Visions of the future: what is on the horizon for learning analytics?

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LASI Asia, 19 September 2016

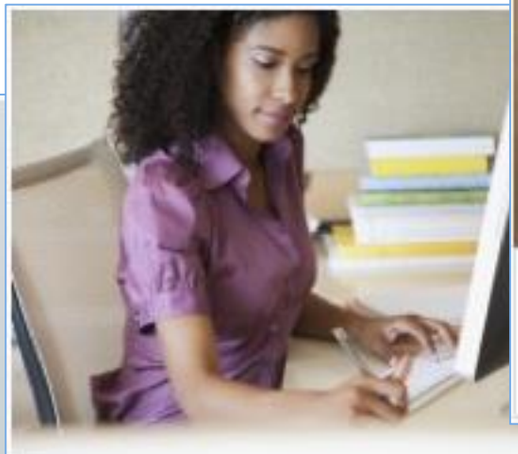
www.laceproject.eu
laepanalytics.wordpress.com

Preparing for the future

http://careers2030.cst.org/jobs/

AGRICULTURE
Rewilder

HOSPITALITY AND RETAIL
Robot Counsellor



MANUFACTURING AND CONSTRUCTION
Garbage Designer

PROFESSIONAL SERVICES
Digital Memorialist

PROFESSIONAL SERVICES
Company Culture Ambassador

