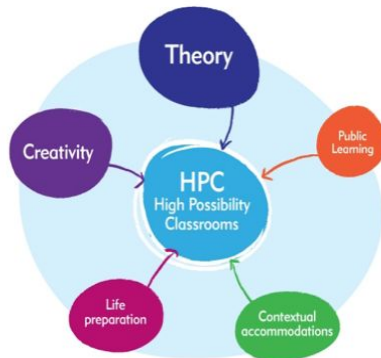


Incorporating technology and content knowledge into geographical inquiry based learning: the case for *High Possibility Classrooms* in schools



Dr Jane Hunter
School of Education
Faculty of Arts & Social Sciences
NSW GTA Annual Conference
Friday 8 April 2016



This session

- The *High Possibility Classrooms* research
- Prime moment in education for GEOGRAPHY even with STEM
- *Creating iGeographers*
- Geographical inquiry
- HPC projects in schools - some examples
- Immersive data ... field trips with OR and the new UTS data arena

Looking at the HPC research

www.highpossibilityclassrooms.com



Gabby

Gina

4 teachers
4 NSW public schools
Exemplary criteria
Stages 1-5
Data collected
across 2 years
Range of technology used

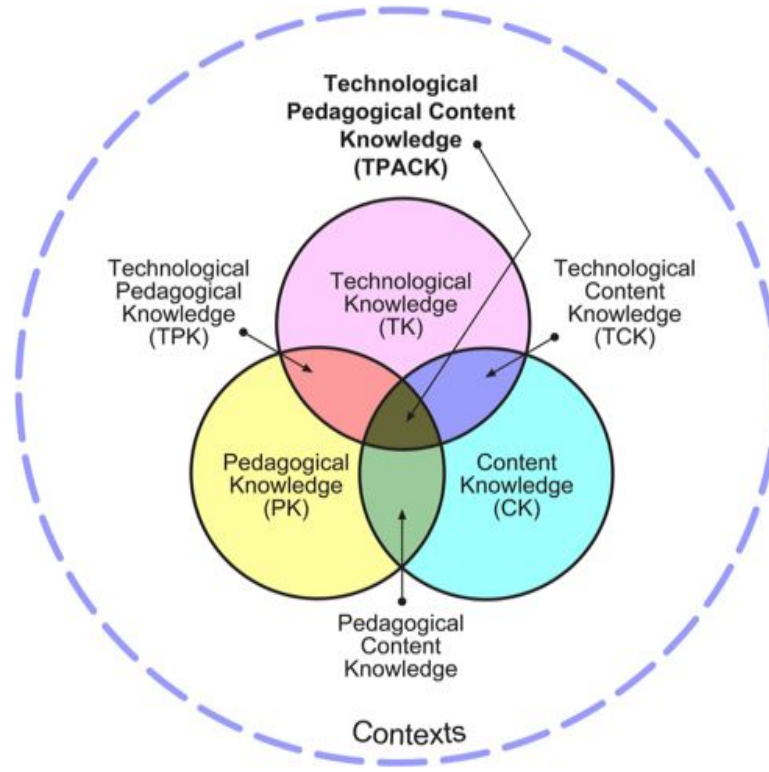
Nina

ABOUT

Kitty

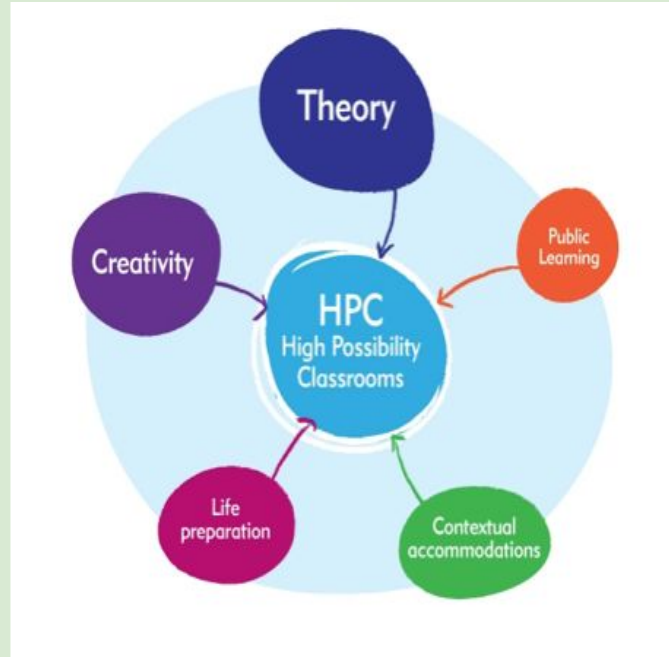
the

PEDAGOGY



Mishra & Koehler, 2006

After the data was analysed this is what emerged ...



