

Workshop on Adoption, Adaptation and Pilots of Learning Analytics in Under-represented Regions: LAUR Workshop at EC-TEL 2020

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Preface to the Workshop Proceedings

The Workshop on Adoption, Adaptation and Pilots of Learning Analytics in Under-represented regions took place online due to the coronavirus outbreak. This workshop is one of the workshops of the European Conference on Technology Enhanced Learning 2020 (EC-TEL). The workshop is organized by LALA project (www.lalapproject.org) members, an European Union funded project for building capacity of learning analytics in Latin America, with special emphasis is Chile and Ecuador.

Learning analytics research has made a notable progress in the last decade. However, not all the regions are using and/or researching learning analytics at the same level.

Regions such as North America, Europe or Australia have developed learning analytics in a considerable way. However, in regions such as Latin America, Africa and Asia, there is a need to build local capacity to use learning analytics. In this context, the application of learning analytics e.g. in Latin America represents a great opportunity (Ochoa, 2019). LA was with low development in South Africa (Lemmens & Hennis, 2016) or is progressing in Asia (LI, YE, & WONG, 2018).

At present, the interest of the application of learning analytics in many of the under-represented regions is increasing. Proof of that growing interest is e.g. the publication of a special issue on learning analytics adoption in Latin America of British Journal of Educational Technology (Pontual Falcão, Ferreira, Rodrigues, 2019). There are also other regions where the application of learning analytics represents a great opportunity.

From an institutional point of view, there is a need to analyse how learning analytics can be adopted in higher education institutions (HEIs) taking into account the contextual particularities of the region regarding culture, privacy, ethics, policies or technical infrastructure. In addition, there is a need to adapt different learning analytics tools and researches to meet the needs in the local contexts, rather than treating learning analytics as generalizable solutions.

As an example, the LALA project (LALA project, 2017) is an Erasmus + project which seeks to build local capacity in Latin American HEIs to design and implement learning analytic tools in order to improve their learning processes. The main outcomes and results of the project are: 1) developing a framework that describes the methodological, technical, institutional, ethical and community building aspects required for the adoption of learning analytics for Latin American institutions; 2) adapting two learning analytics tools (a counselling tool for visual analytics and an early dropout prediction tool) 3) piloting the two learning analytics tools in different Latin American institutions; and 4) creating a community of learning analytics in Latin America. The LALA project proposes the LALA framework (Pérez-Sanagustín et al., 2018) to help Latin American HEIs to adopt learning analytics. This framework builds on the SHEILA framework (Tsai et al., 2018) proposed in the SHEILA Erasmus + European project

This workshop has three main objectives: 1) Disseminate the results of the LALA project, helping Latin American institutions to turn into data-driven solutions for education. 2) Share experiences of learning analytics and help other institutions to adopt learning analytics tools and services, and 3) Extend the community of learning analytics in under-represented regions.

The workshop had an open call for papers, and each submitted paper was reviewed by at least two members of the program committee. A total of five papers were accepted. In addition, an invited paper by the workshop co-organizers is also included in the proceedings. The six papers included in the proceedings are the following:

- “A general overview of the LALA project”. This is the invited paper by the co-organizers and it includes the main objectives and the main outcomes of the LALA project so far.
- “Learning Analytics at UC-Engineering: Lessons learned about Infrastructure and Organizational Structure”. This paper presents two initiatives, one top-down (led by institutional managers) and another bottom-up (led by

by ground-level teaching staff), that the School of Engineering at the Pontificia Universidad Católica de Chile conducted for designing learning analytics solutions adapted to their needs. How the two initiatives emerged and how they were integrated into existing academic processes are discussed.

- “Applying the LALA Framework for the adoption of a Learning Analytic tool in Latin America: Two case studies in Ecuador”. This paper presents the results obtained with the application of the LALA Framework for the development and adoption of LA tools in two Latin-American HEIs with different LA contexts. This work not only shows the feasibility of this framework but also shows that different LA context requires the execution of activities applying different approaches. The paper also proposes changes to improve the LALA Framework.
- “A Student-oriented Tool to Support Course Selection in Academic Counseling Sessions”. This paper presents a tool that allows students to select multiple courses and predict their academic performance based on historical academic data. The tool is intended to be used prior to counseling sessions in which students plan their upcoming semester. This paper presents the tool's design and implementation and discusses its potential to improve the student-counselor discourse.
- “Modeling Trajectories to Understand the Delayed Completion of Sequential Curricula Undergraduate Programs”. This paper presents an analysis of academic delay of students.
- “An Early warning dropout model in higher education degrees: A Case Study in Ecuador”. This paper presents a new predictive model that can identify the earliest moment of dropping out of a student of any semester in any undergraduate course. The model developed and the variables used in the predictive model are presented based on a case study from a public High Education Institution in Ecuador.

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References

- LALA project (2017), <https://lalaproject.org/>
- Lemmens, J. C., & Henn, M. (2016). Learning analytics: A south African higher education perspective. *Institutional research in South African higher education: Intersecting contexts and practices*, 231-254.
- LI K.C., YE C.J., WONG B.TM. (2018) Status of Learning Analytics in Asia: Perspectives of Higher Education Stakeholders. In: Cheung S., Lam J., Li K., Au O., Ma W., Ho W. (eds) *Technology in Education. Innovative Solutions and Practices. ICTE 2018. Communications in Computer and Information Science*, vol 843. Springer, Singapore
- Ochoa, X. (2019). Learning analytics in Latin America present an opportunity not to be missed. *Nature human behaviour*, 3(1), 6.
- Pérez-Sanagustín, M., Hilliger, I., Maldonado, J., Pérez, R., Ramírez, L., Muñoz-Merino, P. J., Tsai, Y., Ortiz, M., Broos, T., Zuñiga-Prieto, M.A., Sheihing, E., WhitelockWainwright, A. (2018), LALA Framework, https://www.lalaproject.org/wp-content/uploads/2019/04/LALA_framework_Spanish.pdf
- Pontual Falcão, T., Ferreira, R., Rodrigues, R.L. (2019), Applications of Learning Analytics in Latin America, *British Journal of Educational Technology*, https://onlinelibrary.wiley.com/page/journal/14678535/homepage/bjet_special_issues.htm
- Tsai, Yi-shan, Gasevic, D., Whitelock-Wainwright, A., Muñoz-Merino, P. J., Moreno-Marcos, P. M., Rubio Fernández, A., ... Kollom, K. (2018). SHEILA Supporting Higher Education to Integrate Learning Analytics.