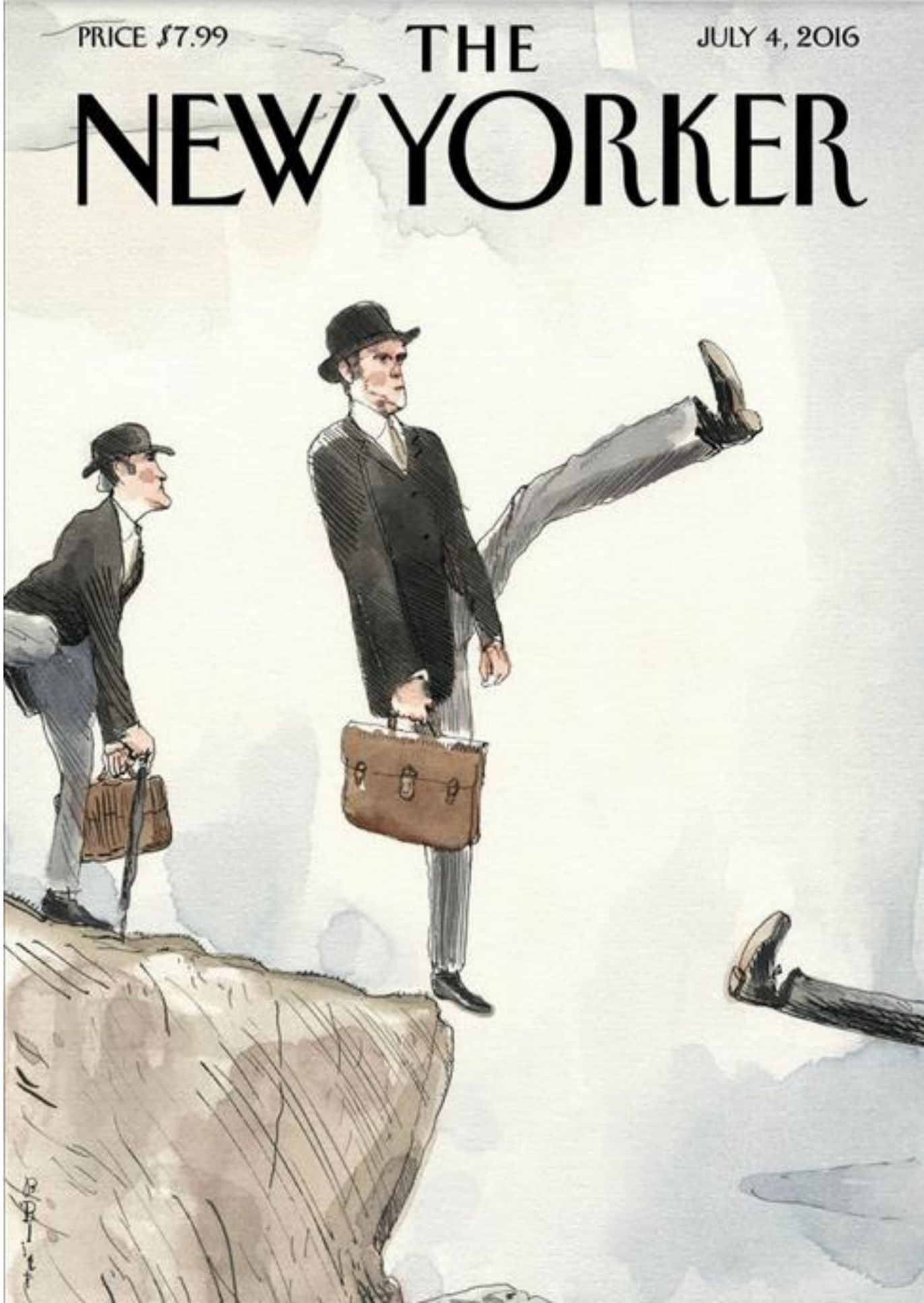
FINANCE
Digital Currency Advisor

HEALTHCARE
Wearable Technology Therapist

HEALTHCARE
End of Life Therapist

AGRICULTURE
Urban Farmer

In order to make sensible decisions, we need to look ahead and plan for the future



Priority areas for education and training

★Open and innovative education and training, fully embracing the digital era.

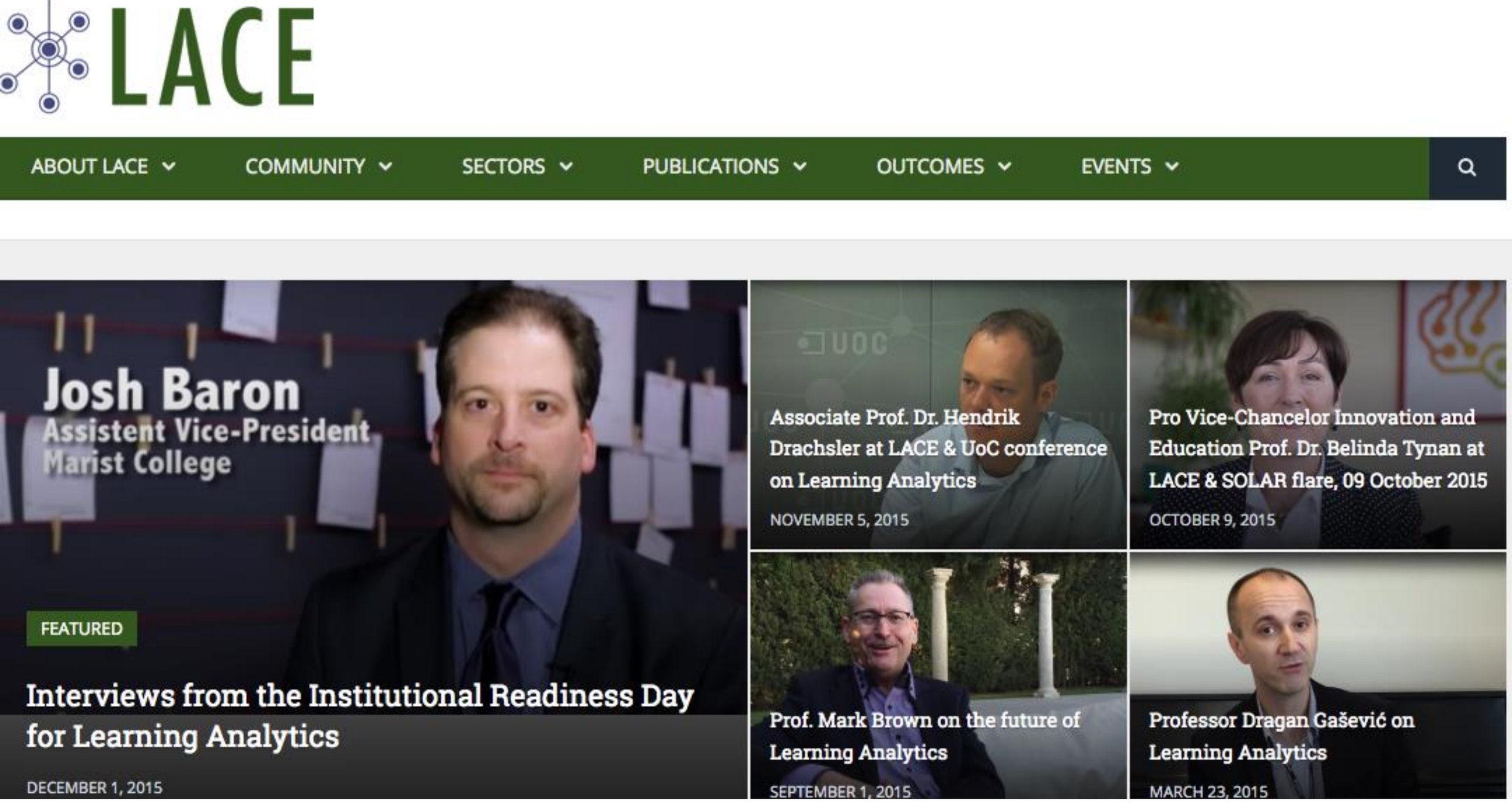
★Strong support for teachers, trainers, school leaders and other educational staff

