

ASCILITE 2023

People, Partnerships and Pedagogies

Mapping the connection between Learning Analytics and Learning Design

Linda Corrin¹, Nancy Law² and Minghui Chen²

¹Deakin University, ²Hong Kong University

Over the past decade many have attempted to articulate the connection between Learning Design (LD) and Learning Analytics (LA) in the form of a framework or model. However, there are now so many of these that it is difficult for practitioners to determine which ones are best for which circumstances. In this workshop, participants will be introduced to a new LD/LA map which brings together the key elements from across the multitude of frameworks in order to assist in the operationalisation of learning analytics in higher education. The aim of the workshop is to apply the framework to learning scenarios to evaluate and critique its effectiveness in informing the development of LA systems and interventions. The outcome of the workshop will be a better understanding of the utility of the map and a shared vocabulary relating to how we can talk about the connection of LD and LA in educational environments.

Keywords: Learning analytics, learning design, evaluation, implementation

Background

The increasing need for a better understanding of the connection between Learning Analytics (LA) and Learning Design (LD) has been recognised in the higher education community for the past decade (Authors, 2023). While many have tried to conceptualise this connection in the form of models or frameworks to inform the design and development of learning analytics tools and platforms, there are ongoing issues with how to operationalise these frameworks into something that educators and practitioners can utilise in practice. In addition, there is a need for greater consensus on the vocabulary used to discuss the relationship between LA and LD in ways that can be understood across stakeholder groups. In response to these issues, the workshop organisers have been exploring the development of an integrated framework to inform the construction of design-aware LA systems.

In order to develop such an integrated framework, the team conducted a review of 152 articles that involved a LA and/or LD framework. Closer analysis narrowed this sample down to 29 articles that make specific reference to the connection between LA and LD. These frameworks were found to be quite diverse in nature with emphasis on elements such as stakeholders (e.g., Bakharia et al., 2016), learning design taxonomies (e.g., Law & Liang, 2010; Hernandez-Leo et al., 2019), and designs for learning analytics outputs (e.g., Martinez-Maldonado et al., 2020). The aim of this work was initially to develop an integrated framework, however after the analysis of existing work, it was decided that a map of the many elements that go into enabling the connection between LD and LA would be more useful. This way researchers, educators, and practitioners could choose the pathways between the relevant elements of the map to develop their practical approach to the use of LA in their educational context.

Building on a workshop offered in March 2023 at the International Conference on Learning Analytics and Knowledge at the University of Texas Arlington, where the draft map was first presented for feedback, this ASCILITE workshop is designed to allow participants an opportunity to interact with the completed LA/LD map to explore how it could be applied to different educational contexts (including their own).

Objectives of the Workshop

The main aim of this workshop is to evaluate the usefulness of the map of elements connecting learning design and learning analytics and to determine how it could be applied to participants' own educational context. Participants will be given the opportunity to:

- Engage with the map to explore the elements that make up the connection between LD and LA,
- Apply the map to their own learning environment and/or provided learning scenarios,
- Critique and provide feedback on the map design, and
- Explore possible future possibilities for research and practice in relation to the map.

Workshop design

This interactive, half-day workshop is designed to be held face-to-face, either prior to the ASCILITE conference or during the conference. The workshop will begin with an icebreaker activity to allow participants to get to know a bit about each other, the context in which they work, and why LD/LA is of interest to them. This will be followed by an introduction to the map and a chance to clarify any points of confusion. Participants will then be given a chance to work in small groups to apply the map to a pre-defined set of learning scenarios, and/or their own learning contexts. The workshop will end with a whole-group discussion where further critique of the map will be considered as well as future directions for the evaluation and evolution of the map going forward.

Intended audience

This workshop is suitable for anyone with an interest in how learning analytics can be operationalised. This could include learning designers, learning technologists, learning analytics professionals, educators, researchers, and managers. The workshop will not be technical in nature, but a basic understanding of learning design would be beneficial for participants to get the most out of the workshop experience.

Workshop logistics

The workshop is designed to involve between 20 – 30 participants. A room with tables to allow participants to work in small groups would be ideal, as well as a whiteboard on which to capture key discussion points and feedback. A projector will be required to display an introduction to the map as well as to display the prompts for each of the interactive activities.

References

Authors (2023). Blinded for review.

- Bakharia, A., Corrin, L., de Barba, P., Kennedy, G., Gasevic, D., Mulder, R., Williams, D., Dawson, S., Lockyer, L. (2016). A conceptual framework linking learning design with learning analytics. In *Proceedings of the 6th International Conference on Learning Analytics and Knowledge* (pp. 409-413). New York: ACM. <https://doi.org/10.1145/2883851.2883944>
- Hernández-Leo, D., Martínez-Maldonado, R., Pardo, A., Muñoz-Cristóbal, J. A., & Rodríguez-Triana, M. J. (2019). *Analytics for learning design: A layered framework and tools*. *British Journal of Educational Technology*, 50(1), 139-152. <https://doi.org/10.1111/bjet.12645>
- Law, N., & Liang, L. (2020). A multilevel framework and method for learning analytics integrated learning design. *Journal of Learning Analytics*, 7(3), 98-117. <https://dx.doi.org/10.18608/jla.2020.73.8>
- Martínez-Maldonado, R., Echeverría, V., Fernández Nieto, G., & Buckingham Shum, S. (2020). From data to insights: A layered storytelling approach for multimodal learning analytics. In *Proceedings of the 2020 CHI Conference on Human Factors in Computing Systems* (pp. 1-15). <https://doi.org/10.1145/3313831.3376148>

Corrin L., Law, N. & Chen M (2023, December 3-6). Mapping the connection between Learning Analytics and Learning Design [Workshop]. Australasian Society for Computers in Learning in Tertiary Education Conference, Sydney, NSW, Australia. DOI: <https://doi.org/10.14742/apubs.2023.480>

Note: All published papers are refereed, having undergone a double-blind peer-review process. The author(s) assign a Creative Commons by attribution licence enabling others to distribute, remix, tweak, and build upon their work, even commercially, as long as credit is given to the author(s) for the original creation.

© Corrin L., Law, N. & Chen M. 2023