



Lighting a Fire: Re-Imagining Teacher Education with Digital and Collaborative Learning



Dr David Parsons, National Postgraduate Director, The Mind Lab by Unitec

“For the mind does not require filling like a bottle, but rather, like wood, it only requires kindling to create in it an impulse to think independently and an ardent desire for the truth.”

Plutarch



The Mind Lab by Unitec

A unique education collaboration between a public education provider and a specialist education lab dedicated to **enhancing digital literacy capability and the implementation of contemporary practice** in the teaching profession



POSTGRADUATE CERTIFICATE
IN APPLIED PRACTICE:
DIGITAL AND COLLABORATIVE LEARNING

12
LOCATIONS

Whangarei
Auckland - North Shore
Auckland - Central
Auckland - South
Tauranga
Rotorua
Gisborne
Hawke's Bay
Whanganui
Wellington
Christchurch



TIMES *

Evenings (4pm-8pm) and/or
Saturday mornings (9am-1pm)
*varies between sites

Over
1400
educators

NZ's Largest
Postgrad
Programme



L
E
V
8
L

PART TIME

32
WEEKS

60 CREDITS



UNITS OF STUDY

4 COURSES

Face to face classes
+ blended learning

1. Digital & Collaborative Learning in Context.
2. Leadership in Digital & Collaborative Learning.

Online learning
+ face to face workshops

3. Research & Community Informed Practice.
4. Applied Practice in Context.

NEXT
FOUNDATION
Investing in our land, our people

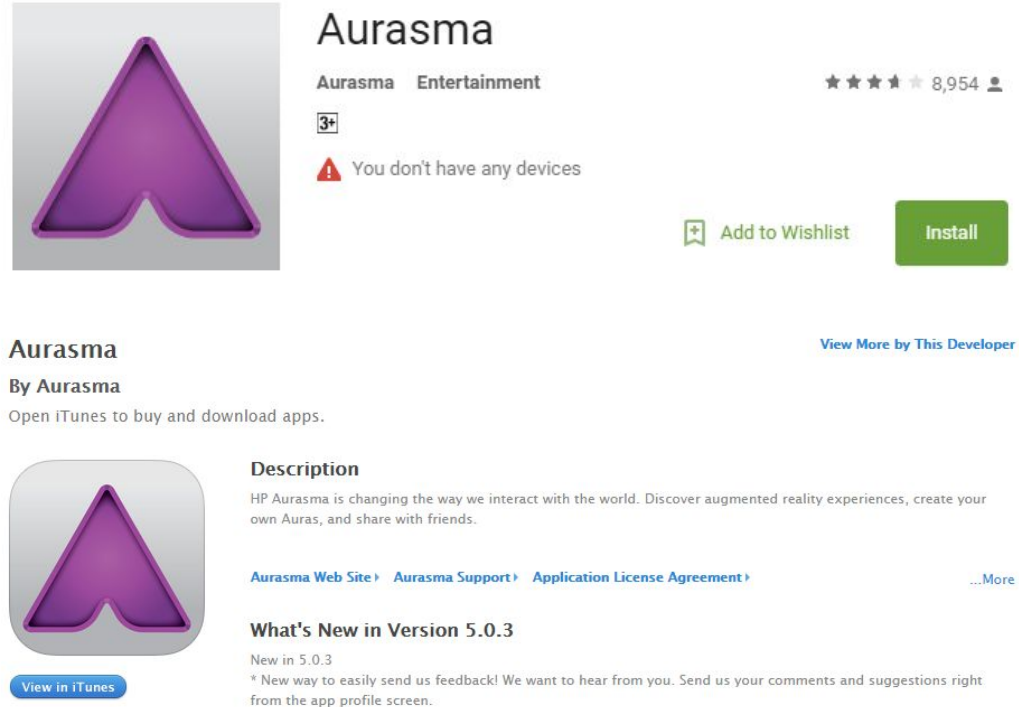
\$2000 SCHOLARSHIPS
For registered teachers at public schools. 3

The Mind Lab by Unitec Video



Download Aurasma (optional)

- ★ Download Aurasma to your iOS or Android device
- ★ Create an account and sign in
- ★ We'll (try to) use it later



The screenshot shows the App Store page for the Aurasma app. At the top, the app is titled "Aurasma" with a rating of 4.5 stars from 8,954 reviews. The category is "Entertainment" and the age rating is "3+". A message states "You don't have any devices". There are buttons for "Add to Wishlist" and "Install". Below the app icon, it says "Aurasma By Aurasma" and "Open iTunes to buy and download apps." There is a "View in iTunes" button. The "Description" section states: "HP Aurasma is changing the way we interact with the world. Discover augmented reality experiences, create your own Auras, and share with friends." Links for "Aurasma Web Site", "Aurasma Support", and "Application License Agreement" are provided. The "What's New in Version 5.0.3" section mentions a new way to send feedback.

