

# **‘Responsible’ learning analytics: *A tentative proposal***

**LA-SIG Webinar 21 June at 4pm AEST**

**Paul Prinsloo**  
**University of South Africa (Unisa)**  
 **@14prinsp**

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revolution  
is the only  
solution

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“An avalanche of nonsense. ... This is not our language – because it is not written for us. This is written for the kind of people who are impressed by such language” (Kernohan, 2013)

Kernohan, D. (2013, March 11). We're under fifteen feet of pure white snow. [Web log post]. Retrieved from <http://followersoftheapocalyp.se/were-under-fifteen-feet-of-pure-white-snow/>



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2012

# Learning Analytics: The New Black

by Melanie Booth
Wednesday, July 18, 2012
New Horizons
In Print
PDF

New Horizons [The Technologies Ahead]
Melanie Booth is Dean, Learning & Assessment, at Marylhurst University.

Learning analytics is the "measurement, collection, analysis and reporting of data about learners and their contexts, for purposes of understanding and optimising learning and the environments in which it occurs," according to the 1st International Conference on Learning Analytics and Knowledge.<sup>1</sup> The *NMC Horizon Report: 2012 Higher Education Edition* notes that this promising set of practices and tools aims to "harness the power of advances in data mining, interpretation, and modeling to improve understandings of teaching and learning, and to tailor education to individual students more effectively."<sup>2</sup> Finally, George Siemens and Phil Long have even proposed that learning analytics should ultimately be focused on disruption and transformation in education, changing the very nature of teaching, learning, and assessment as we know it.<sup>3</sup>

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ECAR

# The Predictive Learning Analytics Revolution: Leveraging Learning Data for Student Success


Tuesday, October 6, 2015 | Briefs, Case Studies, Papers, Reports

**Author(s):** Sakinah Alhadad, Kimberly Arnold, Josh Baron, Ilana Bayer, Christopher Brooks, Russ Little, Rosemary Rocchio, Shady Shehata, John Whitmer

**Sources(s):** EDUCAUSE Center for Analysis and Research (ECAR)  
**Collection(s):** ECAR Working Group

**Academic Information Systems, Analytics, Data Administration and Management, Data Mining, Learning Analytics, Learning Management Systems (LMS), Student Information Systems, Student Learning Support, Student Success**

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Anne Boyer  
and  
Geoffray Bonnin

People management/OpenSource.com via Flickr

# Higher Education and the Revolution of Learning Analytics

2016

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# 2017

## LEARNING & TECH



January 11, 2017 · 6:23 AM ET



ERIC WESTERVELT

UNISA |  university  
of south africa



# 2017

## Where is the evidence? A call to action for learning analytics

.....  
Dr Doug Clow, LASI Rockies, 12 June 2017  
Senior Lecturer, The Open University, UK

.....  
Life-changing Learning  
.....

Page credit: <https://www.slideshare.net/dougclow/where-is-the-evidence-a-call-to-action-for-learning-analytics-76868457>

# Do you believe?

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**“We usher in the AI future on the wings of angels, because the heavy lifting of the imagination isn’t possible without their pinion feathers – whether we think of them as artificial or divine”**

## fAIth

The most avid believers in artificial intelligence are aggressively secular – yet their language is eerily religious. Why?

13 June 2017

Page credit: <https://aeon.co/essays/why-is-the-language-of-transhumanists-and-religion-so-similar>



Jun.  
14,  
2017

## Waiting for the ed tech rapture



This piece by Beth Singler argues that much of the language of [Artificial Intelligence has religious connotations](#). Audrey Watters also writes about [myths and faith](#) in Silicon Valley and [ed tech](#). These pieces chimed with some thoughts I'd been having about how ed tech futures are pitched. There are some resonances with religious beliefs regarding cataclysm, and salvation I feel. This is not to criticise anyone's religious beliefs, I should stress, but rather to offer some insight into the psychology of the ed tech futurists.



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### Last Tweets

- This is quite delightful <https://t.co/CXs8ackz3B>, 11 mins ago
- Off to London for @A\_L\_T meeting clutching a return train ticket which cost about the same as a nice European city break., 46 mins ago
- These were possibly taken last week <https://t.co/EbBfNRG7GA>, 12 hours

### Recent Posts

- Waiting for the ed tech rapture
- Unenlightenment and incuriosity
- Unenlightenment & Elitism
- Designing for retention – the ICEBERG model
- Open business models

### My links

- Delay of Game – photo journal
- Institute of Educational Technology
- OER Research Hub
- The Lost Sharks – Cardiff Devils
- You yell barracuda – Film

Page credit: <http://blog.edtechie.net/edtech/waiting-for-the-ed-tech-rapture/>



“And then comes the offer – by becoming a believer – in my start up, this particular technology, new labour force model, the latest “Uber for education” metaphor, the singularity – then you, and maybe some of your institution (although, you know, you’ll have to accept casualties) can be saved. But it’s a limited offer – there are only so many souls that can be saved, you have to get on board NOW, and belief has to be total (thou shalt have no other tech platform but mine).”

Martin Weller (2017, June 14). Waiting for the ed tech rapture. [Web log post]. Retrieved from <http://blog.edtechie.net/edtech/waiting-for-the-ed-tech-rapture/>

So how do we talk about ‘responsible’ learning analytics without overestimating or underestimating its potential, its challenges, its pitfalls, and its promise?

