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Making sense of the collection, analysis and use of student data is [increasingly] like...



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Confession(s)

Reflecting on the collection, analysis and use of student data often leaves me with more pieces on the floor than what I've bargained for, or can deal with, or know how to put back together again.

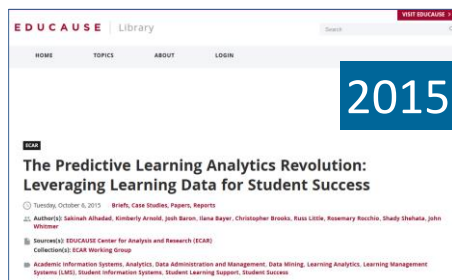


I am sorry

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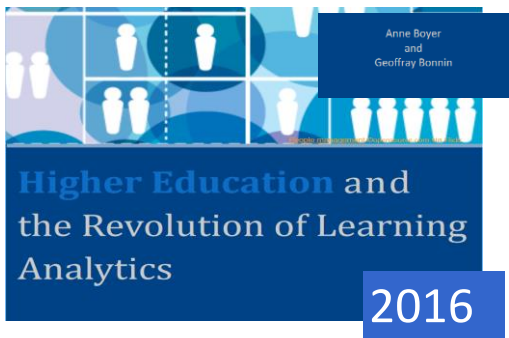


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Postsecondary Learning Higher Education

Study Finds Institutions Could Generate \$1M Annually With Higher Student Retention

Jun 22, 2017

\$1 MILLION ANNUALLY is how much researchers estimate colleges and universities could earn by increasing student retention through adopting new advising strategies, according to a recent report by RPK Group. The report analyzes return on investment for 22 institutions receiving grant support from the Bill & Melinda Gates Foundation to introduce integrated planning and advising for student success, or iPASS, strategies on campus.

According to the study, the \$1 million figure would largely come from additional operating revenue brought in by an increase in tuition, minus the additional expenses necessary to support the additional credit hours and increase retention.

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Page credit: https://www.edsurge.com/news/2017-06-22-study-finds-institutions-could-generate-1m-annually-with-higher-student-retention.htm_content-buffer0915&utm_medium=social&utm_source=twitter.com&utm_campaign=buffer



TECHNOLOGY-ENABLED ADVISING: iPASS SOLUTIONS

WHAT CAN iPASS INVESTMENT PATTERNS SHOW?

WHAT EXACTLY IS ROI?

Adopting and implementing iPASS solutions and other emerging models for traditional colleges and universities typically requires some spending. But how might the financial base through which these institutions are created shift from "What does it cost?" to a more varied understanding of "What do we get for the resources we spend?" This infographic, from consulting to return on investment, is critical to understanding and creating sustainable success.

Transitioning to an ROI lens requires three fundamental shifts.

1. A holistic understanding of resources
2. A focus on total cost
3. A consistent, balanced, student success and financial sustainability

Technology-enabled Advising and the Creation of Sustainable Innovation: Early Learnings from iPASS

Diana M. Demerouti and Richard L. Stankoff

Source credit: http://rpkgroup.com/wp-content/uploads/2015/12/rpkgroup_iPASS_whitepaper-Final.pdf



BIG DATA: SEIZING OPPORTUNITIES, PRESERVING VALUES

Executive Office of the President

Big Data: A Report on Algorithmic Systems, Opportunity, and Civil Rights

"...pathways for fairness and opportunity but also cautions against re-encoding bias and discrimination into algorithmic systems."

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 Source credit: https://obamawhitehouse.archives.gov/sites/default/files/microsites/ostp/2016_0504_data_discrimination.pdf



PREDICTIVE ANALYTICS IN HIGHER EDUCATION
Five Guiding Practices for Ethical Use

THE PROMISE AND PERIL OF PREDICTIVE ANALYTICS IN HIGHER EDUCATION
A Landscape Analysis

Source credit: <https://na-production.s3.amazonaws.com/documents/Predictive-Analytics-GuidingPractices.pdf>
 Source credit: https://na-production.s3.amazonaws.com/documents/Promise-and-Peril_4.pdf



Policy on Ethical use of Student Data for Learning Analytics

1 Introduction

1.1 Rationale

1.1.1 The Open University has collected and analysed student data as a means of providing information relating to student support and retention for many years. The changing landscape of higher education has seen the rapid expansion of uses to which student data is put. The Open University, in common with many other higher education institutions, is now looking at its use of **learning analytics**.

