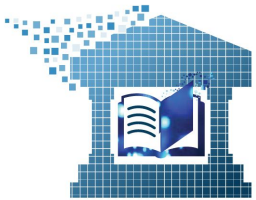
THE MIND LAB by Unitec®

Utilizing Mobile Applications in Teaching and Research



DIGITAL CAMPUS AND BLENDED LEARNING INNOVATION

THE NEW ERA OF TEACHING AND LEARNING

27 – 29 NOVEMBER 2017

RYDGES AUCKLAND, NEW ZEALAND

Dr David Parsons

#digicampusnz17

@dave_parsons

Agenda

- Integrating mobile device usage in education to enhance and extend learning
- The effectiveness of smart devices in providing new forms of learning
- Mobile/smart devices – distraction or classroom aid?

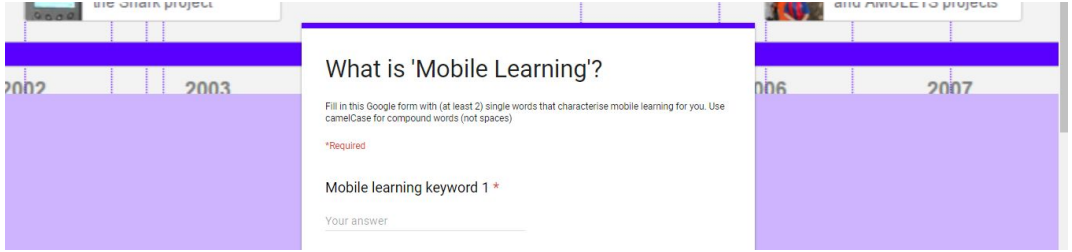
What's a 'Mobile Device'?

Respond on the Padlet at
tinyurl.com/DPMobileDevice

What's 'Mobile Learning'?

- Fill in the form with (at least 2) keywords that characterise mobile learning for you
- Use **camelCase** for compound words

tinyurl.com/MobileKeywords



Word Cloud

A Google Doc Word Cloud

What are the main keywords?

An Old Definition (still true?)

"Mobile learning… describes any form of education or training that is **delivered using some kind of mobile device**… Furthermore, the special characteristics of mobile learning, including ubiquity, convenience, localization, and personalization, give it **unique qualities** that help it stand out from other forms of learning."

APA

Parsons, D. (2007). Mobile Learning, in D. Taniar (Ed.) *Encyclopedia of Mobile Computing and Commerce*, IGI Global, 525-527

10 Years On

What's different in the world of learning?

BYOD in schools is the new normal...

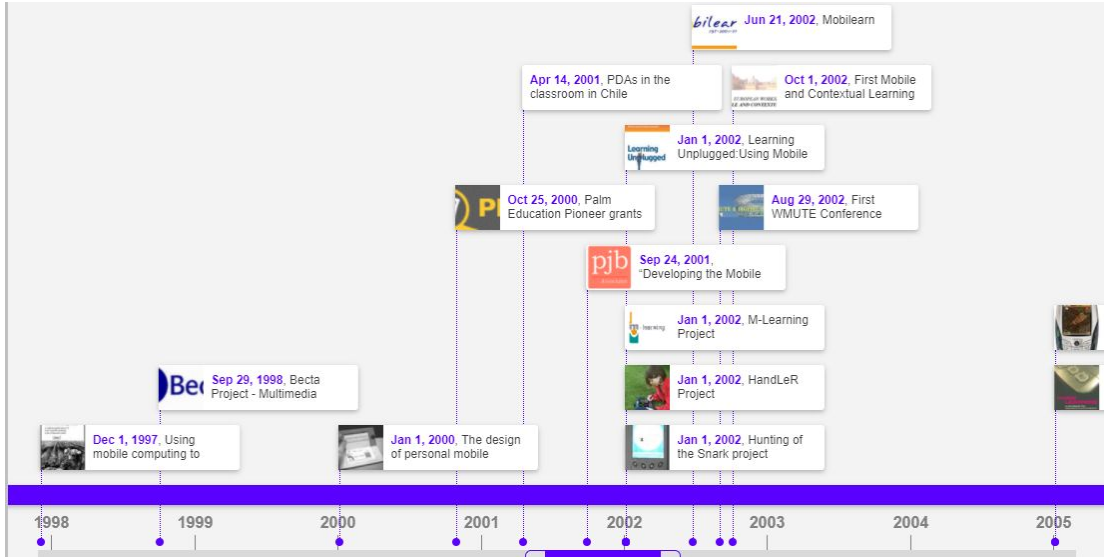
"The New Zealand Council of Educational Research's National Survey of Secondary Schools 2015 found that **62 per cent** of secondary schools had a BYOD policy in place."

APA

Education Review. (2016). Bring Your Own Approach. Retrieved from http://www.educationreview.co.nz/magazine/august-2016/bring-your-own-approach/

Background

Mobile Learning Timeline: tinyurl.com/MLTimeline



What's the Mobile Affordance?