Image credit: <http://www.basicknowledge101.com/subjects/reality.html>

Postsecondary Learning

Higher Education

# Stanford Calls for Responsible Use of Student Data in Higher Ed

## 6 October 2016

By **Krysten Crawford** Oct 6, 2016

Page credit: <https://www.edsurge.com/news/2016-10-06-stanford-calls-for-responsible-use-of-student-data-in-higher-ed>



3 June 2017

Policy

Data Privacy

## From High School to Harvard, Students Urge for Clarity on Privacy Rights

By **Jenny Abamu** Jun 13, 2017



Page credit: [https://www.edsurge.com/news/2017-06-13-from-high-school-to-harvard-students-urge-for-clarity-on-privacy-rights?utm\\_content=buffer8dd71&utm\\_medium=social&utm\\_source=twitter.com&utm\\_campaign=buffer](https://www.edsurge.com/news/2017-06-13-from-high-school-to-harvard-students-urge-for-clarity-on-privacy-rights?utm_content=buffer8dd71&utm_medium=social&utm_source=twitter.com&utm_campaign=buffer)



# Responsible Analytics and Data Mining in Education

Global Perspectives on Quality, Support, and Decision-Making

## Deadline 1 July 2017

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THURSDAY, MARCH 23, 2017

### Call for Chapters

SUBMIT A 1-2 PAGE CHAPTER PROPOSAL

**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 Bainbridge, et. al. (2015), 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—intentional and unintentional—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 due process when data-driven errors are uncovered?
- What policies are in place to address errors?
- Is there a plan for handling data breaches?

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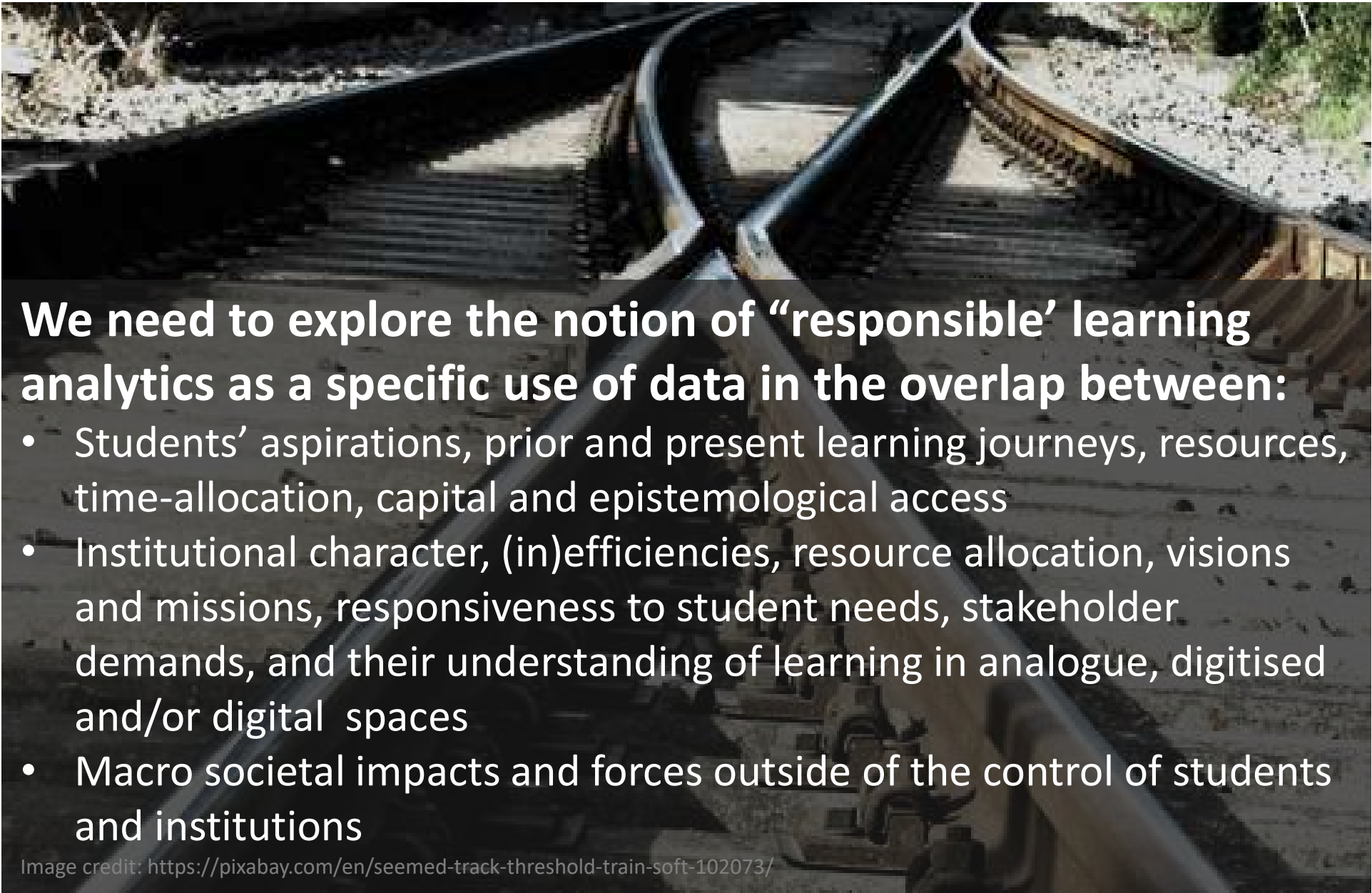
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Page credit: <https://big-data-in-education.blogspot.co.za/>

