. D., & Strawser, M. G. (2021). Pandemic pedagogy challenges and opportunities: instruction communication in remote, HyFlex, and BlendFlex courses. Communication Education, 70(2). https://doi.org/10.1080/03634523.2020.1857418

O'Neil, J.M., Newton, R.J., Bone, E.K., Birney, L.B., Green, A.E., Merrick, B., Goodwin-Segal, T., Moore, G. & Fraioli, A. (2020). Using urban harbors for experiential, environmental literacy: Case studies of New York and Chesapeake Bay. Regional Studies in Marine Science, 33, 100886. https://doi.org/10.1016/j.rsma.2019.100886

Ozuorcun, N.C., & Tabak, F. (2012). Is m-learning versus e-learning or are they supporting each other? Procedia Soc. Behav. Sci. 46, 299–305. https://doi.org/10.1016/j.sbspro.2012.05.110

Pew Research Center. (2019). Smartphone ownership is growing rapidly around the world, but not always equally. Retrieved from: https://www.pewresearch.org/global/2019/02/05/smartphone-ownership-is-growing-rapidly-around- theworld-but-not-always-equally/

Puentedura, R. R. (2010). SMAR and TPCK: Intro to Advanced Practice. Retrieved from: http://hippasus.com/resources/sweden2010/SAMR_TPCK_IntroToAdvanc

Ross, J. (2022). Universities 'reinventing the wheel' on virtual student exchange. Times Higher Education. June 12, 2022. Retrieved from: https://www.timeshighereducation.com/news/universities-reinventing-wheel-virtual-student-exchange

Rowley, J., Callaghan, C., Cutajar, T., Portway, C., Potter, L., Mahony, S.,Trembath, D., Flemons, P., & Woods, A. (2019). FrogID: Citizen scientists provide validated biodiversity data on frogs of Australia. Herpetological Conservation and Biology, 14 (1), 155–170.

Selwyn, N., & Jandrić, P. (2020). Postdigital living in the age of Covid-19: Unsettling what we see as possible. Postdigital Science and Education, 1-17. https://doi.org/10.1007/s42438-020-00166-9

Turnbull, D., Chugh, R. & Luck, J. (2021). Transitioning to E-Learning during the COVID-19 pandemic: How have Higher Education Institutions responded to the challenge?. Education and Information Technologies 26, 6401–6419. https://doi.org/10.1007/s10639-021-10633-w