- Affordances are potential actions and interactions that the environment offers
- What does this mean in the age of the ubiquitous tablet and smartphone, the AR headset, the biosensor, the GoPro, the drone?
- What are the unique affordances (*learning interactions*) of mobile learning today?

Affordances (1)

Portability
(Naismith et al, 2004)

For movement during / between learning activities

Data Gathering
(Orr, 2010)

To gather, manage or store information

Affordances (2)

Communication
(Liang et al. 2005)

For collaboration / dissemination

Interaction
(Lai et al., 2007)

To create and visualise digital content

Affordances (3)

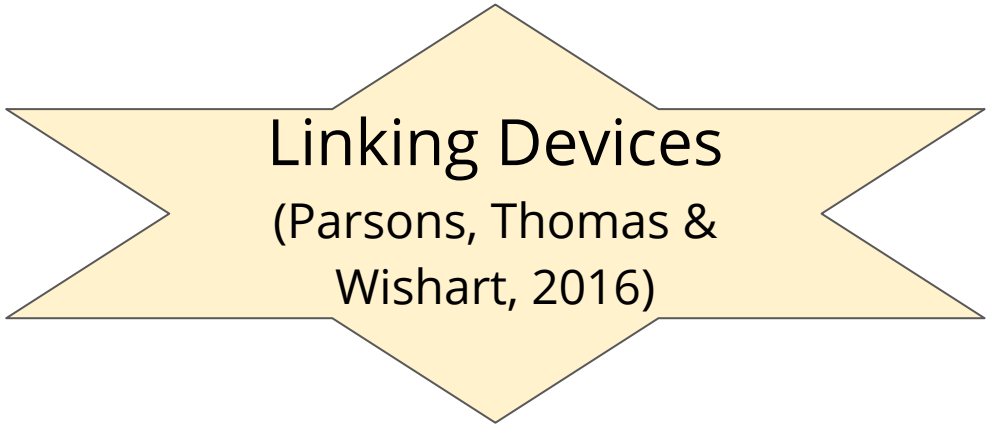
Contextual Learning
(So, Kim & Looi, 2008)

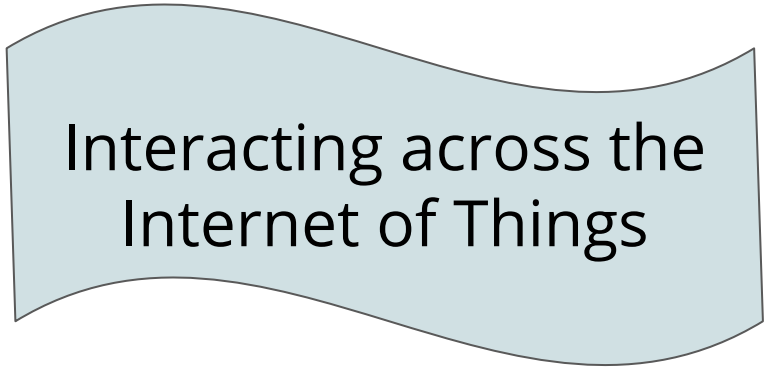
Active learning interactions in a context

Outdoor Environment
(Tan and So, 2015)

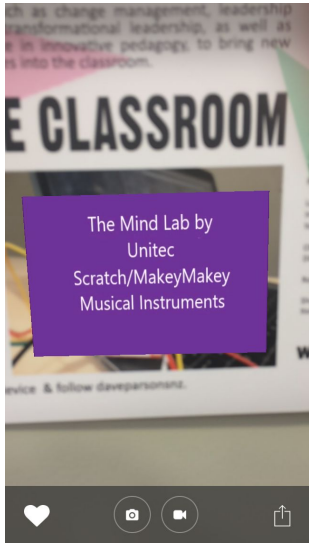
Learning outside the classroom

Affordances (4)