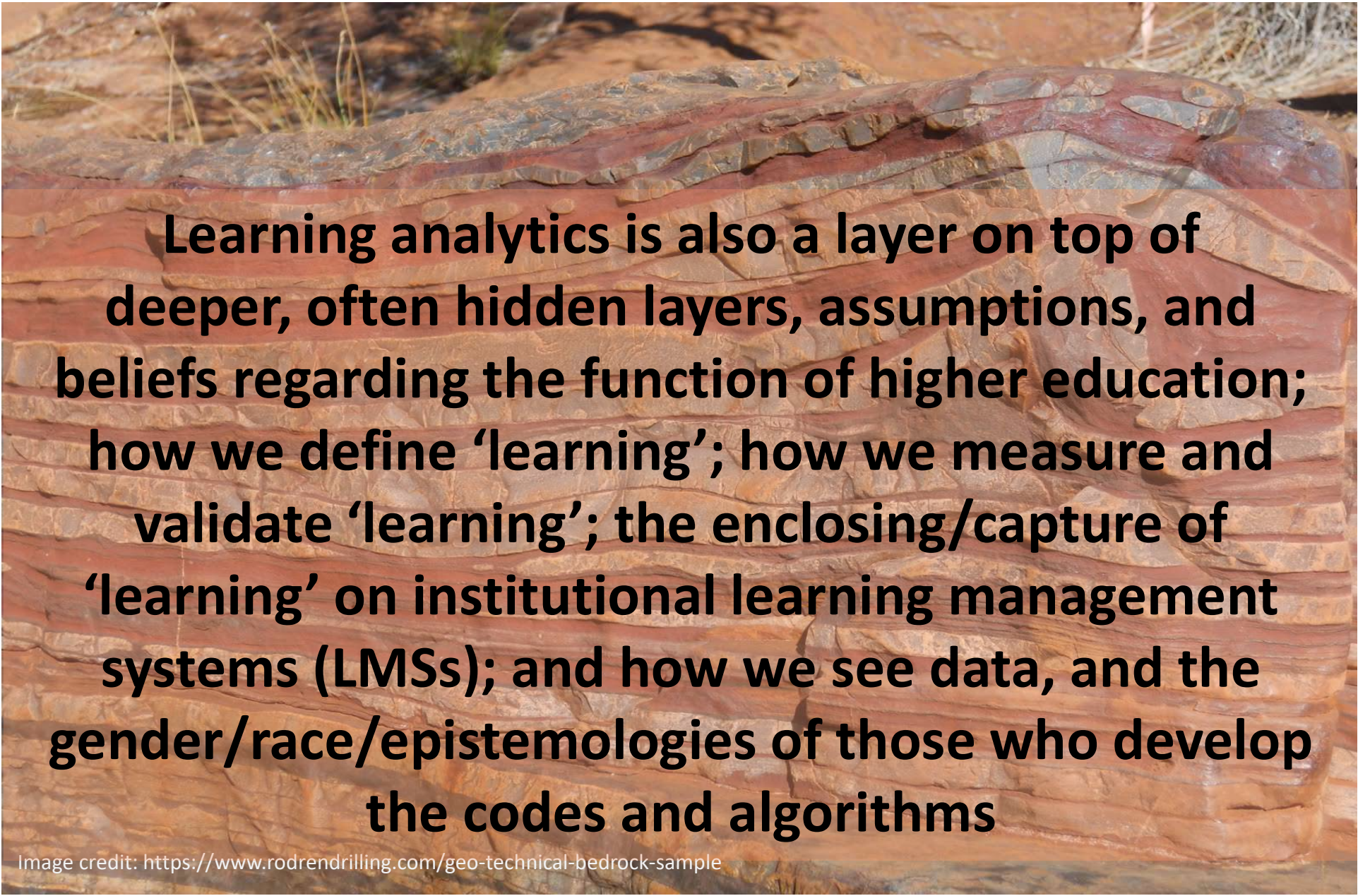


## **We need to explore the notion of “responsible’ learning analytics as a specific use of data in the overlap between:**

- Students’ aspirations, prior and present learning journeys, resources, time-allocation, capital and epistemological access
- Institutional character, (in)efficiencies, resource allocation, visions and missions, responsiveness to student needs, stakeholder demands, and their understanding of learning in analogue, digitised and/or digital spaces
- Macro societal impacts and forces outside of the control of students and institutions

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**Learning analytics is also a layer on top of deeper, often hidden layers, assumptions, and beliefs regarding the function of higher education; how we define ‘learning’; how we measure and validate ‘learning’; the enclosing/capture of ‘learning’ on institutional learning management systems (LMSs); and how we see data, and the gender/race/epistemologies of those who develop the codes and algorithms**