Aurasma
Aurasma Entertainment
★★★★☆ 8,954
3+
⚠ You don't have any devices
[Add to Wishlist](#) [Install](#)
[View More by This Developer](#)

Aurasma
By Aurasma
Open iTunes to buy and download apps.
[View in iTunes](#)

Description
HP Aurasma is changing the way we interact with the world. Discover augmented reality experiences, create your own Auras, and share with friends.
[Aurasma Web Site](#) [Aurasma Support](#) [Application License Agreement](#) [...More](#)

What's New in Version 5.0.3
New in 5.0.3
* New way to easily send us feedback! We want to hear from you. Send us your comments and suggestions right from the app profile screen.



An Overarching Question

How do we ensure education evolves to reflect the needs of today and tomorrow?



Transforming Education

- ★ We aim to upskill a quarter of New Zealand's ~54,000 teachers through our postgraduate programme
- ★ To bring 21st century teaching and learning to every part of the country
- ★ To reach a critical mass of the teaching profession
- ★ To transform (teacher) education

32 Week Programme

First 16 weeks

2 Courses Running in Parallel

Digital & Collaborative **Learning**
in Context

Leadership in Digital &
Collaborative Learning

Last 16 weeks

8 weeks

+

8 weeks

Research &
Community
Informed
Practice

Applied
Practice in
Context

We teach three overlapping cohorts per year, every 16 weeks, evenings and weekends, 48 weeks a year



Future Focus...



<http://hackededucation.co.nz/>

HACK-
Crowd sourced
ideas for NZ's
education future
EDUCATION

ABOUT



Take your pick... (answer as many times as you want)



In the future, education will be...



In the future, education will not have...



I wish education...

Raise Your Voice!

Hack Education is a new platform to crowdsource your ideas about how you would like see primary and secondary education — today, tomorrow and in the future.

This platform is designed for mums, for dads, for teachers and students. It is your platform to capture your ideas, views and concepts on how education should evolve and adapt for today's world.

Your views will be shared on the platform with other passionate New Zealanders to enable us to gain important insight and education ideas for the future.



Professions of the Future



Image Source: [Toshiba Students Dream job competition 2015](#)

- Drone Drivers
- Urban Farmers
- 3D Food Printers
- Nostalgists
- Augmented Reality Architects
- Narrowcaster
- Tele Surgeons
- Digital Death Managers
- Avatar Designers
- Nano Medics
- Body Part Maker
- Memory Augmentation Surgeon



Universal Aura

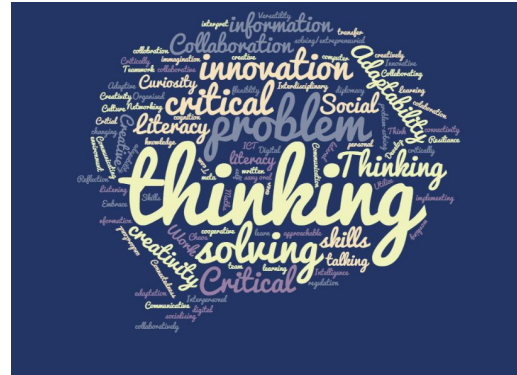
- ★ Open Aurasma
- ★ Point at the trigger image
- ★ Wait for the action to start
- ★ Don't forget to tilt your device around the aura

Aura created by Universal Studios to celebrate its centenary in 2012

You can create Aurasma compatible 3D images with tools such as Maya

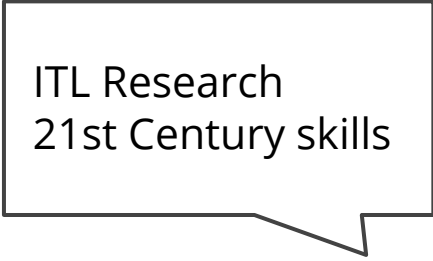


C21 Skills - Teacher Views



What Are The Most Important C21 Skills?

