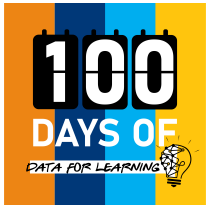

Further reading and/or Interesting resources:

- Ihantola, P., Vihavainen, A., Ahadi, A., Butler, M., Börstler, J., Edwards, S. H., ... & Toll, D. (2015). Educational data mining and learning analytics in programming: Literature review and case studies. *Proceedings of the 2015 ITiCSE on Working Group Reports*, 41-63. Read here.
- Sin, K., & Muthu, L. (2015). Application of big data in education data mining and learning analytics - a literature review. *ICTACT journal on soft computing*, *5*(4). Read here.
- Rubel, A., & Jones, K. M. (2016). Student privacy in learning analytics: An information ethics perspective. *The information society*, *32*(2), 143-159. Read here.
- Prinsloo, P., & Slade, S. (2016). Student vulnerability, agency, and learning analytics: An exploration. *Journal of Learning Analytics*, *3*(1), 159-182. Read here.

Food for thought

THINGS TO EXPLORE... NEXT STEPS; WAYS TO GO FORWARD;

- Is learning analytics the way to go forward in the current times of education innovation (digitalization); or are there other ways?
- If yes, should we continue like we have been doing for the past few years, or should we shift our focus? If the latter, to what direction?
- If no, what are different (data driven) ways to innovate our education to prepare students for a (fast changing) future full of grand challenges?
- What is successful learning: as many students pass as possible, or the best learning experience for as many students as possible; other?
- What do students want/need in terms of learning analytics? Predictive data, descriptive data, comparative data (to average, to (selected) peers)? How to serve their needs in an ethically responsible way?

WHAT DOES THIS LEARN US ABOUT DATA FOR LEARNING

- This article dove deep in learning analytics - which is only one aspect of the broad scope of data for learning.
- Unexpectedly for most of us present at the Journal Club, there is not so much scientific evidence for a general positive impact of learning analytics in higher education.
- The (little) evidence found for improvement of learning outcomes through learning analytics focusses on i) knowledge acquisition, ii) skill development, iii) cognitive gains.
- The review article takes a lot of other studies into consideration (which is good thing); but because of this the more detailed information of individual studies get lost along the way.
- An important thing to consider while going over the results in this paper is to question ourselves whether it is educators their jobs to make as many students pass; or to make all students experience a similar progress. By changing 'lenses' through which you look at learning analytics, the impact of it on education might vary. Should learning analytics help educators in selecting who passes or should it help to select more carefully?
- Regarding learning analytics, we should be careful about what we measure. We should only collected as much data as needed (not more) and should only collect the data that is helpful for the tings we do: e.g. collecting data to teach students effective learning strategies is as valuable as collecting data that measures results to present in a dashboard.

What do we learn from this?

100 DAYS OF...
Data for Learning
Journal Club
29-11-2022

The current landscape of learning analytics in higher education

Viberg, O., Hatakka, M., Bälter, O., & Mavroudi, A. (2018).

About the article

ABOUT THE ARTICLE

1) The purpose of the paper is to explore what is the current scientific knowledge about the application of learning analytics in higher education.
2) By analyzing 252 papers on learning analytics in higher education (published between 2012 and 2018), the authors explore to what extent learning analytics can improve learning practice by transforming the ways we support learning processes. The focus of the article is on research approaches, methods and the evidence for learning analytics.
3) The evidence found was examined in relation to four earlier validated propositions: A) Learning analytics improves learning outcomes; B) Learning analytics support learning and teaching; C) Learning analytics are deployed widely; and D) Learning analytics are used ethically.
4) Overall, the authors found...

Based on 252 paper on learning analytics in higher education... there is
a) little evidence of improvements in student's learning outcomes 9%
b) little evidence of improvements in learning support and teaching 35%
c) little evidence of learning analytics being deployed widely 6%
d) little evidence of learning analytics being used ethically 18%

5) Learning analytics has potential to improve learner practice. Although, there does not seem to be a strong shift yet from this potential to the educational practice, there is a shift towards deeper understanding of students' learning experiences

Responses to the article

RESPONSES TO THE ARTICLE

- "I really liked the article. It made me realize that, maybe, I should have fact-checked at an earlier stage what the impact of learning analytics is."
- "I also liked it. One big question that arose to me was how come that teaching and teaching support do not benefit as well from learning analytics based on this paper."
- "What I missed in this article that it is not mentioned what is exactly being measured and/or predicted. This confused me while reading. Also, I missed a little bit more elaboration on the role of the students in learning analytics (research)."
- "For me, a (better) taxonomy or categorization system is missing. There a many different ways and forms of learning analytics. In this paper this difference does not become very clear, bias biases the results (in my experience). I have the feeling that learning analytics helps learners more than is presented in this paper."
- "Personally, I find it difficult to take something away from this article. The paper does not touch upon, for instance, how we are using learning analytics, and if there is evidence if the way we use it, is actually the best way to do so."
- "Before reading this article, I would have advocated, the more learning analytics the better; now, I am a bit more suspicious."
- "What I missed in this article is a 'next step'. OK, if what we are doing is not working, what are recommendations. Should we work on rethinking learning analytics, or should we research it more and/or differently.