Image credit: <https://www.rodrendrilling.com/geo-technical-bedrock-sample>



**Academic analytics**

**Learning analytics**

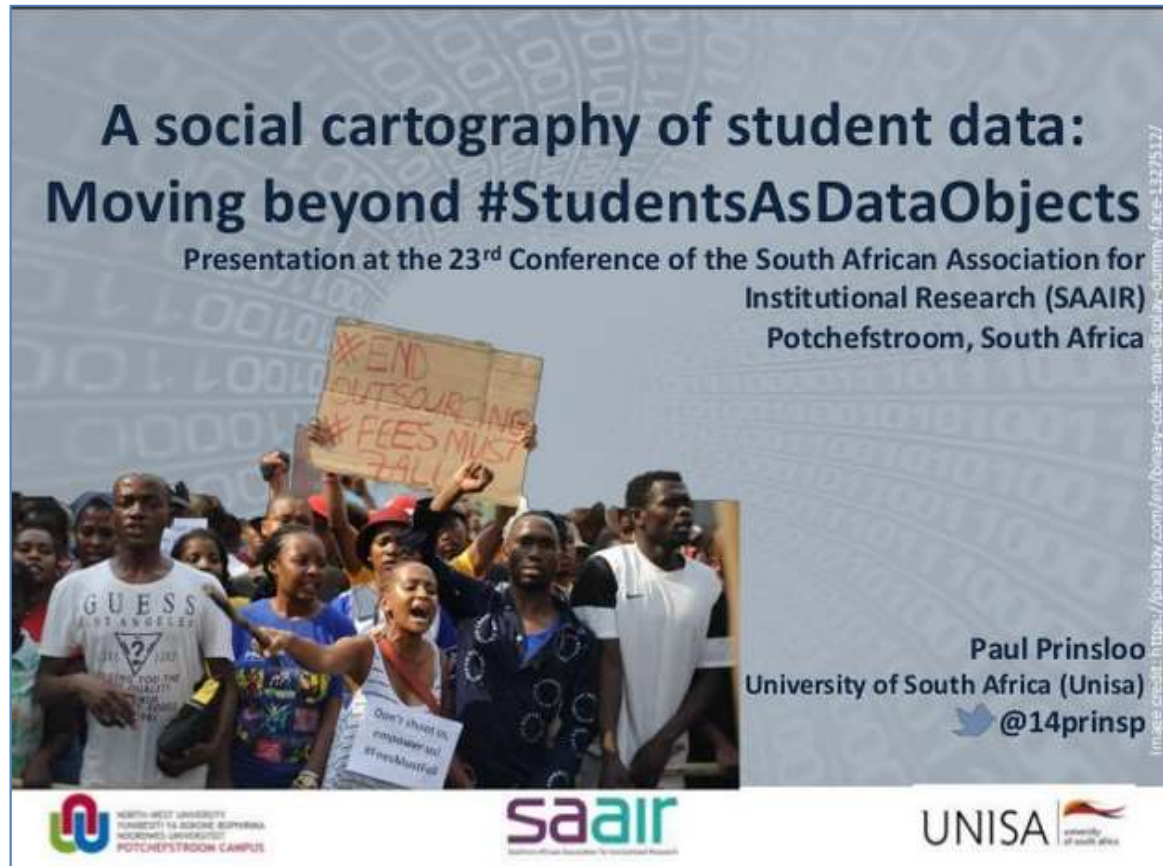
## **The collection, analysis and use of student data**

- **Accountable to an array of stakeholders – accreditation/funders, world rankings**
- **Increased competition, pressure for outputs/competitive advantage**
- **Increased funding constraints and the deliberate defunding of public higher education**
- **Access to increased volume, variety and velocity of data plus analytics knowhow**
- **Consistent concerns about student retention and drop-out**

Image credit: <https://pixabay.com/en/rock-layers-slate-wall-rocks-969816/>



**Excursus:** Values/orientations such as liberal, neoliberal and critical influence our understanding of ‘responsible’ learning analytics...



Page credit: <https://www.slideshare.net/prinsp/a-social-cartography-of-student-data-moving-beyond-studentsasdataobjects>

# The definition of 'responsibility' in the collection, analysis and student data depends on your view re the 'why' of learning analytics



Image location: [https://scontent-jnb1-1.xx.fbcdn.net/v/t1.0-9/18620492\\_1328081900605928\\_6200516404990980799\\_n.jpg?oh=ff7892acbecfcff7c1a00a72c1d3796f&oe=59A86652](https://scontent-jnb1-1.xx.fbcdn.net/v/t1.0-9/18620492_1328081900605928_6200516404990980799_n.jpg?oh=ff7892acbecfcff7c1a00a72c1d3796f&oe=59A86652)

# There is so much more at stake than (just) data...

Image credit: <https://pixabay.com/en/hands-bear-help-serve-fragile-683950/>



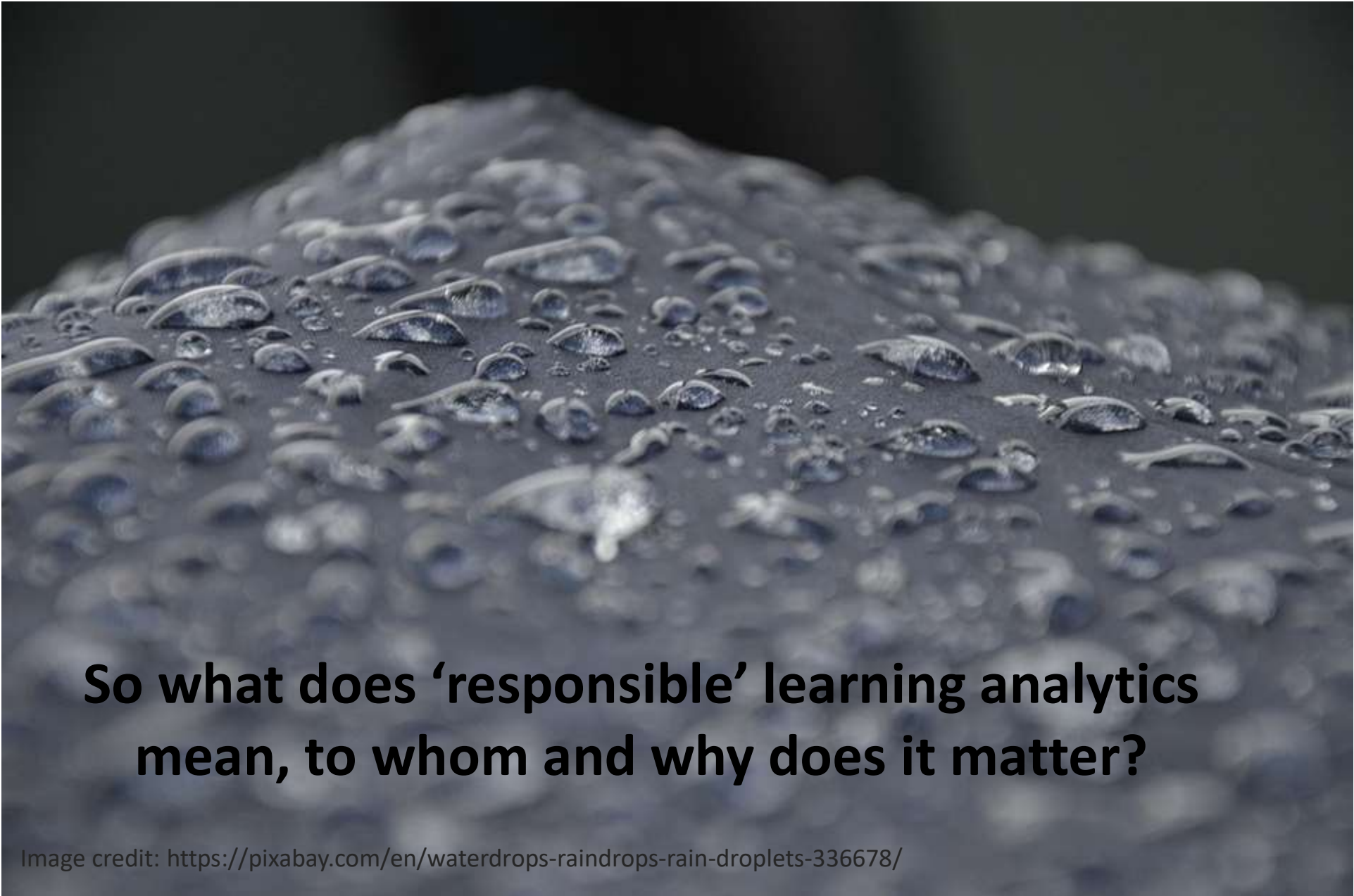
What happens when *we* collect, analyse and use the bleeps, the logins, the downloads, the posts in and outside of an institutional Learning Management system (LMS) as the *full/only* narrative of what is happening in our students' lives, of *their* aspirations, and of *their* 'learning'?

