

Repositório ISCTE-IUL

Deposited in *Repositório ISCTE-IUL*: 2019-04-29

Deposited version: Post-print

Peer-review status of attached file:

Peer-reviewed

Citation for published item:

Cardoso, E. (2018). The past, present, and future of Learning Analytics. In Companion Proceedings of the The Web Conference 2018. (pp. 1021-1021). Lyon: ACM Press.

Further information on publisher's website:

10.1145/3184558.3193130

Publisher's copyright statement:

This is the peer reviewed version of the following article: Cardoso, E. (2018). The past, present, and future of Learning Analytics. In Companion Proceedings of the The Web Conference 2018. (pp. 1021-1021). Lyon: ACM Press., which has been published in final form at

https://dx.doi.org/10.1145/3184558.3193130. This article may be used for non-commercial purposes in accordance with the Publisher's Terms and Conditions for self-archiving.

Use policy

Creative Commons CC BY 4.0 The full-text may be used and/or reproduced, and given to third parties in any format or medium, without prior permission or charge, for personal research or study, educational, or not-for-profit purposes provided that:

- a full bibliographic reference is made to the original source
- a link is made to the metadata record in the Repository
- the full-text is not changed in any way

The full-text must not be sold in any format or medium without the formal permission of the copyright holders.

The Past, Present and Future of Learning Analytics

Elsa Cardoso ISCTE – Instituto Universitário de Lisboa and INESC-ID Av. Forças Armadas, 1649-026 Lisboa Portugal elsa.cardoso@iscte-iul.pt

ABSTRACT

Learning Analytics (LA) is a recent research field, in which Business Intelligence and Analytics techniques are applied to learners and their contexts, with the purpose of acquiring a greater insight about the entire learning process (including outcomes). In this talk, we explore the LA landscape, delving into the definitions, techniques, challenges, and lessons learned.

CCS CONCEPTS

• Information systems → Information systems applications; *Decision support systems*; Data analytics

KEYWORDS

Learning analytics; Business Intelligence; Data Management; Higher Education

ACM Reference format:

E. Cardoso. 2018. The past, present and future of Learning Analytics. In *The 2018 Web Conference Companion (WWW 2018), April 23-27, 2018, Lyon, France,* ACM, New York, NY, 1 page. DOI: https://doi.org/10.1145/3184558.3193130

1 LEARNING ANALYTICS

The Society for Learning Analytics Research (SOLAR) defines LA as "the measurement, collection, analysis and reporting of data about learners and their contexts, for purposes of understanding and optimizing learning and the environments in which it occurs" [1]. LA is a recent research field, in which Business Intelligence and Analytics are applied to gain insight into the learning process. In this talk, we apply a generic Analytics framework (adapted from [2]) to contextualize the past, present and future of LA. Specifically, we address the types of questions that LA research can answer and the different impact and value that can be delivered to LA stakeholders (i.e., students, teachers, and educational institutions). These questions can be addressed by several Business Intelligence and Analytics techniques focusing on the What?, How?, Why?, with a timebased analysis (past, present and future). Based on a comprehensive analysis of the literature and of key LA projects developed in different countries, we provide an overview of the evolution and current state of LA research. A collection of lessons learned and most common techniques used are discussed, useful to new researchers entering this field. Finally, we provide a look into the future, with a view of challenges that need to be dealt with, including privacy and ethics of LA. Mostly triggered by new data sources and Big Data applications, current data management challenges impact our society as well as teaching and learning in Higher Education.

REFERENCES

- SOLAR. 2011. Open Learning Analytics: an integrated & modularized platform. http://solaresearch.org
- [2] T. Davenport, J. Harris, and R. Morison F. Analytics at work: smarter decisions, better results. 2010. Harvard Business Press, USA.

This paper is published under the Creative Commons Attribution-NonCommercial-NoDerivs 4.0 International (CC BY 4.0) license. Authors reserve their rights to disseminate the work on their personal and corporate Web sites with the appropriate attribution.

 \circledast 2018 IW3C2 (International World Wide Web Conference Committee), published

under Creative Commons CC BY 4.0 License.

ACM ISBN 978-1-4503-5640-4/18/04.

DOI: https://doi.org/10.1145/3184558.3193130

WWW '18 Companion April 23-27, 2018, Lyon, France.