How well do our thoughts align with the **ITL research** results?



ITL Research
21st Century skills

- Collaboration
- Knowledge construction
- Self-regulation
- Real-world problems / innovations
- ICT for learning
- Skilled Communication

Leadership Focus...



Are you a leader?



Organisational Change



Teachers as Servant Leaders

“The teacher as **servant leader functions as a trailblazer** for those served by removing obstacles that stand in their path. Part of unleashing another’s talents is helping individuals discover latent, unformed interests. Art, music, and science teachers are prime examples of educators whose genius lies in leading students to discover unarticulated interests.”

APA

Bowman, R. F. (2005). Teacher as Servant Leader. *Clearing House: A Journal of Educational Strategies, Issues and Ideas*, 78(6), 257.



Active Learning...

Activity - Follow Our Channel

- ★ Open Aurasma
- ★ Follow themindlab

🔍 Themindlab



Cancel



TheMindLab's Public A...

by TheMindLab

0 likes



[Back](#) TheMindLab's Public Auras



0
likes

3
Auras

by TheMind...

Following



Robot Line



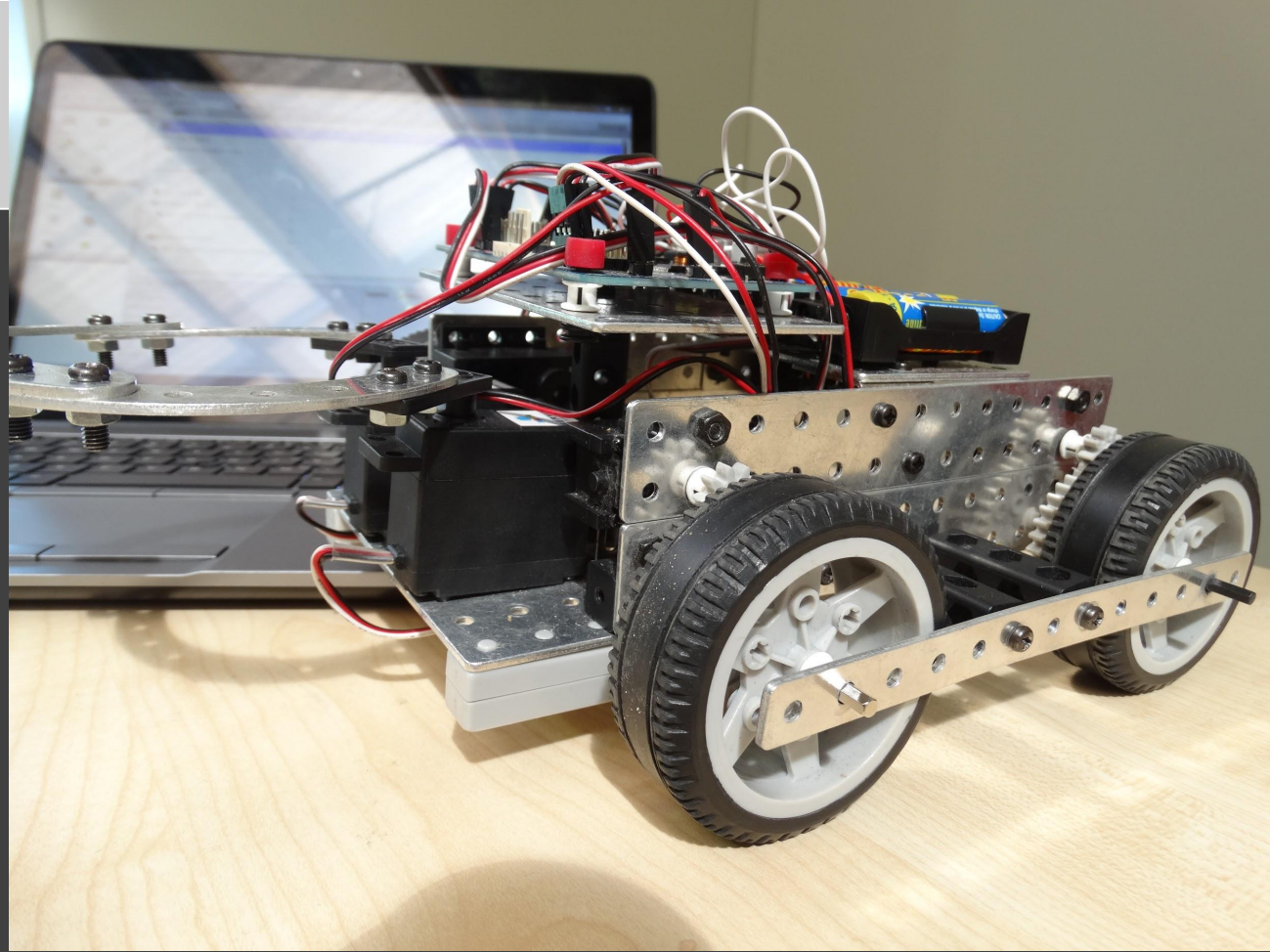
Agile Ball Game



Makey Makey



Trigger



Google Cardboard in Class



Brain Sensing

Try out the **Neurosky
Brainwave Headset**



Your group is given **one** of the ITL research 21st Century Skills and Activity rubrics

Your task is to **plan, film, edit** and **upload a short film** (~1-3 minutes long) **that relates to your given topic** and **has a 3 act structure** (and have fun while doing that!)

Act 1:

Set Up

Teacher(s),
Students...

Act 2:

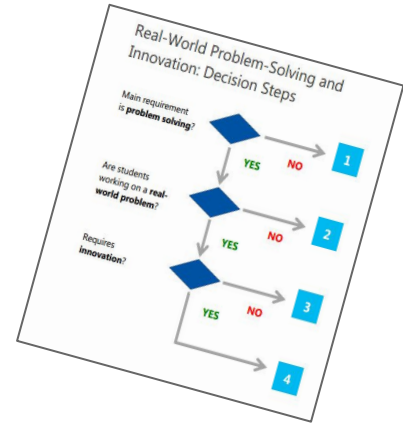
Confrontation

Conflict(s),
Problem(s)...
If learning activities
are on level 1, **what
problems does it
cause?** (now-future)

Act 3:

Resolution

What **level 4-5 learning
activity** looks like?
How does that solve
the problems? What
does it look like from students and
teachers point of view?