Theory-driven technology practice	Creativity for learning through technology	Public learning through technology	Life preparation using technology	Contextual accommodations using technology
Technology drives construction of learning	Technology boosts creativity	Technology scaffolds performance	Technology operationalises the real world	Technology remains personal and professional
Technology enhances purposeful teaching	Technology creates opportunities for production	Technology enhances outcomes	Technology gives voice	Technology changes time
Technology focuses planning	Technology unleashes playful moments		Technology means ownership and possibility	Technology nurtures community
Technology enriches subject matter	Technology supports values		Technology reveals effectiveness	Technology defines the game
Technology promotes reflective learning	Technology differentiates learning			
Technology shifts conversation and thinking				
Technology engages students in authentic ways				

Why is this research significant?

- *motivational exemplars

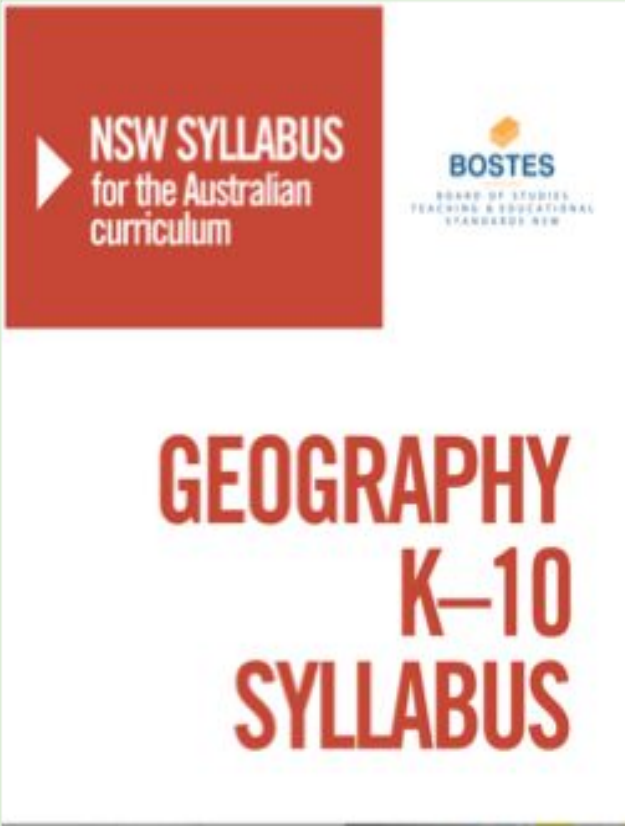
- *response to persistent calls in the literature for more case studies

- *fills a noted gap in what we know about technology integration from teachers' perspectives