★Relevant and high-quality knowledge, skills and competences developed throughout lifelong learning

★Focus on learning outcomes for employability, innovation, active citizenship and well-being and inclusive education, equality, equity, non-discrimination and the promotion of civic competences.

Learning analytics help us
to identify and make sense
of patterns in the data

to improve our teaching,
our learning and
our learning environments



- Bringing together different sectors: higher education, schools & workplace learning
- Building networks that will outlive the project's funding period
- Helping to develop learning analytics capability
- Creating and sharing resources
- Developing visions of the future and agreeing how to work towards them

Visions of the future

bit.ly/28X5tq7

Which of these futures aligns best with your work?

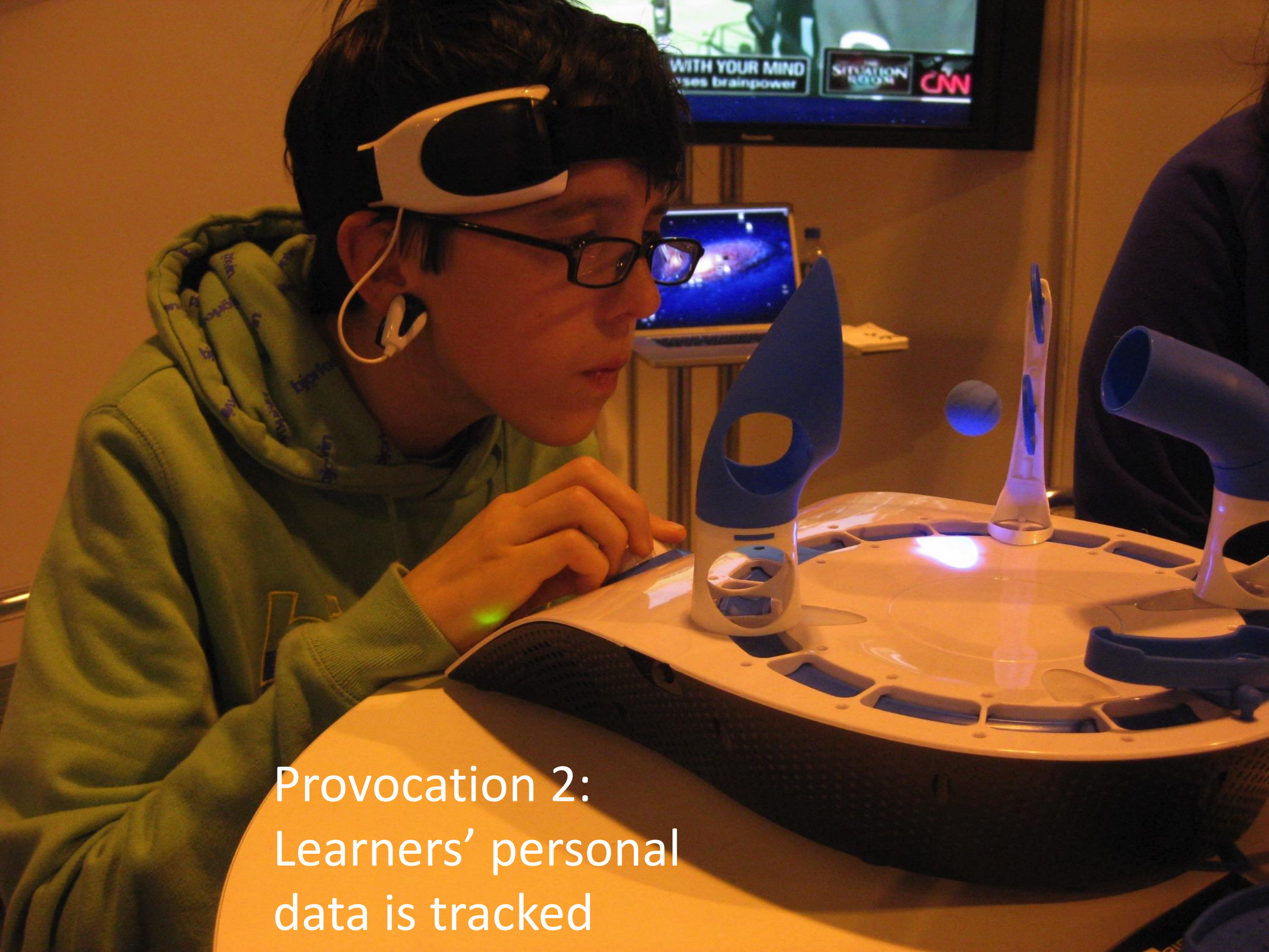
Provocation 1: Learners are monitored by their learning environments

I think it is a promising line of work for learning analytics. I think there will be many advances in the use of sensors to identify aspects that can be applied to this vision.

Too much Big Brother vision to be appealing.

Provocation 1: Learners are monitored by their learning environments

Just as in bioethics, there are fundamental human factors at play here.