Image credit: <https://pixabay.com/en/station-tracks-rail-railroad-train-839208/>



What are the implications when we use *their* data points to describe, diagnose, predict and prescribe *their* learning journeys without ever asking them what these data points mean *to them*, and what data would matter to *them* to allow them to make more informed decisions, to complete *their* journeys and not ours?

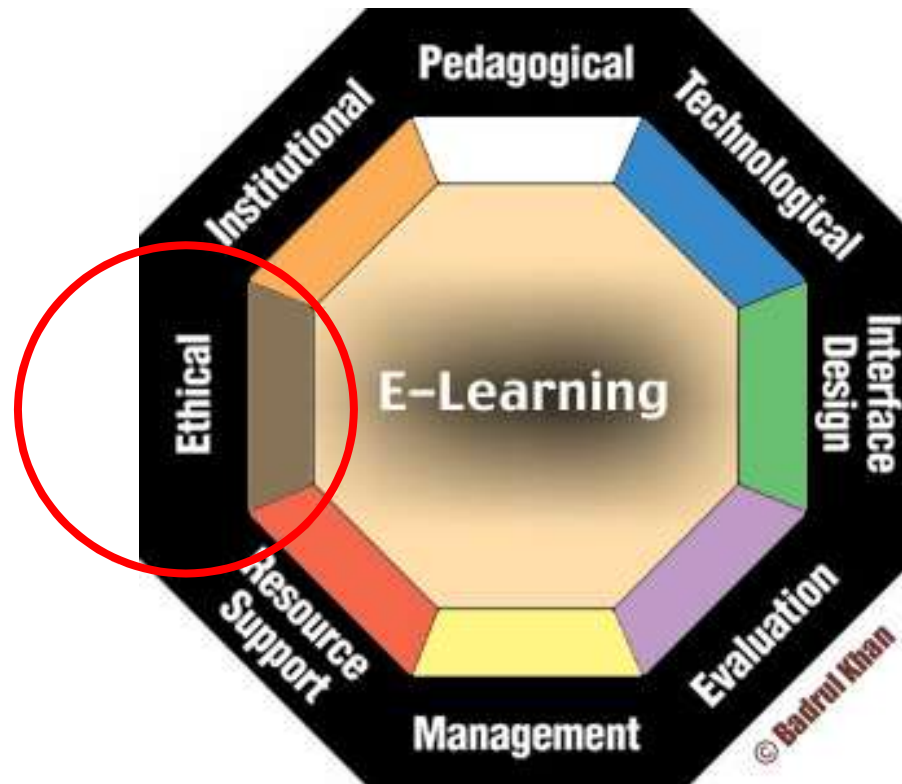
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**So what does 'responsible' learning analytics mean, to whom and why does it matter?**

Image credit: <https://pixabay.com/en/waterdrops-raindrops-rain-droplets-336678/>

# Khan's (2003) global e-learning framework



Khan, B. H. (2003). The global e-learning framework. *STRIDE*, 42, 42-51

‘Responsible’ learning analytics is much wider than ‘just’ the ethical dimension of Khan’s (2003) E-learning framework (Prinsloo & Slade, 2017)

Image credit: <http://www.uwgb.edu/witecne/>



# Responsible learning analytics?

- **Answerable/accountable/liable:** when things go wrong
- **Blame-able:** blame students for not fitting in, not clicking enough, not 'engaging' enough
- **Ethical:** can we be responsible and unethical? Or ethical and irresponsible?
- **Response-able:** ability to respond on identified needs/gaps
- **Obligation/contractual** duty to act
- **Fiduciary duty** to act: caring beyond duty
- **Transparency:** owning up

To whom? Scope/Process? How will we know?