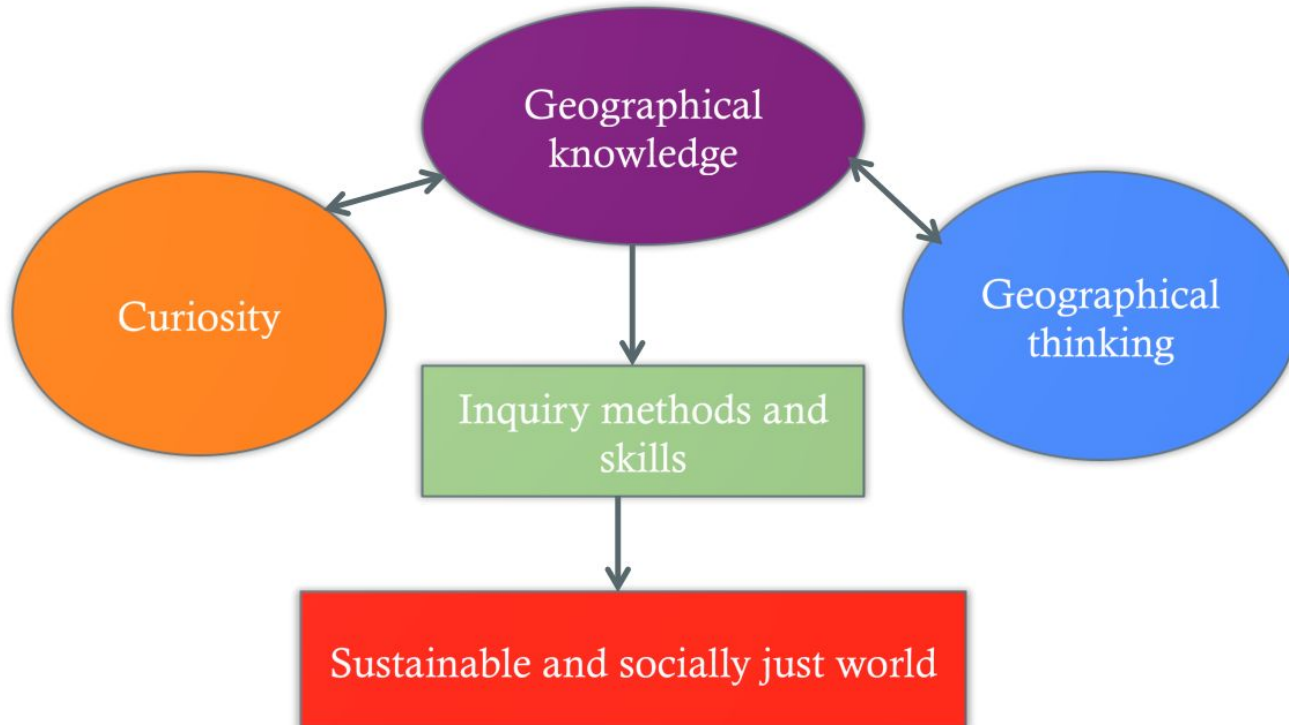
What I am seeing is how
a model of design based learning
like HPC gives teachers
a language to
talk about their

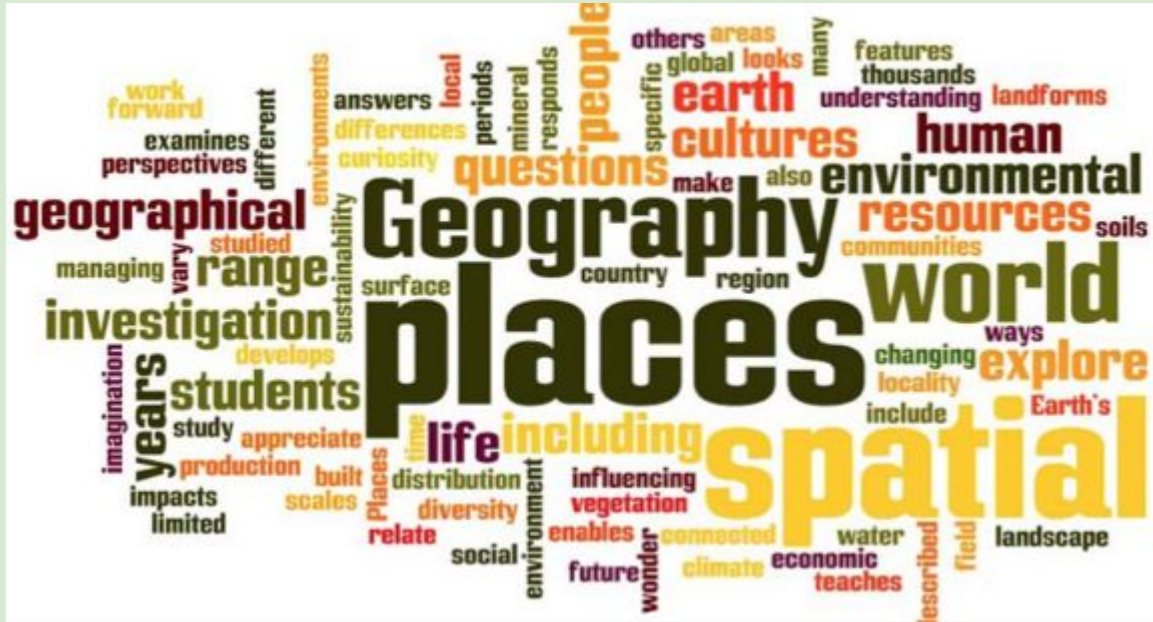
practice in 21st century classrooms ... right NOW



... Oh yes

Geography K-10 aims to develop





[Blog post on the HPC website](#)

High Possibility Classrooms: Creating *i*Historians and *i*Geographers



New opportunities for student engagement

The newly released [NSW syllabus for the Australian curriculum: Geography K-10](#), based on the Australian Curriculum for [Geography F-10](#), sits alongside the syllabus developed by the NSW Board of Studies Teaching and Educational Standards (BOSTES) for [History K-10](#).