Provocation 2: Learners' personal data is tracked

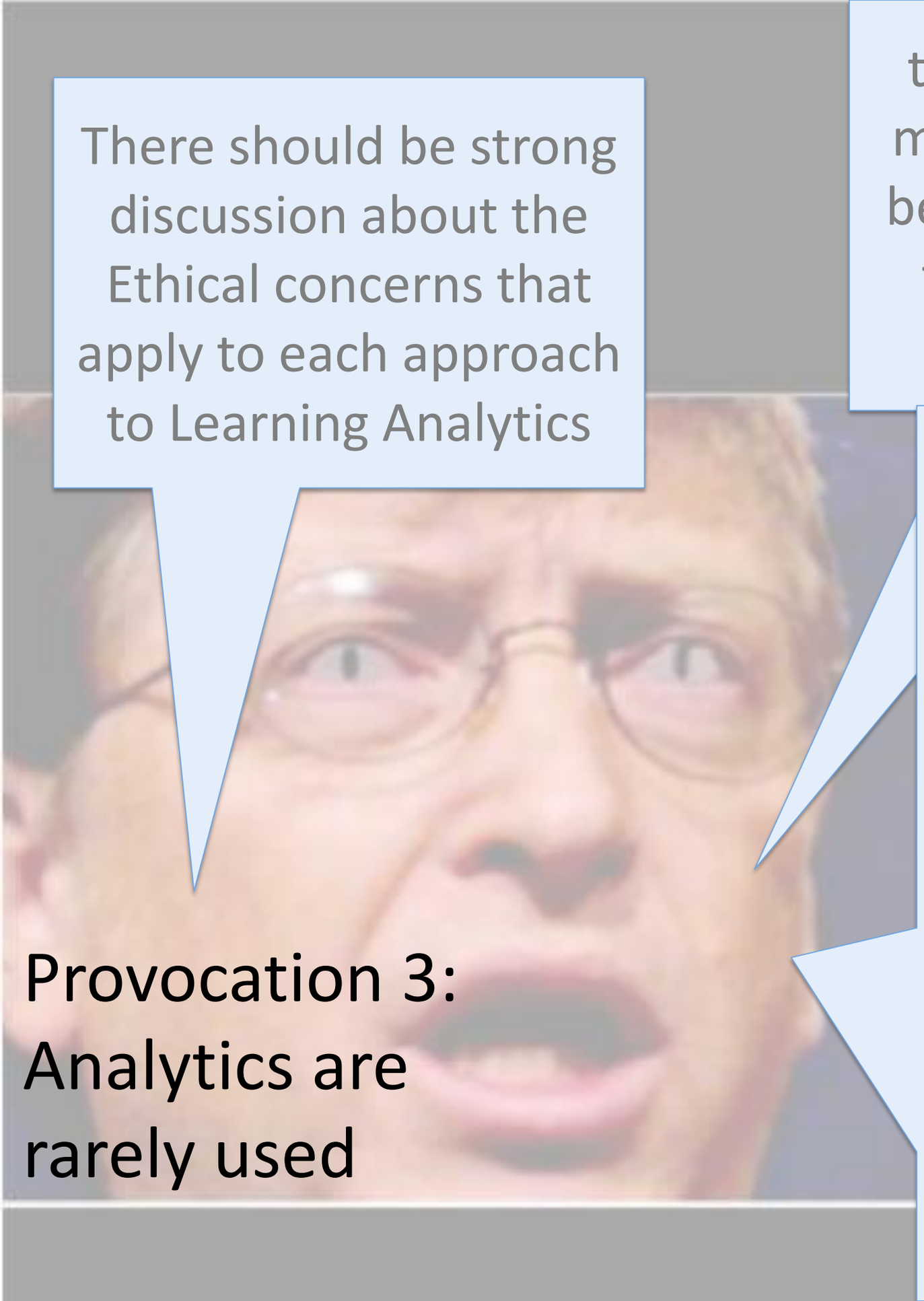
Wearable sensors are already present, but in the next future they must be improved, especially for health purposes, such as diabetes monitoring or cardiovascular diseases prevention.

Quantified self strongly builds on reflection and self-organisation. This is good and feasible.

A reliable evidence base for the effectiveness of these measures and some sort of safety control to prevent irresponsible recommendations.

Provocation 2: Learners' personal data is tracked

Provocation 3: Analytics are rarely used



There should be strong discussion about the Ethical concerns that apply to each approach to Learning Analytics

the research community must concretely show the benefits of the use of data to improve educational outcomes.

Focus less on analytics to automate, but rather to be student-centered, to inform the learner and improve their personal practice. Once analytics provides real, tangible value to the learner, you begin to both alleviate concerns about privacy AND develop faith that if you can give control of data back to the learners, they will opt-in to learning analytics.

Provocation 3: Analytics are rarely used

Provocation 4: Learners control their own data

Provocation 4: Learners control their own data

Greatly limits our ability to effectively use learning analytics to improve learning for ALL students.

Can we assume that "data owners" know what to do with their data? - Some people can't even manage the money in their pockets.

Users should be entitled to know how their data are interrogated and used and for what reasons. This should be made explicit and easy to understand

Absolutely essential. Organisations must not rely on the data, but try to build trust with their learners so that learners see the benefit of sharing.

Provocation 5:
Open systems are widely adopted

Define standards for the information exchange - Define standards to exploit the information stored - Define guides about what information is useful - Define and publish different models to represent the information

A multi-pronged approach involving IT services, national organizations like JISC and ministry of education and tertiary institutions would all need to be involved.

align with corporate and stop thinking that academic is leading!