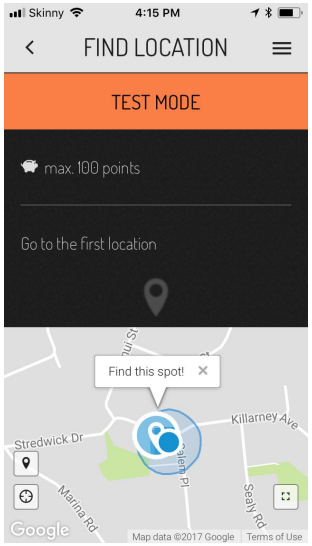




Some Implemented Affordances

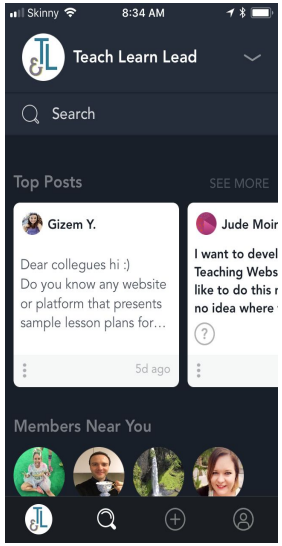


Aurasma
Interaction with
the Interface

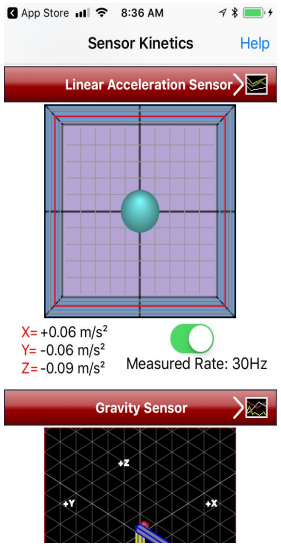


ActionBound
Outdoor
Environment

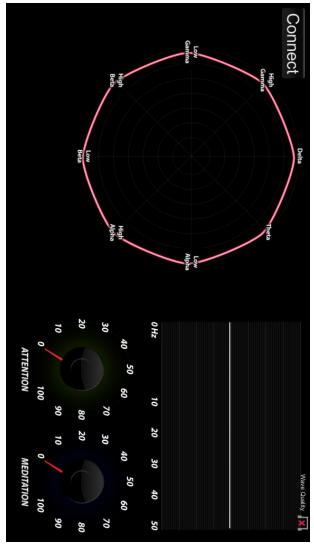
iMotion
Data Gathering



Teach, Learn
Lead
Communication



Sensor Kinetics
Contextual
Learning



Neurosky
Visualizer
Linking Devices

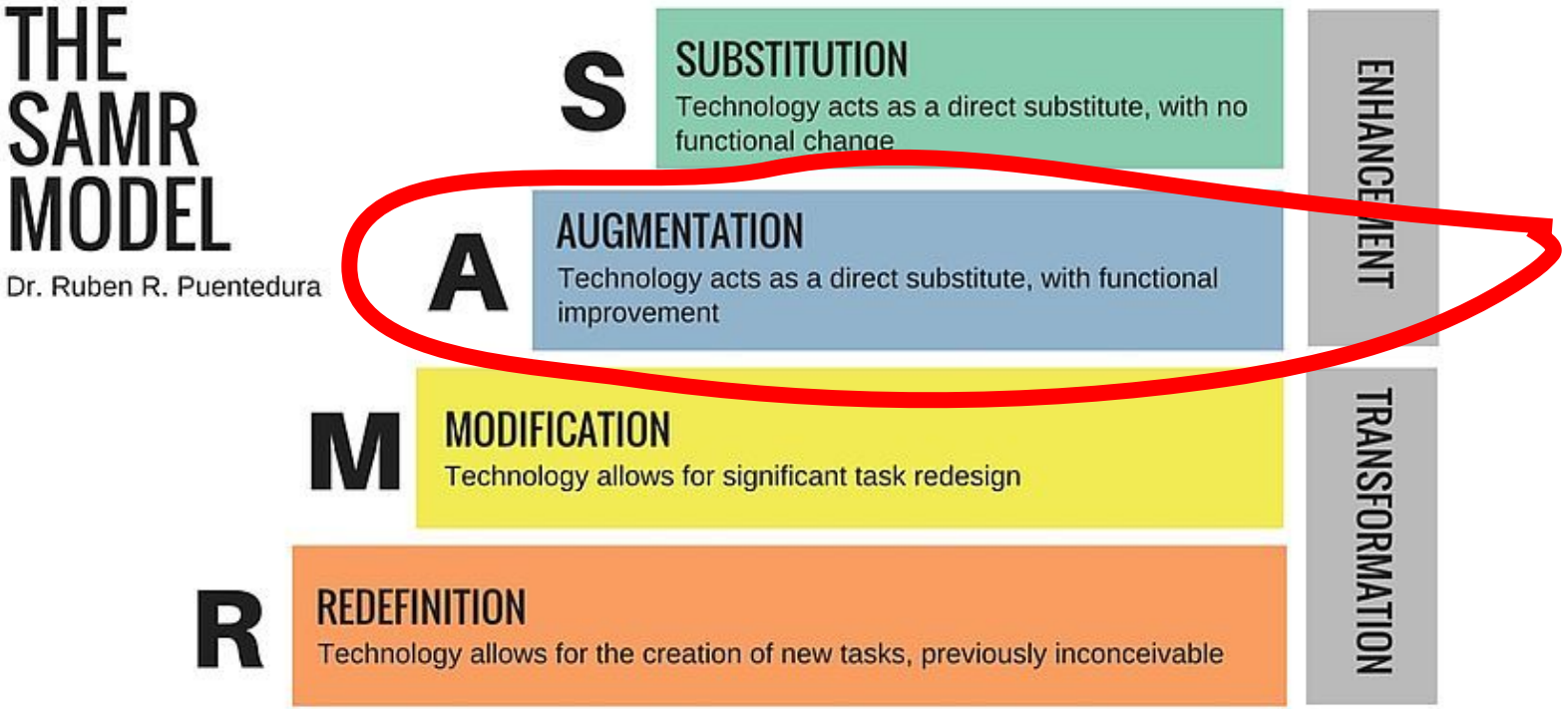
Enhance and Extend Learning

How can mobile devices enhance and extend learning?