Open University. (2014). Policy on ethical use of student data for learning analytics. Retrieved from <http://www.open.ac.uk/students/charter/sites/www.open.ac.uk/students.charter/files/files/ecsms-web-content/ethical-use-of-student-data-policy.pdf>



Code of practice for learning analytics
A literature review of the ethical and legal issues

Code of practice for learning analytics

A literature review of the ethical and legal issues

Source credit: Sclater, N. (2014). Code of practice for learning analytics: A literature review of the ethical and legal issues. Jisc, November 5. Retrieved from http://sclater.com/papers/JR0022_Learning_Analytics_A_-_Literature_Review_v1.3.pdf



Responsible Analytics and Data Mining in Education

Global Perspectives on Quality, Support, and Decision-Making

Deadline 1 July 2017

THURSDAY, MARCH 23, 2017

Call for Chapters

Deadline Extended - June 1, 2017 July 1, 2017

Introduction

Due to rapid advancements in our ability to collect, process, and analyze massive amounts of data, it is now possible for educators at all levels to gain new insights into how people learn. According to Barabidge, et al. (2011), using simple learning analytics models, educators now have the tools to identify, with up to 80% accuracy, which students are at the greatest risk of failure before classes even begin. As we consider the enormous potential of data analytics and data mining in education, we must also recognize a myriad of emerging issues and potential consequences—emotional and intellectual—to implement them responsibly. For example:

- Who collects and controls the data?
- Is it accessible to all stakeholders?
- How are the data being used, and is there a possibility for abuse?
- How do we assess data quality?
- Who determines which data to trust and use?
- What happens when the data analysis yields flawed results?
- How do we ensure data process when data-driven errors are uncovered?
- What policies are in place to address errors?
- Is there a plan for handling data breaches?

Page credit: <https://big-data-in-education.blogspot.co.za/>



Ethical Futures in Qualitative Research

Decolonizing the Politics of Knowledge

Edited by Norman K. Denzin and Michael D. Giardina

Page credit: <https://www.amazon.com/Ethical-Futures-Qualitative-Research-International/dp/1519874141>



INDIGENOUS DATA SOVEREIGNTY

TOWARD AN AGENDA

Edited by TAMI HIRATA and JOHN TAYLOR

CAEPR RESEARCH MONOGRAPH NO. 2017-01

Page credit: <https://press.anu.edu.au/publications/series/centre-for-indigenous-economic-policy-research-caepr/indigenous-data-sovereignty>

How do we (*who are we?) understand data, who has access to what data, what is the data used for and by whom, what tools do who use, who is accountable, how transparent are we, and what are the ethical implications of all of this in/for higher education?

Image credit: <https://pixabay.com/en/universita-fresh-big-data-books-226972/>



Ethics

Data
Our tools and processes
The reasons for the collection, analysis and use of data

Those who collect, analyse and use
Those from whom we collect data
How we store & govern data

Image credit: <https://pixabay.com/en/umbrella-concept-weather-1163707/>



When 'we' talk about

D₂ A₁ T₁ A₁

...who are 'we'?

Image credit: <https://pixabay.com/en/data-letters-scrabble-information-235569/>



- Institutional researchers
- Researchers in institutions
- Contract researchers
- Third party vendors, learning management system providers
- Every social media platform you advise students to use
- Faculty, course support teams, advisors
- Students
- Automated algorithmic decision-systems



- From whom do ‘they’* collect the data , in which format, for what purpose, using what tools, with whose permission?
- How transparent are ‘they’* about the fact that they collect the data, the purposes, and whether the data subject will have input in the ‘findings’, the categories and labels and the way the data is used?
- Who will hold ‘them’ accountable?
- How will we ‘hold’ them accountable?