Provocation 5: Open systems are widely adopted

Provocation 6:
Learning analytics are essential tools

Very little credible research has demonstrated any real large-scale benefits to learners or institutions.

What is needed is support for reflection, discussion and debate on the purpose of it all, especially to curb the excesses of those that see learning as something teachers do to students. We need to nurture rich, reflective communities

Learning is not only about success is about learning from failure. So, yes, I think that it would be desirable that the prediction rates are very high, however, I don't think it is the final goal.

Provocation 6:
Learning analytics are essential tools

Provocation 7:
Analytics help learners make the right choices

limited as ignores learning through interactions with both peers and the wider social environment.

From bitter experience, I'm aware of the very slow pace of institutional change

companies will sell politicians on the budget savings and lead us here.

With learning there is an element that learning is a process – reducing it to simply outcomes that can be measured is dangerous

Provocation 7: Analytics help learners make the right choices

Provocation 8: Analytics have largely replaced teachers

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autonomy begets engagement, motivation, persistence, relevance.

The collective is as important as the individual: it is not just about how *I* learn but how *we* learn.

Self-directed learning can let students improve a lot according to their needs. But they also need the instructors to guide them when they are confusing and frustrated during the learning process.

Pedagogy

- Why do we educate people?
- How do people learn?
- What pedagogic outcomes are we trying to achieve?
- How can we measure those outcomes?

We have a social duty to facilitate and provide opportunities for learners to achieve their full potential

Learning is not only about success – it is about learning from failure

there is a time for learners to be confronted in order for transformation and growth to occur

We need to nurture rich, reflective communities in both teaching and learning

Complexity

- How can we understand the internal process of learning by measuring external actions?
- How do we engage a wide range of stakeholders?
- How do we process huge amounts of data from diverse sources?

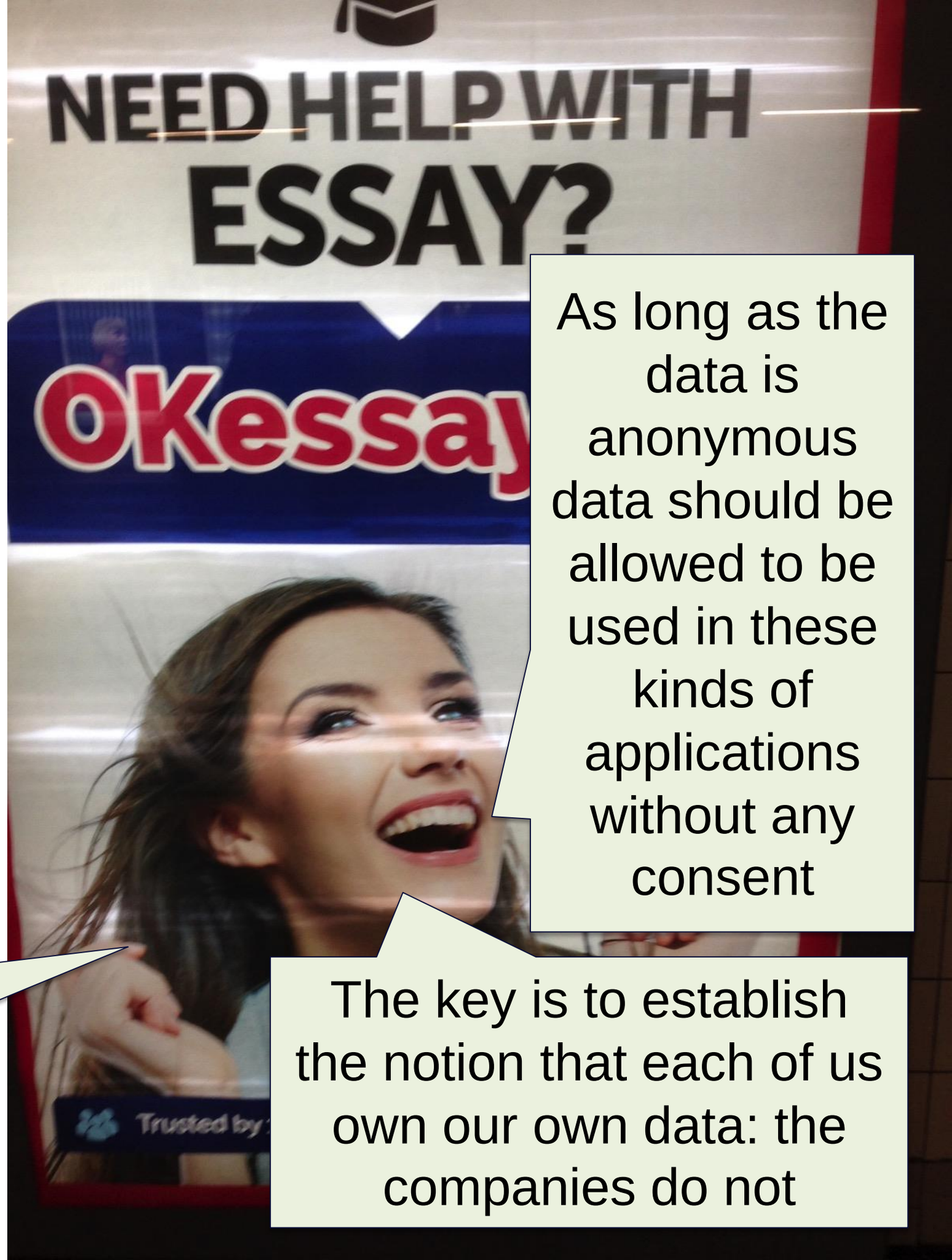
Smart houses, wearable technology, the Internet of Things and face recognition are increasingly part of everyday life