Tools and affordances that take us beyond what we did before, but are still based on existing practice

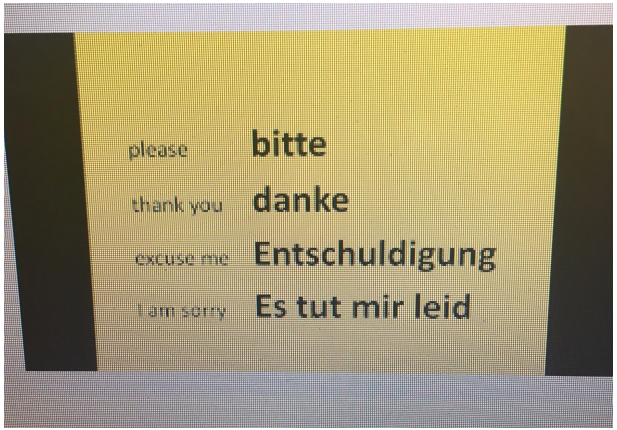
Augmenting learning with mobile tools

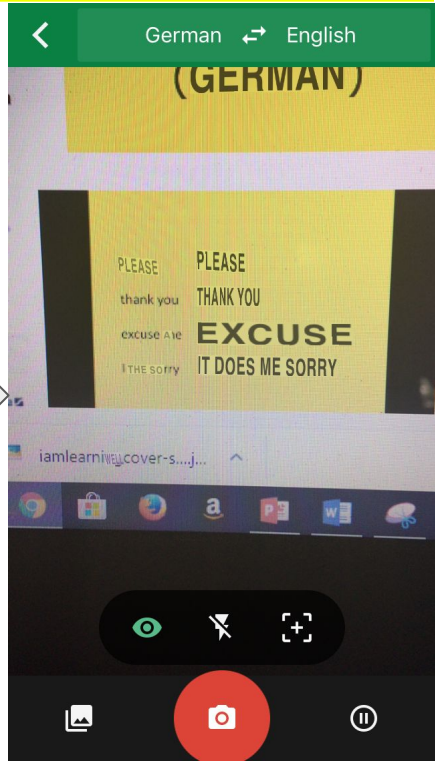
Enhancement



Google Translate

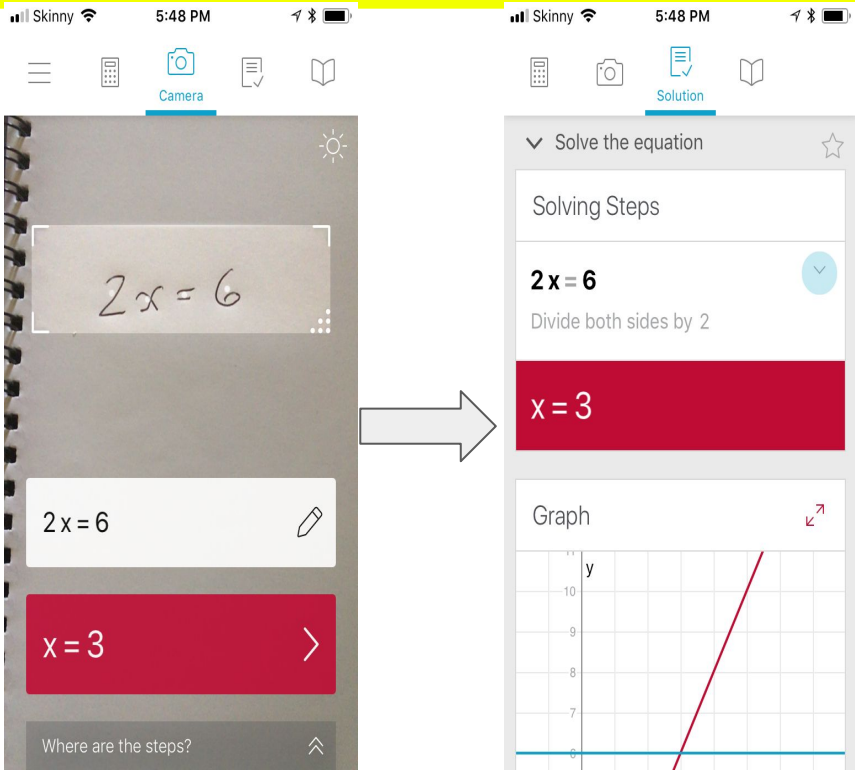
Google Translate's augmented reality tools help you to translate languages on the fly