Learning Spaces Stations

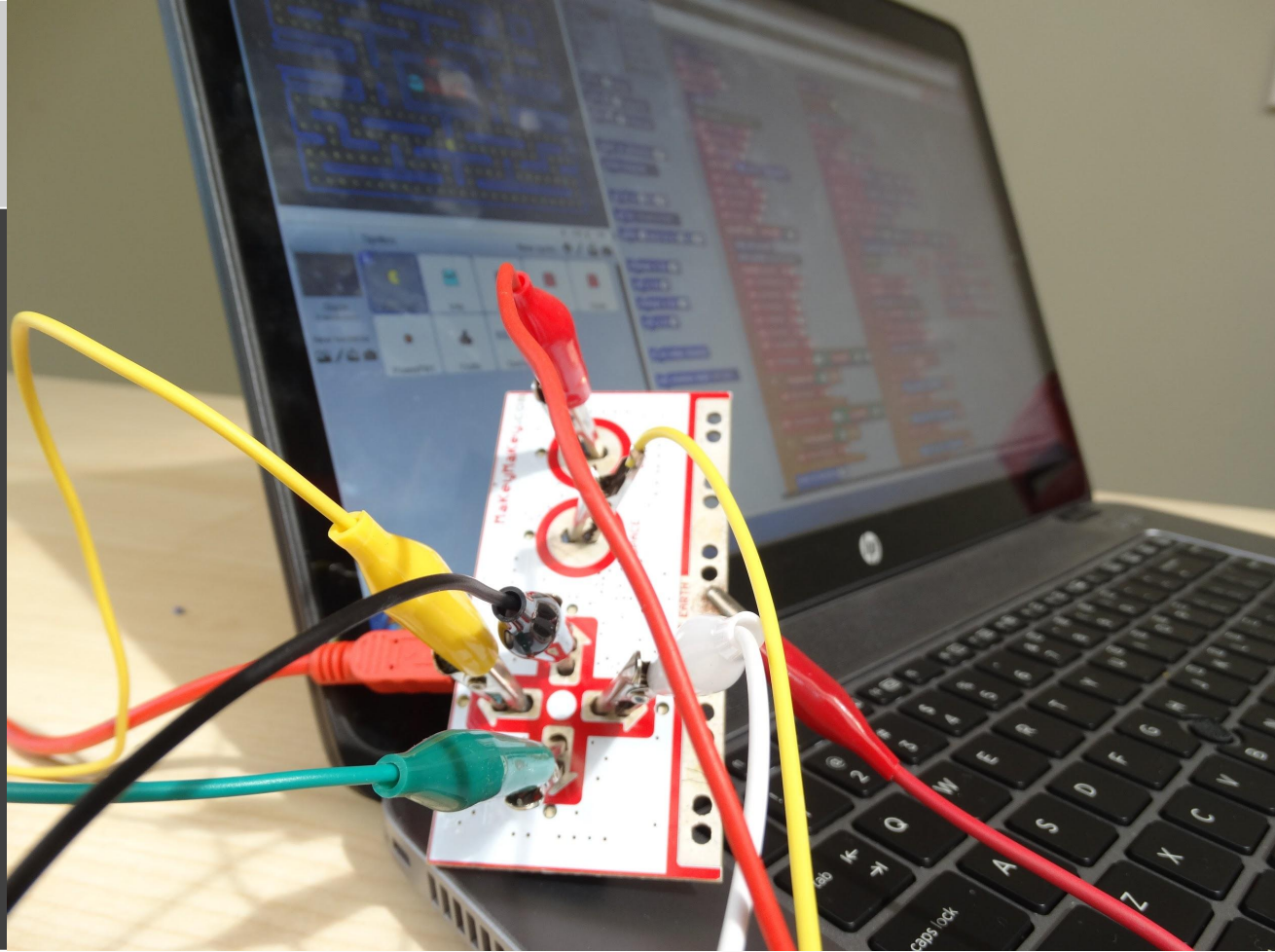
3 hour timer
3:00:00

Use the resources in the portal **LEADERSHIP/DIGITAL**:

1	2	3	4	5	6
Reflect & Sketchup	Discuss & Meme	Analyse & Suggest	Design & 3D Model	Read & Comment	View & Video
Re-design your learner's environment with a future focus in mind	Understand what innovative learning spaces are	Consider the environment as the 3rd teacher, from a learner's point of view	Rehearse a universal design and prototyping mindset	Witness maker culture and students as makerspace designers	Plan your own future digital learning environments for the last 16 weeks
Zone 1	Zone 2 (facilitator)	<i>Freezone</i>	Zone 4	<i>Freezone</i>	<i>Freezone</i>



Trigger



Informed Debate...

Discussion - Does money matter?

Many have wondered if money buys strong performance in PISA
It has been shown that:

- Greater national wealth or higher expenditure on education does not guarantee better student performance. Among high-income economies, **the amount spent on education is less important than how those resources are used.**
- Successful school systems in high-income economies tend to **prioritise the quality of teachers** over the size of classes.
- School systems that perform well in PISA **believe that all students can achieve**, and give them the opportunity to do so.