# *A tentative proposal: Responsible learning analytics refer to...*

- Fulfilling the *contractual* duty of care
- Accepting the *fiduciary* duty of care towards students flowing from the contractual duty and the asymmetrical power relationship between institution and students
- *Having* and *accepting* the authority to act/care/respond
- Having the resources/skills to act/care/respond
- Being accountable for having had the authority to offer/accept the contract
- Accountable implies oversight

## Pointer 1: Learning analytics as *moral* practice

“Evidence-based education seems to favour a technocratic [and quantitative] model in which it is assumed that the only relevant research questions are about the effectiveness of educational means and techniques, forgetting, among other things, that what counts as “effective” crucially depends on judgments about what is educationally desirable”

(Biesta, 2007, p. 5)

“Learning analytics should not only focus on what is effective, but also aim to provide relevant pointers to decide what is appropriate and morally necessary”

(Slade & Prinsloo, 2013, p. 1519)

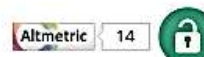


## Learning Analytics

### *Ethical Issues and Dilemmas*

Sharon Slade, Paul Prinsloo

First Published March 4, 2013 | Research Article



# 4 March 2013

Vol 57, Issue 10, 2013

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## Abstract

The field of learning analytics has the potential to enable higher education institutions to increase their understanding of their students' learning needs and to use that understanding to positively influence student learning and progression. Analysis of data relating to students and their engagement with their learning is the foundation of this process. There is an inherent assumption linked to learning analytics that knowledge of a learner's behavior is advantageous for the individual, instructor, and educational provider. It seems intuitively obvious that a greater understanding of a student cohort and the learning designs and interventions they best respond to would benefit students and, in turn, the institution's retention and success rate. Yet collection of data and their use face a number of ethical challenges, including location and interpretation of

Page credit: <http://journals.sagepub.com/doi/abs/10.1177/0002764213479366>

14 May 2015

# Collecting, analysing & using student data: Breaking or serving cycles of inequality & injustice?



Image credit:  
<http://libguides.humboldt.edu/content.php?pid=630957&sid=5219761>

By Paul Prinsloo  
(University of South Africa)

Presentation at the  
14 – 15 May 2015 Launch Conference of the Siyaphumelela Programme  
GARDEN COURT OR TAMBO INTERNATIONAL AIRPORT HOTEL



Page credit: <https://www.slideshare.net/prinsp/collecting-analysing-using-student-data-breaking-or-serving-cycles-of-inequality-injustice>

## Pointer 2: Changing the narrative: Whose story is it anyway?

If learning analytics' primary aim is to improve students' learning (Gašević, Dawson, & Siemens, 2015), maybe we should ask...

- To what extent has learning analytics become *our voice-over* of student learning experiences by telling them 'this is what your learning looks like and it is the only narrative that matters'...?
- How can we replace our epistemological arrogance and colonisation of the student experience with an epistemological shift, listening, humility and respect?

Gašević, D., Dawson, S., & Siemens, G. (2015). Let's not forget: Learning analytics are about learning. *TechTrends*, 59(1), 64-71.

Tuck, E., & Fine, M. (2007). Inner angles. A range of ethical responses to/with indigenous and decolonising theories. In Norman K Denzin and Michael D Giardina (Eds), *Ethical futures in qualitative research. Decolonising the politics of knowledge* (pp. 145-168). Walnut Creek, CA: Left Coast Press Inc.



## Pointer 2: Changing the narrative: Whose story is it anyway? (cont.)

- What happens if we stop talking about ‘student dropouts’ and rather refer to them as ‘exiles’? (Tuck & Fine, 2007)
- What data do *we* have that, if *they* have access to that data, will allow *them* to make better and more informed choices?
- What data do *they* have that if we have access to that data, and with their permission, will allow *us* to help them make better choices?

Responsible learning analytics involves much more than quantitative research. Where is the qualitative research in learning analytics?

Tuck, E., & Fine, M. (2007). Inner angles. A range of ethical responses to/with indigenous and decolonising theories. In Norman K Denzin and Michael D Giardina (Eds), *Ethical futures in qualitative research. Decolonising the politics of knowledge* (pp. 145-168). Walnut Creek, CA: Left Coast Press Inc.

I am not your data, nor am I your vote bank,  
I am not your project, or any exotic museum object,  
I am not the soul waiting to be harvested,  
Nor am I the lab where your theories are tested,  
I am not your cannon fodder, or the invisible worker,  
or your entertainment at India habitat centre,  
I am not your field, your crowd, your history,  
your help, your guilt, medallions of your victory,  
I refuse, reject, resist your labels,  
your judgments, documents, definitions,  
your models, leaders and patrons,  
because they deny me my existence, my vision, my space,  
your words, maps, figures, indicators,  
they all create illusions and put you on pedestal,  
from where you look down upon me,  
So I draw my own picture, and invent my own grammar,  
I make my own tools to fight my own battle,  
For me, my people, my world, and my Adivasi self!

~Abhay Xaxa

Source: <http://www.adivasiresurgence.com/i-am-not-your-data/>

## Pointer 3: It is also *our* story and being responsible



Page credit: <https://www.slideshare.net/prinsp/eden-triage>



## Pointer 7: Response-able (cont.)

6 September 2016



**Learning analytics: At the intersections between student support, privacy, agency and institutional survival**


Paul Prinsloo (University of South Africa, Unisa) @14prinsp  
Sharon Slade (Open University, OU) @sharonslade

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Page credit: <https://www.slideshare.net/prinsp/learning-analytics-at-the-intersections-between-student-support-privacy-agency-and-institutional-survival>

## Pointer 7: Response-able (cont.)



**An elephant in the learning analytics room – the obligation to act**

By Paul Prinsloo (*University of South Africa*)  
@14prinsp

Sharon Slade (*Open University, UK*)  
@SharonSlade

15 March 2017

Image credit: <https://www.flickr.com/photos/lallyman/4941417146>

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LAK 17  
The 17th International Learning Analytics & Knowledge Conference  
Simon Fraser University, Vancouver, BC, Canada  
March 13-15, 2017

The Open University

Page credit: <https://www.slideshare.net/prinsp/an-elephant-in-the-learning-analytics-room-the-obligation-to-act>

## Pointer 4: How we see data

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WHITES

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NON – WHITES

Can we ignore the fact that 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; Watters, 2015)?