Photomath

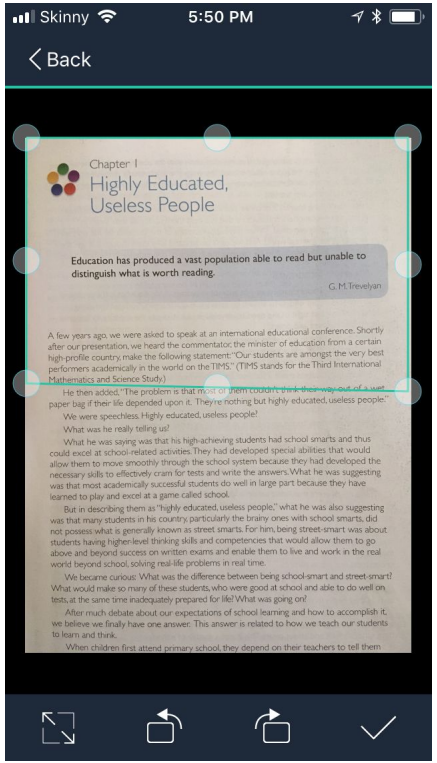
Photomath helps you to work out how to solve algebraic expressions

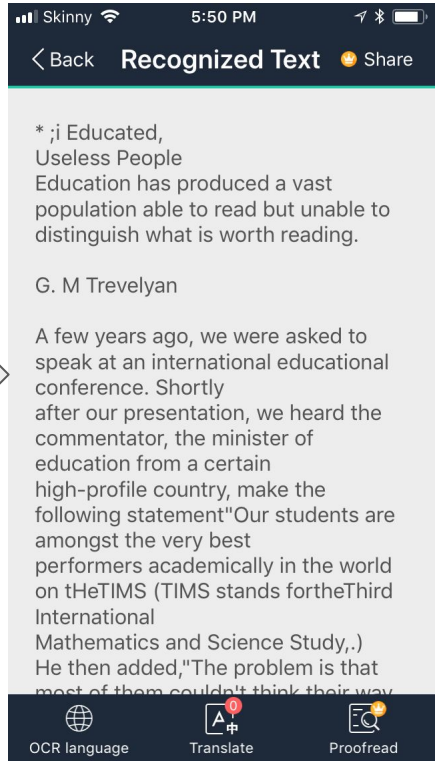


CamScanner

CamScanner makes it easy to capture and convert printed text sources into digital text and OCR

Great research tool!





Augmenting

Not substituting...! (this is a myth)

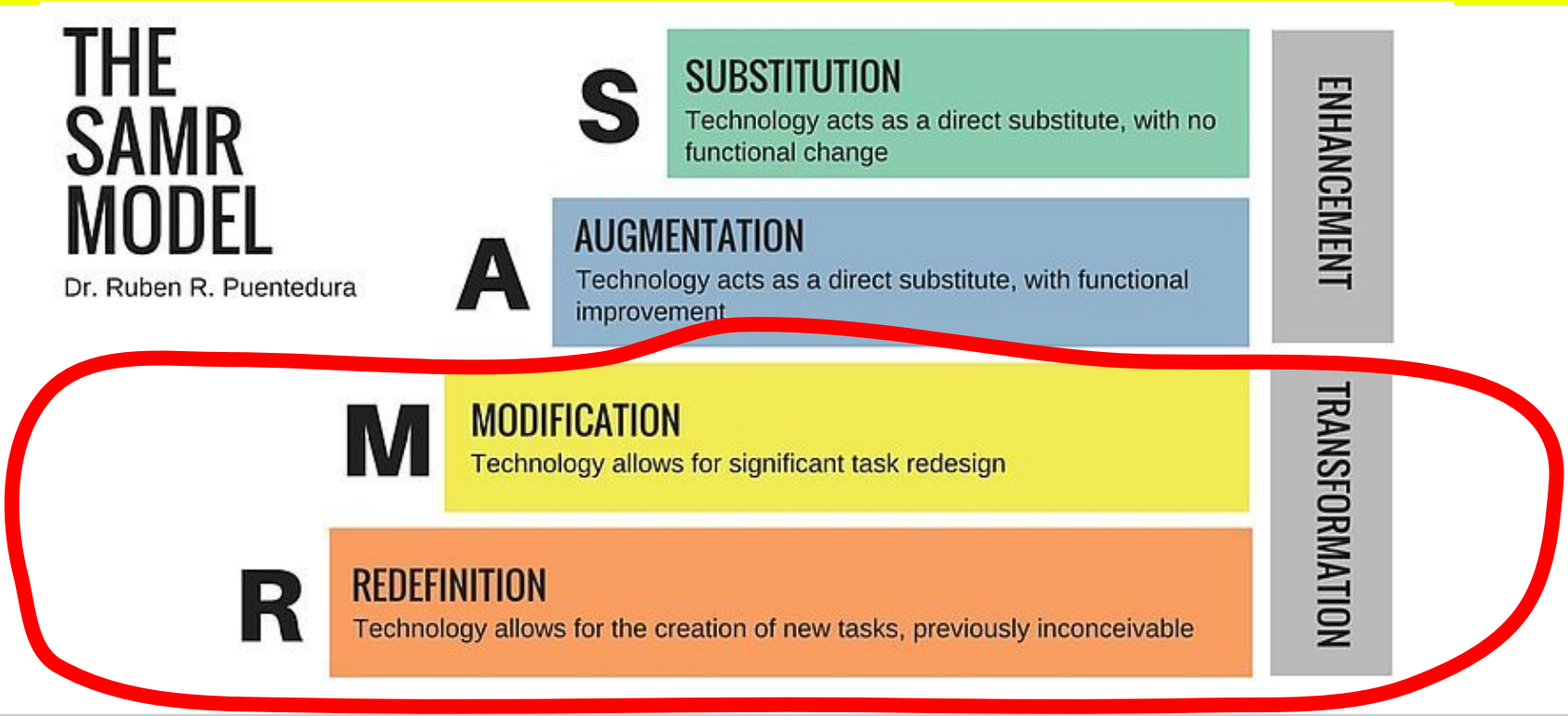
Dictionary with context
Solution with strategy
Paper with digital conversion