APA

OECD. (2012). PISA in focus. Does money buy strong performance in PISA?. Retrieved from <https://www.oecd.org/pisa/pisaproducts/pisainfocus/49685503.pdf>

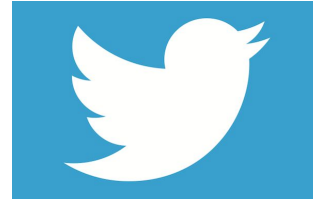


Discussion

What tools can we use to facilitate online discussions?



Edmodo



Today'sMeet



Vanilla
FORUMS

DISQUS



Of These, Why Twitter?

- Encourages brevity
- Identifies the tweeter
- Allows replies and hashtags
- Integrates with other tools (e.g. Tagboard, Pocket, Buffer, Feedly)
- Supports weblinks
- Mobile App available



Discussion:

'Wicked problems' vs 'Wisdom of crowds'

APA

Horst W. J., R., & Melvin M., W. (1973). Dilemmas in a General Theory of Planning. *Policy Sciences*, 4(2), 155-169.

Surowiecki, J. (2004). *The Wisdom of Crowds*. New York, NY: Doubleday, Anchor.

What can guessing the weight of a cow teach us?



Group Activity: Game Mechanics

10:00
Stop

Consider one of the four game dynamics introduced in the TED Talk by Seth Priebatsch:

- Appointment dynamic
- Influence and status dynamic
- Progression dynamic
- Communal discovery
 - (what are the three he doesn't mention?)

How would you design an educational activity to incorporate this specific aspect of games?



The Five Whys

'The five whys' is a technique from the Toyota Production System in the 1950s.

