State and Directions of Learning Analytics Adoption


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Mobile Learning
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Educational Landscape Today

Growing need for education
Active learning
Education defunding
Feedback loops between students and instructors are missing/weak!
LEARNING ANALYTICS
Educators

Student Information Systems

Learning environment

Learners
CASE STUDIES
Student retention

Can teaching be improved?

Learning Analytics (LA) has been identified as one of the top technology trends in higher education today (Johnson et al., 2013). LA is based on the idea that analytics generated through normal administrative, teaching, or learning activities—such as registrar data or interactions with learning management systems—can be analyzed to enhance student learning, academic progress, and teaching practice.

Examples of LA projects in colleges and universities include Purdue University’s “Course Signals” system, an early-alert notification for struggling students, and Austin Peay State University’s “Degree Compass,” a course recommender program based on predictive analytics.

Although the promise of LA is great, key areas of the approach have been identified as needing to be better realized (Dingus, 2012). The key challenge is utilizing large data analytics for actionable and effective interventions in the classroom—that is, enabling “faculty to more precisely identify student learning needs and tailor instruction appropriately” (Johnson, et al., 2011, p. 28).

Here, we describe one large-scale LA initiative at the University of Michigan (U-M) to improve performance for thousands of students in gateway physics courses. Our goal is not only to describe the development and implementation of this unique initiative in STEM education but also to discuss how the approach we used can help meet some of the challenges to more widespread LA adoption.

INSTITUTIONAL ADOPTION: CURRENT STATE
Current state – Oz and Europe

Student Retention and Learning Analytics
A snapshot of Australian practices and a framework for advancement

http://he-analytics.com

http://sheilaproject.eu/
Very few institution-wide examples of adoption

Sophistication model

Sophistication model

Adoption challenge

Leadership for strategic implementation & monitoring
Lack of leadership

Bought an analytics product.

Analytics box ticked!
Adoption challenge

Equal engagement with different stakeholders
Adoption challenge

Policies for learning analytics practice
What’s necessary to move forward?
Data – Model – Transformation

Data – Model – Transformation

Creative data sourcing

Social networks are everywhere

Data – Model – Transformation

Creative data sourcing

Necessary IT support

Data – Model – Transformation

Question-driven, not data-driven

HAVING CONDUCTED A COMPREHENSIVE ANALYSIS OF DOZENS OF SUBSETS OF DATA FROM A WIDE RANGE OF SOURCES WE'VE CONFIRMED THAT THE LIKELY ANSWER IS 36...NOW WE JUST NEED TO IDENTIFY THE QUESTION!
Field of research and practice

Learning analytics is about learning

One size fits all does not work in learning analytics
Learning context

Instructional conditions shape learning analytics results

Learner agency

More time online does not always mean better learning

Data – Model – Transformation

Data – Model – Transformation

Inclusive approaches to adoption

SHEILA project
What do students want?

Representation on committees
Student expectations from learning analytics

Data – Model – Transformation

Inclusive approaches to adoption
Analytics tools for non-statistics experts

Visualizations can be harmful

Students don’t perceive dashboards as feedback

Data – Model – Transformation

Participatory design of analytics tools
Analytics tools for non-statistics experts
Develop capabilities to exploit (big) data

You don't have to be a data scientist to be data savvy. And that's a good thing.

Many companies are putting massive focus on recruiting the rare beasts that are data scientists. But in doing so, they often forget the need for creating a much more data savvy culture overall.

Data is already becoming ubiquitous in business as well as in daily life. It used to be that the IT department could be contained to its own office or floor, but today, it's becoming harder and harder to segregate the realm of data from any other aspect of business.

That means that data — and the application and analysis of said data — is going to become more and more important in every department, from sales to HR and from R&D to marketing.

The good news is that you don’t have to know how to code or do advanced maths to become data-savvy. In fact, you don’t have to be particularly tech savvy at all. What you do have to do is adopt a data-friendly mindset.

Whether you are looking to lead the way as a data-savvy employee, or lead the charge for culture change as a manager or C-level executive, here are...
FINAL REMARKS
Rhetoric of simplistic technological fixes is unproductive
Embracing complexity of educational systems
Capacity development

Multidisciplinary teams in institutions critical
Ethical and privacy consideration

Development of analytics culture

Thank you!

http://lak18.solaresearch.org

The 8th International Learning Analytics & Knowledge Conference
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