New Forms of Learning?

How effective are smart devices in providing new forms of learning?

Tools and affordances that take us beyond what we did before into new ways of exploring and creating knowledge

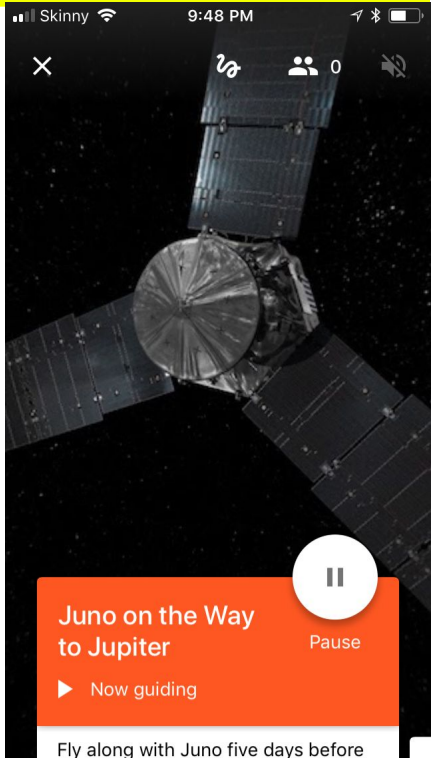
Transformation



Google Expeditions

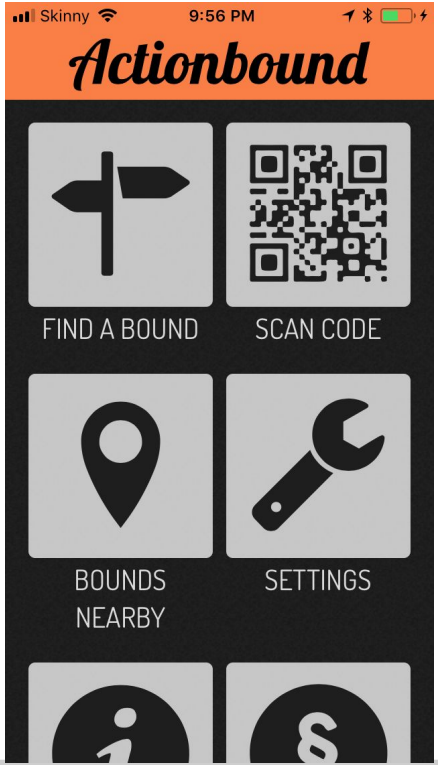
Creating Google Expeditions for Google Cardboard

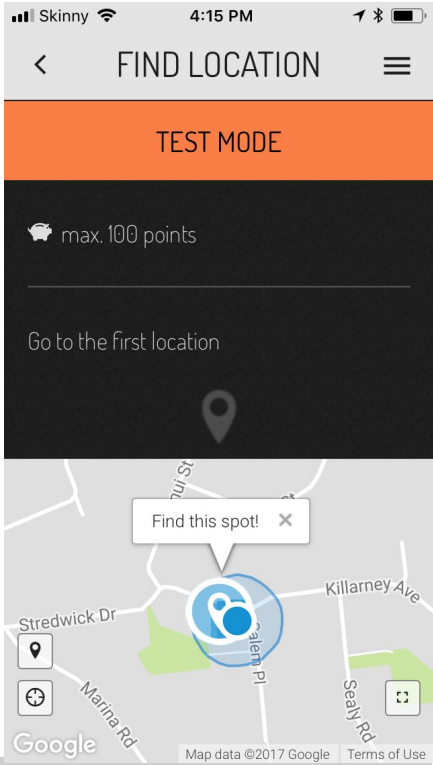
(Partner registration required - or create your own experiences with Cardboard Camera)