Hard to believe that there will be enough processing power to do this, but I guess people always say that when something is ten years away

A new government authority that acts as a trusted clearing house for data and analytics

Ethics

- We need some form of regulation in this area
- Control of data has ethical implications
- Encourage awareness of how data are used and how analytics function
- Focusing on data as a valuable commodity can lead to unethical practices



As long as the data is anonymous data should be allowed to be used in these kinds of applications without any consent

institutional rules and regulations must exist and should meet certain criteria

The key is to establish the notion that each of us own our own data: the companies do not

Power

- Who should control the data?
- Who should control the learning and teaching process?
- Who sets goals for learners and teachers?
- Who needs to understand the analytic process?

One of the purposes of LA is to empower the teachers to provide better learning for the individual learners

if tracking and monitoring are used to foster and support education and learning, it might be desirable. If it is used to monitor and control and to enforce power it is not desirable

It is even worse to put that control in the hands of system designers and programmers, thus embedding their assumptions and beliefs

Regulation

- Need to regulate protection, ownership and storage of data
- Need new policies on education, ethics, privacy and assessment
- Need to decide how this regulation is developed and enforced

drawing on previous legislation in the areas of privacy, child protection, data protection, consumer protection, and the use of personal data in medical research

It must be handled as a human right in the 21st century that every single person should have the power to decide, when + how + for what purpose + for which timeframe + ... his/her personal data can/cannot be used

Validity

How can we be sure that the results generated by learning analytics are valid, reliable and generalisable?

