

Learning Analytics Growing Pains

Sociotechnical Infrastructure Changes as LA Tools Mature

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Abstract

As Learning Analytics tools mature, there are often 'growing pains' in how the infrastructure adapts to the social and technical requirements of scaling up. Across institutions in Australia, there is increasing work being done in this transitional space, including moving from prototypes to products, institutional adoption of LA, engaging stakeholders, organisational leadership, long term impact, and invisible work in keeping everything going. This workshop aims to build common ground across institutional contexts by sharing stories and identifying insights, to inform the design of better sociotechnical infrastructures supporting this critical phase.

Keywords

learning analytics, infrastructure, tools, scaling up, adoption

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1. Workshop Focus

Learning Analytics (LA) as a field is reaching a new stage of maturity, as a growing number of tools transition from small scale pilots that have demonstrated promise, to larger scale services within an institution. Those pilots may have been a small scale deployment of a commercial product, or a prototype developed by in-house/external teams. This workshop aims to deepen the conversation between LA researchers and practitioners who are working in this transitional space, since as the scale of the system grows, technologies, roles and stakeholders change — and there are often “growing pains” as the infrastructure, social and technical, adjusts. By sharing our stories, it is hoped that the workshop will build common ground across institutional and LA contexts, and identify insights to inform the design of better sociotechnical infrastructures to support this critical phase.

Topics include but are not limited to:

- **From prototypes to products.** Can we expect the same platform to serve both rapid prototyping and production services? How do we design with future evolution in mind?
- **Scaling up for institutional adoption.** For adoption and embedding of LA at scale, a transition from technical to social systems is required (Gasevic, Tsai, Dawson & Pardo, 2019). What strategies are useful, and why? How do we handle resource management?
- **Stakeholder engagement.** Who needs to be in the loop, and when? What obstacles are there to effective communication between specific stakeholder groups? Who purchases, invents, develops, maintains, and evaluates LA tools? What design processes assist this process? Who supports educators and students once deployed?
- **Invisible work.** No matter how good the technology, embedding it into daily practice invariably brings “invisible work” that’s required to oil the wheels and keep everything going. What examples/stories do you have about what this looked like in your case study?
- **Organisational leadership.** Institutions need strategy to build mindsets, capabilities, and capacity for LA, and this requires an alignment to their institutional vision and goals (Tsai, Moreno-Marcos, Jivet, Scheffel, Tammets, Kollom & Gašević, 2018). How can the organisation facilitate or obstruct this process? Who are the key stakeholders in this scaling up process?
- **Long term impact.** For sustainable use and implementation of LA, the development and evaluation of tools can no longer be supported by short term goals or one-off studies. What pedagogical grounding is required for long term impact? How do we balance scalability and catering for specific contexts (contextualization) for maximum impact? (Shibani, Knight & Buckingham Shum, 2019) How do we map supply and demand to truly embed LA in classrooms?

2. Confirmed Speakers

The following confirmed speakers will share their institutional insights during the workshop:

- **Promoting institutional adoption of a personalised feedback tool. The OnTask experience**
Aberlado Pardo, Professor and Dean Academic at the Division of Information Technology, University of South Australia
- **Co-creation - How human-centred LA at Sydney has co-evolved with 2 to 1100 educators**
Natasha Arthars, Postgraduate Research Fellow, DVC Education Portfolio, The University of Sydney
Danny Liu, Senior Lecturer, DVC Education Portfolio, The University of Sydney
- **Development and Dissemination of an Adaptive Learning System: Reflections and Lessons Learned**
Hassan Khosravi, Senior Lecturer in Learning Analytics, The University of Queensland
- **A sustainable deployment of textbook smart e-resources in University courses: building a partnership with a publisher for effective learning design**
Dr Lorenzo Vigentini, Academic Lead Educational Intelligence & analytics, UNSW Sydney
Dr Happy Novanda, Learning Design Manager, McGraw Hill International
Simon Banks, National Enterprise Manager, McGraw Hill International
- **How research and practice in LA co-evolve: Insights from the Writing Analytics tool AcaWriter**
Antonette Shibani, Lecturer at the Faculty of Transdisciplinary Innovation, University of Technology Sydney
Simon Buckingham Shum, Professor of Learning Informatics and Director of the Connected Intelligence Centre, University of Technology Sydney
- **Stakeholder engagement in scaling up LA**
Bruce McLaren, Associate Research Professor at the Human-Computer Interaction Institute, Carnegie Mellon University, USA

3. Workshop Presenter Credentials

Simon Buckingham Shum is Professor of Learning Informatics at the University of Technology Sydney, which he joined in August 2014 as inaugural director of the Connected Intelligence Centre. Developing approaches to helping UTS both innovate and achieve impact with LA infrastructure is central to CIC's mission. Simon has been active in shaping the field of Learning Analytics since the inaugural LAK 2011 conference, serving as a Program Chair (2012/2018), convening many workshops, and a regular keynote speaker. He co-founded the *Society for Learning Analytics Research*, serving as a V-P and continuing on the Executive.

Antonette Shibani is a Lecturer in the Faculty of Transdisciplinary Innovation at the University of Technology Sydney, Australia. In her doctoral research, she explored the co-design and implementation of a writing analytics tool called 'AcaWriter' in higher education, enabling its move from research to classroom practice. Shibani has been involved in the international Learning Analytics community by presenting her work in a number of LAK conferences, and Australian Learning Analytics Summer Institutes (A-LASI). She has chaired/co-chaired five workshops in LAK and A-LASI to build writing analytics literacy within the LA community. She is currently an executive member of the Society for Learning Analytics Research.

References

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