Geo-Located Gamification

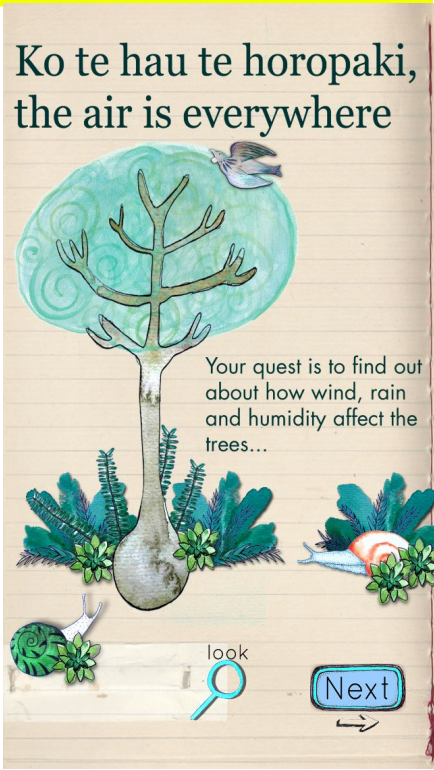
Creating indoor and outdoor explorations with tools such as ActionBound, Seppo, Aris etc.





Augmented Reality

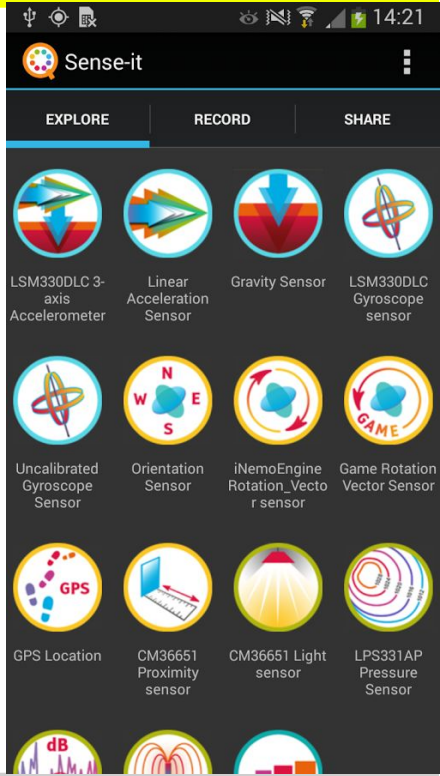
Creating AR experiences with tools such as Aurasma, Metaverse, O Tu Kapua etc



Sensors and Citizen Science

Sensing the environment with Sense-It and linking that to student driven global collaborative inquiry with nQuire-it