Both documents open up captivating possibilities for re-imagining how History and Geography are taught in NSW schools.

The notion of *i*Historians and *i*Geographers

The new Australian Curriculum, and the NSW syllabuses for the Australian curriculum in History and Geography, provide opportunities for rich technology-enhanced learning.



Dr Jane Hunter is an early career researcher in the Centre for Educational Research at the University of Western Sydney. Her professional background is in pedagogy, technology enhanced learning, teacher professional learning, and curriculum. In this article, Jane explains how the *High Possibility Classrooms* model can provide a framework for meaningful integration of technology into the [NSW syllabuses for the Australian curriculum](#) for History and Geography.



@janehunter01

Associate Professor Alaric Maude (2014) says:

“Primary teachers have a significant
role in the teaching of

Geography in Australia because they are responsible for
seven of the nine years in which the subject will be
compulsory in the majority of schools” (p.1)

Using the key inquiry questions

Stage 3: How do people's connections to places affect their perception of them?

Aspects of Papua New Guinea from 1849 to the present day

Students analyse Sources 3 to 10 (in the downloadable resource) that present different aspects of the natural and human features of Papua New Guinea from 1849 to the present day. Students record their observations into Table 2 attached in the download resource.



[Link](#)



Dance, Brumi Island, New Guinea



Stills from 'Assault on Salamaua'

I always recommend having a wall

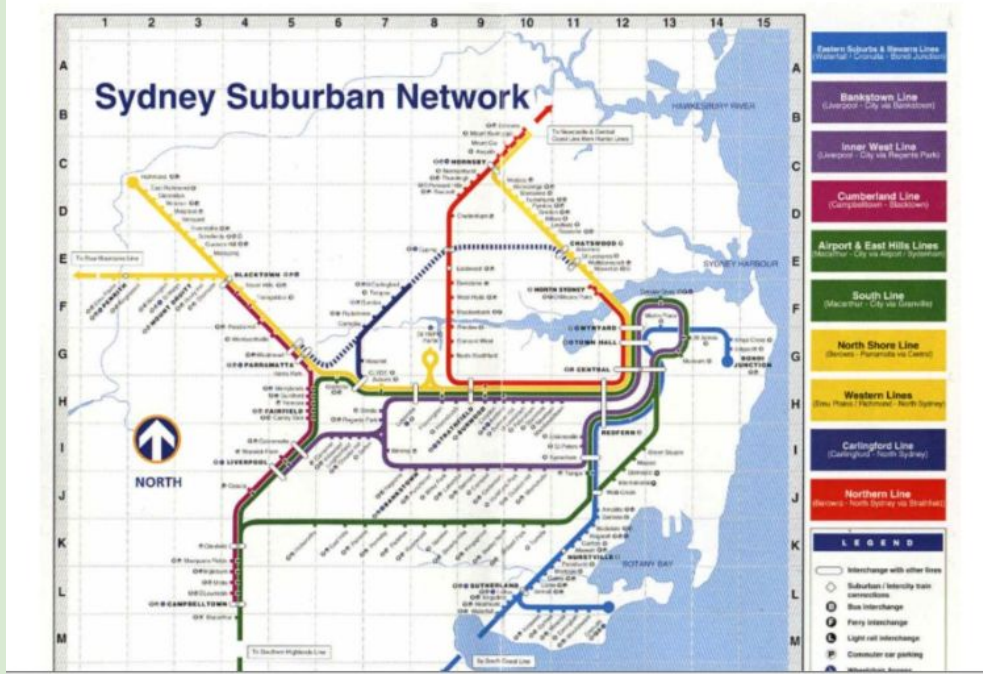
map (the fabric ones are *hot property* in vintage shops), a **free standing globe** and **printed atlases** in the classroom—**topographic maps** are great too. A few years ago I had some maps I bought home from an overseas trip laminated, for example, the London Underground, Paris Metro, New York Subway ... also museum floor plans from these cities—*these make great direction teachers*—hmmm ... what have you done with that momento from the British Museum or the Louvre? There is always ... City Rail?