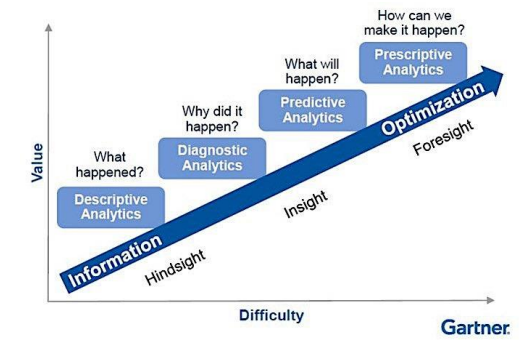
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There are also different types of data

- Structured and unstructured
- Qualitative and quantitative
- Small, big, deep, surface, (in)consequential data
- *Required* at point of entry – “to need this service you need to provide us with the following information”
- *Gifted* during interpersonal, digital and analogue transactions and interactions
- Specifically collected and used
- Automatically collected and used
- Automatically collected, stored for future use
- All of the above in combination with any number of the above

Image credit: <https://pixabay.com/en/binary-one-null-monitor-503603/>



Many (most?) of the discourses pertaining to the use of collection, analysis and use of student data have been and are shaped by the Global North

Image credit: <https://pixabay.com/en/globe-puzzle-earth-world-planet-673010/>



Context is everything

What does a contextualised, South African perspective on the ethical collection, analysis and use of student data entail?

Prinsloo, P. (2016, October 26). Mapping the ethical implications of using student data – A South African contextualised view. Retrieved from <https://www.slideshare.net/prinsp/mapping-the-ethical-implications-of-using-student-data-a-south-african-contextualised-view>



A contextualised approach to the ethical collection, analysis and use of student data ...

- Acknowledges the lasting, inter-generational effects of colonialism and apartheid
- Collects, analyses and use student data with the aim of addressing these effects and historical and arising tensions between ensuring quality, sustainability and success
- Critically engages with the assumptions surrounding data, identity, proxies, consequences and accountability
- Responds to institutional character, context and vision
- Considers the ethical implications of the purpose, the processes, the tools, the staff involved, the governance and the results of the collection, analysis and use of student data



Guiding principles for an ethics of care:

Principle 1: The moral, relational duty of learning analytics

Principle 2: Defining student success in the nexus of student, institution and macro-societal agencies and context

Principle 3: Understanding data as framed and framing

Principle 4: Student data sovereignty

Principle 5: Accountability

Principle 6: Transparency

Principle 7: Co-responsibility



Principle 1: The moral, relational duty of learning analytics

“If you have come to help us, you can go home.
If you have come to accompany us, please
come. We can talk”

Glesne, C. (2016). Research as solidarity. In T. Kukutai and J. Taylor. (Eds), *Indigenous data sovereignty. Toward an agenda* (pp. 169-178). Canberra, Australia: Australian National University Press. Retrieved from <https://press.anu.edu.au/publications/series/centre-aboriginal-economic-policy-research-caep/indigenous-data-sovereignty>
Image credit: <https://pixabay.com/en/person-male-man-portrait-shadow-828630/>

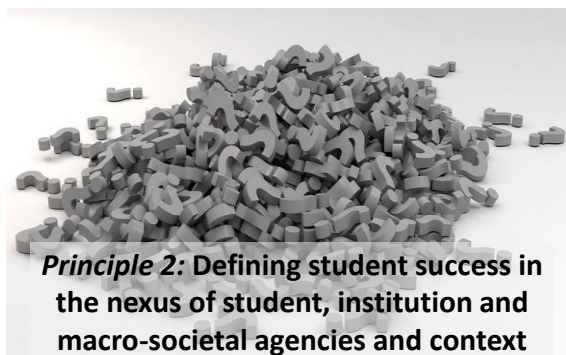


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Principle 3: Understanding data as framed and framing



Data collection, analysis and use are *political acts* and serve declared and hidden assumptions about the purpose of higher education and the masters it serves

(Apple, 2004, 2007; Grimmelman, 2013; Johnson, 2015; Watters, 2015)



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Principle 4: Student data sovereignty

Student data is not something separate from students' identities, their histories, their *beings*. This framework accepts that data is an integral, albeit informational part of students being. Data is therefore not something a student owns but rather is. Students do not own their data but are constituted by their data.