Image credit: [http://za.geoview.info/apartheid\\_museum\\_entrance,83879989p](http://za.geoview.info/apartheid_museum_entrance,83879989p)

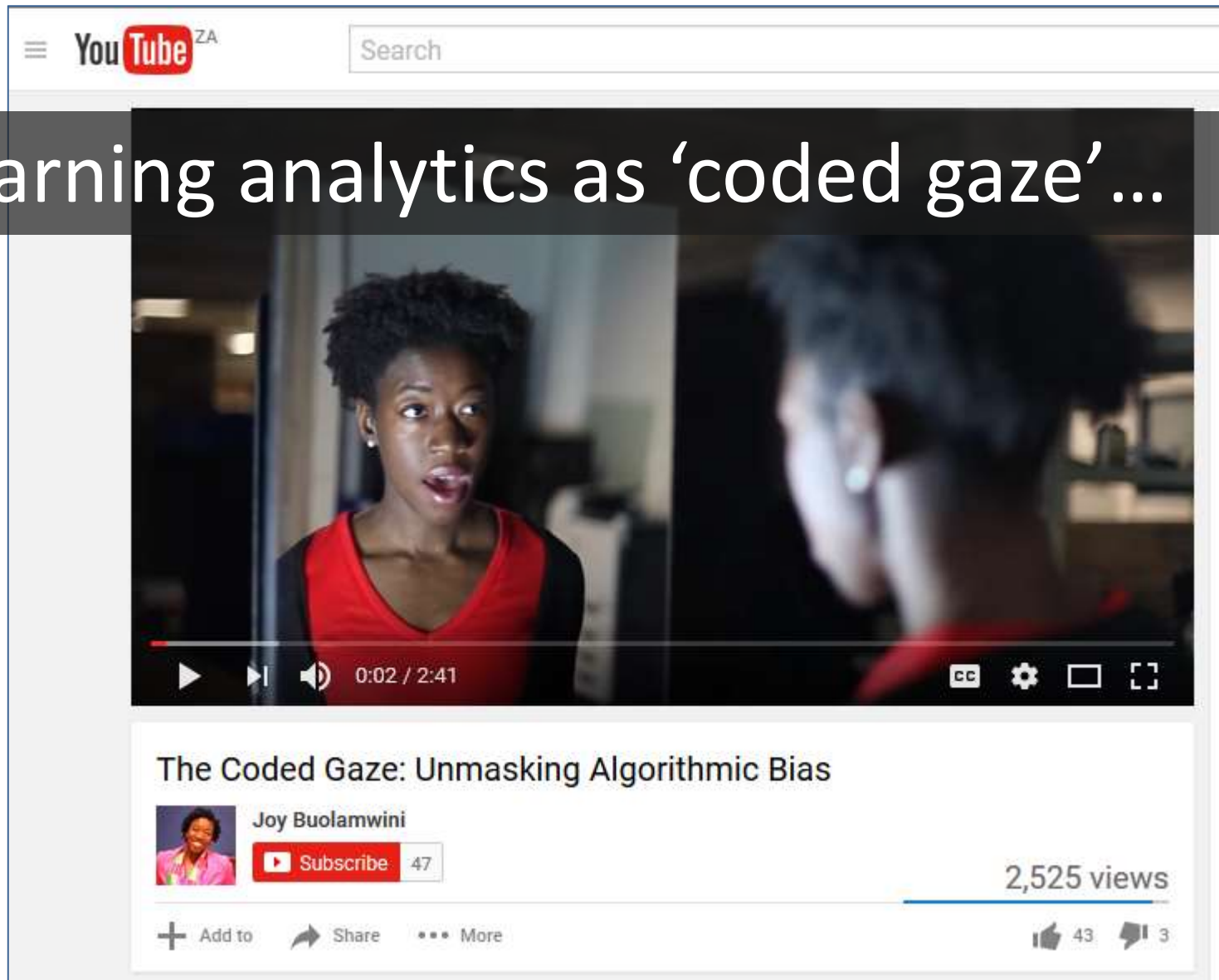


Learning analytics is a structuring device, not neutral, informed by current beliefs about what counts as knowledge and learning, coloured by assumptions about gender/race/class/capital/literacy and in service of and perpetuating existing or new power relations

Image credit: <https://pixabay.com/en/structure-beams-engineering-839656/>

Prinsloo, P., & Slade, S, (2017, March 17). Building the learning analytics curriculum: Should we teach (a code of) ethics? Retrieved from <https://www.slideshare.net/prinsp/building-the-learning-analytics-curriculum-should-we-teach-a-code-of-ethics>

# Learning analytics as 'coded gaze'...



Page credit: <https://www.youtube.com/watch?v=162VzSzzoPs>

Version 1 - For Public Discussion



Source credit: [http://standards.ieee.org/develop/indconn/ec/ead\\_v1.pdf](http://standards.ieee.org/develop/indconn/ec/ead_v1.pdf)



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**Business Impact**

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# Inspecting Algorithms for Bias

Courts, banks, and other institutions are using automated data analysis systems to make decisions about your life. Let's not leave it up to the algorithm makers to decide whether they're doing it appropriately.

by Matthias Spielkamp June 12, 2017



Page credit: <https://www.technologyreview.com/s/607955/inspecting-algorithms-for-bias/>