Methods and skills

I love maps ... old school... vintage or

Google Earth

Become a geographer





What we do

Buying land

Regional partnerships

Aboriginal partnerships

Conservation science

Conservation planning

Landscape management

- Mapping
- Controlling feral animals
- Controlling weeds
- Erosion
- Fire management
- Reducing grazing pressure
- Restoring waterways

You are here: [Home](#) / [What we do](#) / [Landscape management](#) / [Mapping](#)

Mapping and spatial systems

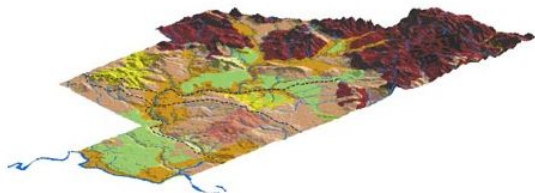
One of the most important tools for managing ecological communities, features and structures within Bush Heritage Australia reserves is the **Geographical Information System (GIS)**.

The GIS allows vital information relating to features and areas within the landscape to be gathered, stored and managed, which helps us describe the current state of the environment within a reserve and to develop and assess appropriate management techniques.


Observations and measurements made on reserves form records within data sets, which are linked to features and areas. GPS (Global Positioning System) derived coordinates provide locations for these features and areas. Screen-based maps display key observed and measured qualities, and additional information, including areas, lengths, proximities to nearby features and densities within broader areas.

In this way, primary questions such as "Where's the density of an invasive weed and how does it relate to the presence of a specific soil type?" or "What's the likelihood that my access road will be flooded following rain and where will this flooding occur?" can be answered and this answer integrated into a management technique capable of eradicating invasive weeds or reducing the likelihood of flooding.

Maps provide the most effective way to deliver information about the extent, type and character of features and landscapes within a reserve. For this reason all maps provided to reserve staff, included in Bush Heritage newsletters or placed on this website provide the best ecological information available: compiled, managed, analysed, summarised and presented through Bush Heritage Australia's GIS.



Act now to protect the Night Parrot



Donate Now


Techniques from the field

[Sign Up](#)[Log In](#)

Join the world's largest treasure hunt.

[▶ What is Geocaching? \(75 seconds \)](#)





Deng

Observe
through media
or out in the field

Middle years case study

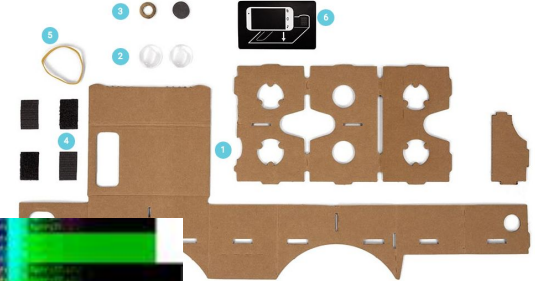
Kindergarten project with 8 teachers ... STEAM