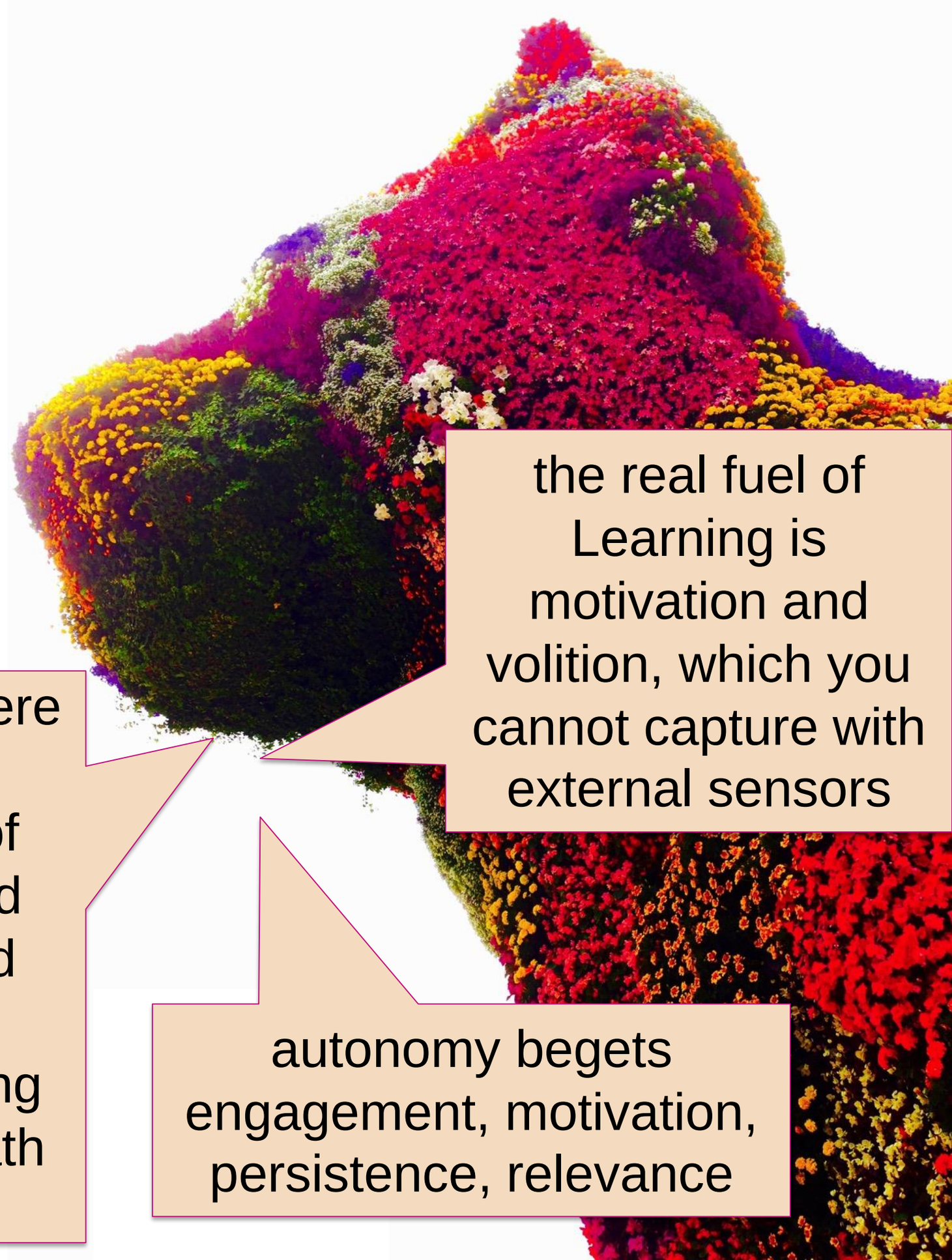
Very little credible research has demonstrated any real large-scale benefits to learners or institutions

The use of LA applications in real practice has be conscious of the limitations of any analysis, and apply them in a way that is coherent with the limitations of the approach

we MUST be willing to unpack the algorithms. Academics are extremely unlikely to accept 'black box' predictive tools - it goes against the very principles of critical thought

Affect

- Bear in mind what engages and motivates teachers and learners
- Be aware that there is discomfort and unease about various aspects of learning analytics



the real fuel of Learning is motivation and volition, which you cannot capture with external sensors

I might be an alarmist, but there is too much at stake: from developing an underclass of limited-dimension robiticized learners, to propaganda-fed righteous fanatics, an automated, corrupted learning environment puts us on a path to an Orwellian future

autonomy begets engagement, motivation, persistence, relevance

Which future are you working towards?

Slides online at www.slideshare.net/R3beccaF

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