## Pointer 5: Causality and correlation

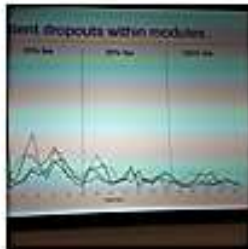


**Paul Prinsloo**

@14prinsp



### Causality or correlation?



**Dr Bart Rienties** @DrBartRienties

Replying to @DrBartRienties @OpenUniversity and 3 others

@QuanNguyen3010 shows that there are consistent dropouts within module due to learning design

6:05 PM - 15 Jun 2017



## Pointer 6: Oversight and 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 III<sup>1</sup> • Sharon Slade<sup>2</sup> • Paul Prinsloo<sup>3</sup>**

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

© Association for Educational Communications and Technology 2016

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	<u>All</u> 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

## Pointer 7: Transparency

Students have a right to know what data are collected, by whom, when, for what purposes, how they can verify the data, how long the data will be kept and who will have access to the data for which purposes

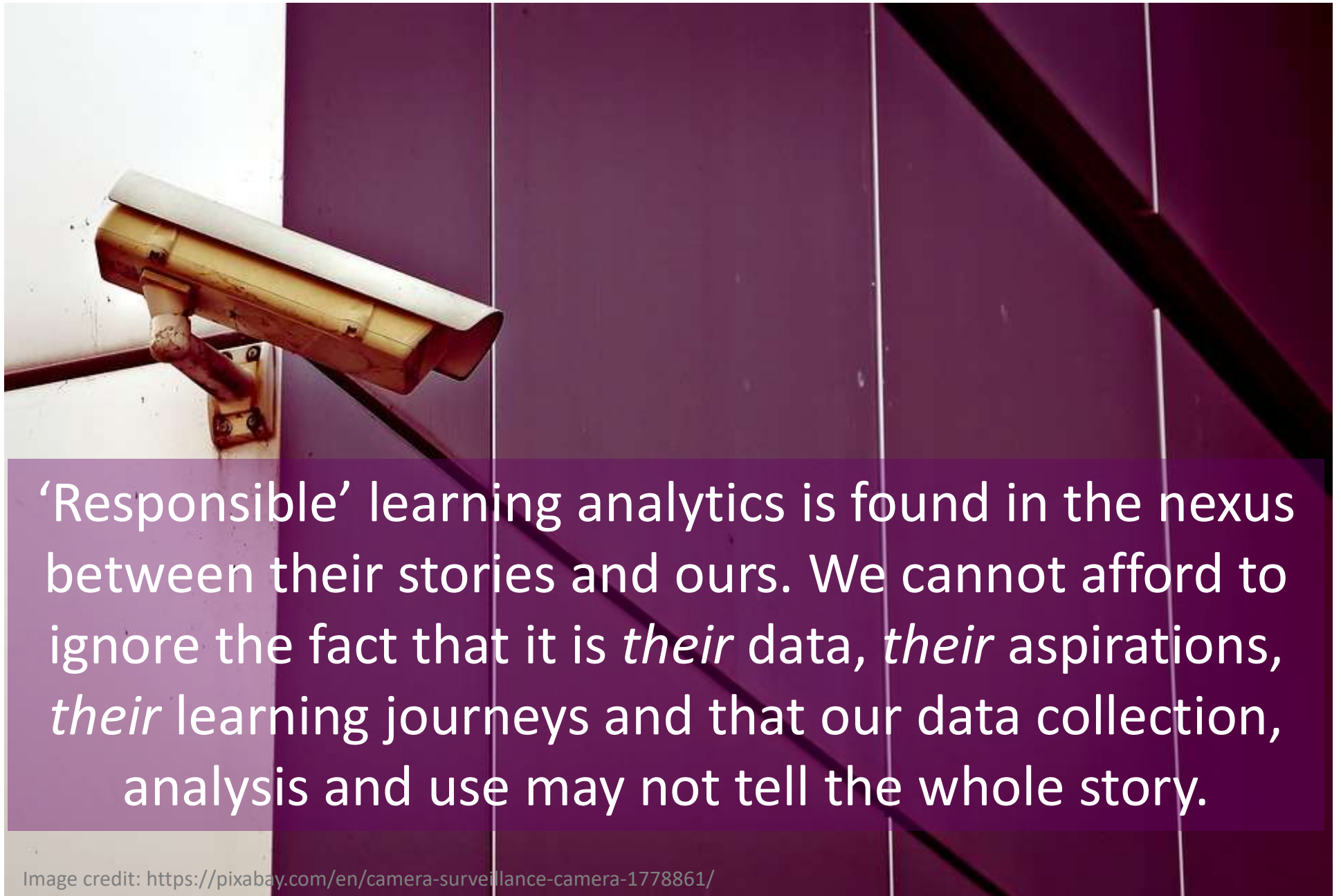
If they don't know that we collect their data, the scope and purpose of the collection, how we will use their data and how it will impact on their learning journeys, it is not learning analytics but spying...

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

## Pointer 8: Higher education can not afford NOT to collect, analyse and use student learning data

- We have a *contractual* duty to ensure effective and appropriate learning experiences
- We have a *fiduciary* duty of care in the context of the asymmetrical power relationship between institution and students
- We have the opportunity and the authority to act/care/respond
- We don't have unlimited resources
- We need to be transparent and accountable for what we can and cannot do.
- Once we know, we cannot un-know knowing – we have a moral duty to respond





‘Responsible’ learning analytics is found in the nexus between their stories and ours. We cannot afford to ignore the fact that it is *their* data, *their* aspirations, *their* learning journeys and that our data collection, analysis and use may not tell the whole story.

Image credit: <https://pixabay.com/en/camera-surveillance-camera-1778861/>

# Thank you

**Paul Prinsloo**

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