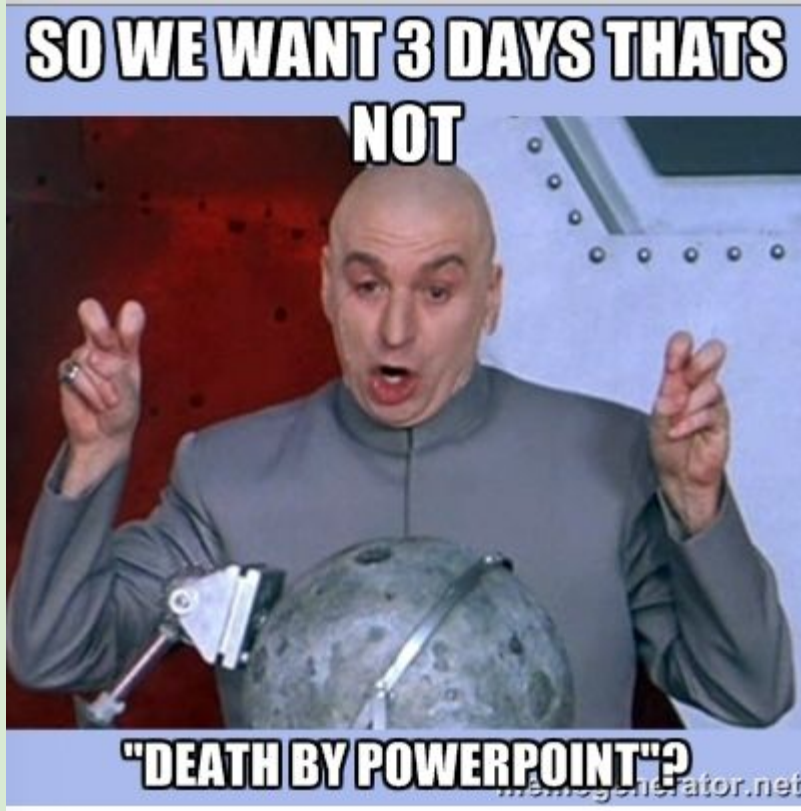
BUILD IT YOURSELF

To build your own viewer all you need are a few everyday items you can find in your garage, online, or at your local hardware store: cardboard, lenses, magnets, velcro and a rubber band.

DOWNLOAD INSTRUCTIONS FOR MANUFACTURERS



[Watch the video](#)



Need to [acknowledge](#)

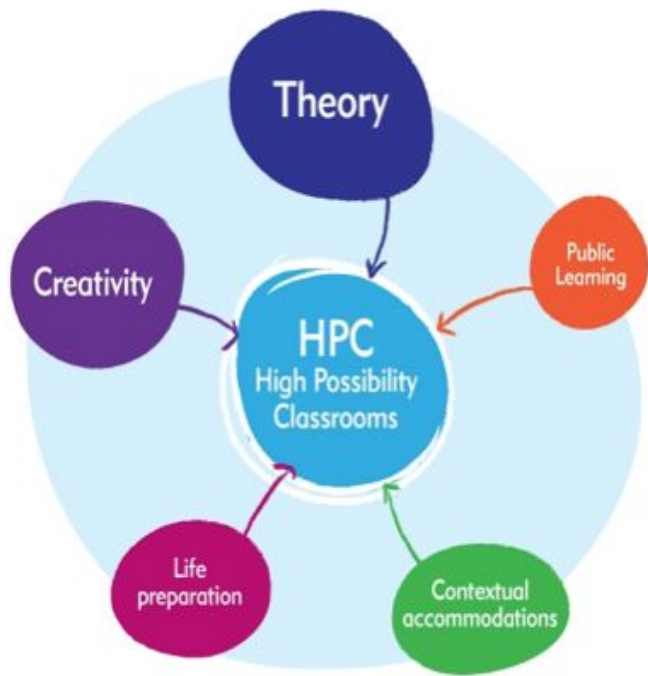
Contrast

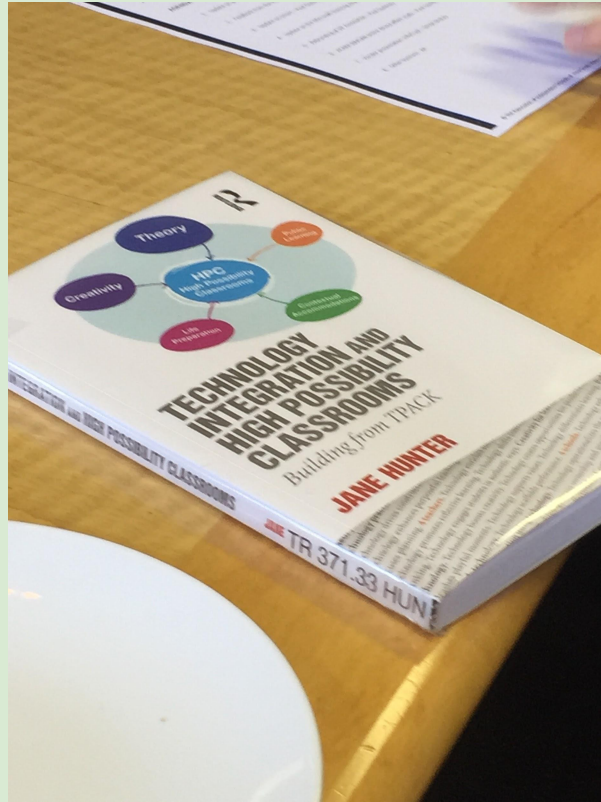
Repetition

Alignment

Proximity

principles
to make
the products of
INQUIRY in communicating,
reflecting and responding
really really really good





Flyers to get 20% off
or buy a
HPC booklet



Thank you

Accredited HPC PD on the BOSTES website : Workshop 1 is UP

More BOSTES accredited workshops coming for Geography & History

Contact me : jane.hunter@uts.edu.au

Follow me on Twitter [@janehunter01](https://twitter.com/janehunter01)