This is a great research tool for inquiry learning

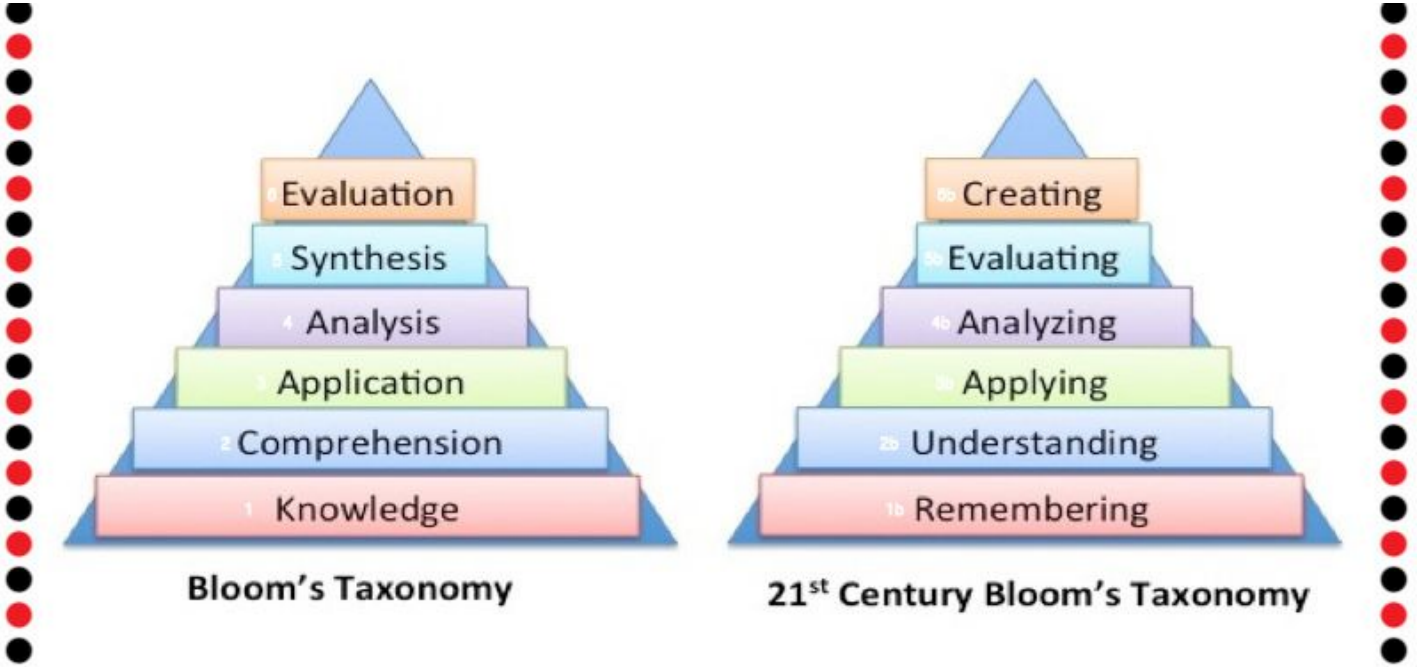


nQuire-it Missions

Join missions to explore your world...

Creation at the Top

Lisa M. Coolidge
Manley



Disruption

Are mobile/smart devices a distraction or a classroom aid?

What is Disruption?

These days, disruption is often seen as a ‘good’ thing

A bottom-up innovation that substantially affects the ecology it is a part of, forcing systemic change

Disruptive research is good research

Disruptive Technologies

“Disruptive technologies bring to a market a **very different value proposition** than had been available previously. Generally, disruptive technologies **underperform established products** in the mainstream markets. But they have **other features** that a few fringe (and generally new) customers value”

APA

Christensen, C. (1997). *The innovator's dilemma: when new technologies cause great firms to fail*. Boston, Mass.: Harvard Business Review Press.

Disruption in the Classroom?

Using mobile devices was **8th out of 9** disruptive behaviours noted by teachers in a 2014 UK survey (11%)

APA

BBC. (2014). L*ow-level classroom disruption hits learning, Ofsted warns*. Retrieved from http://www.bbc.com/news/education-29342539

Messaging is only negative in the classroom if it is **off-topic**

APA

Kuznekoff, J., Munz, S. & Titsworth, S. (2015). *Mobile Phones in the Classroom: Examining the Effects of Texting, Twitter, and Message Content on Student Learning. Communication Education 64*(3)

The majority of teachers **support cell phone use** in the classroom for school-related work

APA

Thomas, K, O'Bannon, B. & Bolton. N. (2013). Cell Phones in the Classroom: Teachers' Perspectives of Inclusion, Benefits, and Barriers. Computers in the Schools. *Interdisciplinary Journal of Practice, Theory, and Applied Research, 30*(4)

The Options

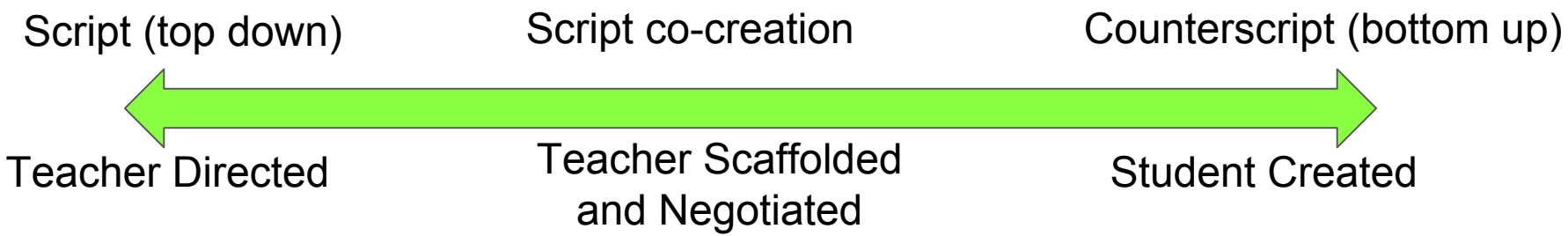
"As educators we could take a number of stances. **We could ignore the problem** and hope it will go away… We could **attempt to forbid it**, but this just becomes a challenge for students to find new forms of conversation… Or we can welcome students who bring their own [devices], but in the full knowledge that they will disrupt traditional teaching and that this **disruption needs to be managed**."

APA

Sharples, M. (2002). Disruptive devices: mobile technology for conversational learning. *International Journal of Continuing Engineering Education and Life Long Learning, 12(*5-6), 504-520.

Scripts and Counter-scripts

The continuum of script and counter-script means to what extent material is generated by teachers or students, and the implications of using those sources - counter-scripts require student agency (and disruption)



APA

Enriquez, J.G. (2011). Tug-o-where: situating mobilities of learning (t)here. *Learning, Media and Technology, 36*(1),

Conclusion

- Mobile learning is ?
- New forms of learning - enhancement and transformation
- Devices in the classroom and research - disruptive in all its meanings

Questions

I'll take questions/comments from the floor but you can also put them into this TodaysMeet room and I'll answer them later

todaysmeet.com/DigiCampNZ17

Or Tweet to #digicampusnz17 @dave_parsons