Floridi, L. (2005). The ontological interpretation of informational privacy. *Ethics and Information Technology*, 7(4), 185-200.



Principle 4: Student data sovereignty (cont.)

- Students have a right to *control* what personalised data is collected from them, for what purposes, by whom, and how it will be stored, governed
- Students have the right to access the data we have of them, to know who accessed their data, and how their data was used
- Students have a right to know what the rationale/criteria are for how we categorise them, our ‘regimes of truth’ and to engage with us to make sense of their data
- We should think past the binary of opting in/out – there are different nuances and possibilities
- Students have a right to supported and accessible recourse



Principle 5: Accountability

Education Tech Research Dev
DOI 10.1007/s11423-016-9463-4

DEVELOPMENT ARTICLE

Ethical oversight of student data in learning analytics: a typology derived from a cross-continental, cross-institutional perspective

James E. Willis III¹ · Sharon Slade² · Paul Prinsloo³

An interpretative multiple-case study: Indiana University, Open University (UK) and the University of South Africa (Unisa)

Willis, J. E., Slade, S., & Prinsloo, P. (2016). Ethical oversight of student data in learning analytics: A typology derived from a cross-continental, cross-institutional perspective. *Educational Technology Research and Development*, 64, 881-901. DOI: 10.1007/s11423-016-9463-4 <http://link.springer.com/article/10.1007/s11423-016-9463-4>



Typology: Learning analytics as...

Approval/oversight/accountability

Research	Formal, well-defined processes
An emerging form of research	Undefined, unclear Our current processes do not allow for any oversight
Scholarship of teaching and learning	Undefined, unclear Consent normally not required. Oversight? Student complaints, feedback
Dynamic, synchronous and asynchronous sense-making	Undefined, unclear
Automated	Undefined, unclear
Participatory process and collaborative sense-making	<i>All</i> stakeholders are involved – may need broad, blanket consensus at the beginning of each course – oversight by the highest academic decision making body. Important here is the role of students as collaborators in sharing interpretation, governance, quality assurance, integrity of data

Principle 6: Transparency

If they don't know that we collect their data, the scope and purpose of the collection, how we will use their data and how it will impact on their learning journeys, how is this ethical?

Image credit: <https://pixabay.com/en/Water-drop-blue-liquid-rain-clean-880462/>



Principle 7: Co-responsibility

Our students' journeys are intimately weaved into our (institutional) stories. In the light of the asymmetrical power relationship, we have a bigger responsibility

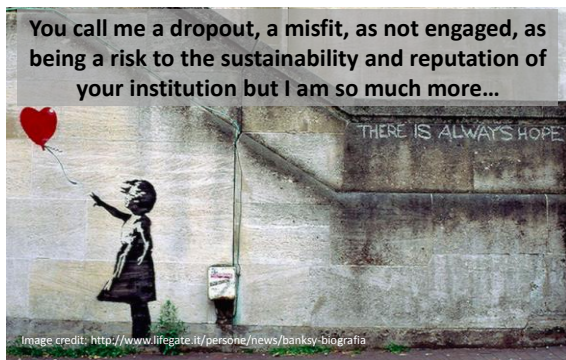
Image credit: <https://pixabay.com/en/basket-weave-concentric-zen-circle-379867/>



Student data is an invitation to start a conversation

Image credit: <https://pixabay.com/en/sand-fotograf-beach-karere-foot-1424296/>





You call me a misfit, a risk, a dropout and stop-out
 Your research indicates that 'students like me' may not make it
 You ask me questions regarding my financial status, where I live,
 how many dependents I have, and I know that once I tell you,
 I will become a number on a spreadsheet
 I will be color-coded
 I will become part of a structural equation model that re-affirms that
 People like me
 Don't belong here
 Somehow I don't fit in your spreadsheet
 But I want you to know that I am so much more
 I am so much more than how *you* define me
 I am so much more than my home address
 (the one I lied about to get access to funding or to get a place in residence)
 I am also a brother, a sister, a mother, a dependent, a carer
 I don't fit in your spreadsheets
 I am not a dropout, I am a refugee, a migrant
 I am in exile
 Talk to me