"by repeating why five times, the nature of the problem as well as its solution becomes clear."

APA

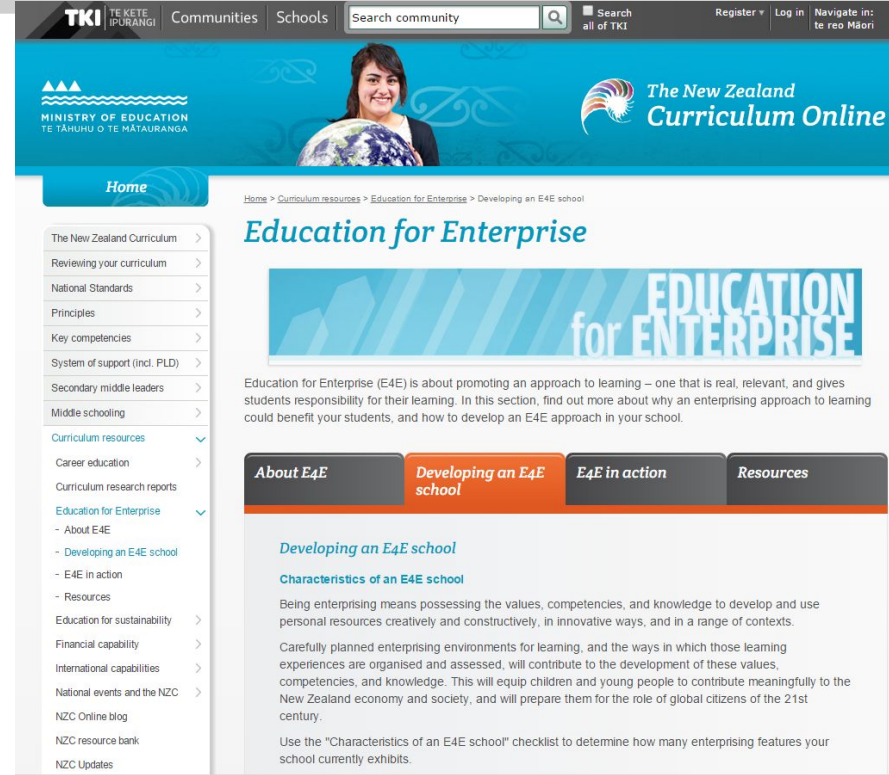
Ohno, T.(1988). *Toyota production system: beyond large-scale production*. Portland, Or: Productivity Press.



Education & Enterprise...

The NZ Curriculum

“Education for Enterprise is about promoting an approach to learning – one that is real, relevant, and gives students responsibility for their learning.”



The screenshot shows the 'The New Zealand Curriculum Online' website. The header includes the TKI logo, navigation links for Communities, Schools, and a search bar. The main banner features the Ministry of Education logo and a woman holding a globe. The left sidebar lists various curriculum resources, with 'Education for Enterprise' expanded to show sub-links like 'About E4E', 'Developing an E4E school', and 'E4E in action'. The main content area is titled 'Education for Enterprise' and includes a sub-section 'Developing an E4E school' with a 'Characteristics of an E4E school' section. This section defines enterprising as possessing values, competencies, and knowledge to develop and use personal resources creatively and constructively. It also mentions that carefully planned enterprising environments for learning will contribute to the development of these values, competencies, and knowledge, preparing students for the role of global citizens of the 21st century. A checklist is mentioned to determine how many enterprising features a school currently exhibits.

TKI | TE KETE | PŪRAKANGI | Communities | Schools | Search community | Search all of TKI | Register | Log in | Navigate in: te reo Māori

MINISTRY OF EDUCATION
TE TĀHURU O TE MĀTAURANGA

The New Zealand Curriculum Online

Home

Home > Curriculum resources > Education for Enterprise > Developing an E4E school

Education for Enterprise

EDUCATION for ENTERPRISE

Education for Enterprise (E4E) is about promoting an approach to learning – one that is real, relevant, and gives students responsibility for their learning. In this section, find out more about why an enterprising approach to learning could benefit your students, and how to develop an E4E approach in your school.

About E4E | Developing an E4E school | E4E in action | Resources

Developing an E4E school

Characteristics of an E4E school

Being enterprising means possessing the values, competencies, and knowledge to develop and use personal resources creatively and constructively, in innovative ways, and in a range of contexts.

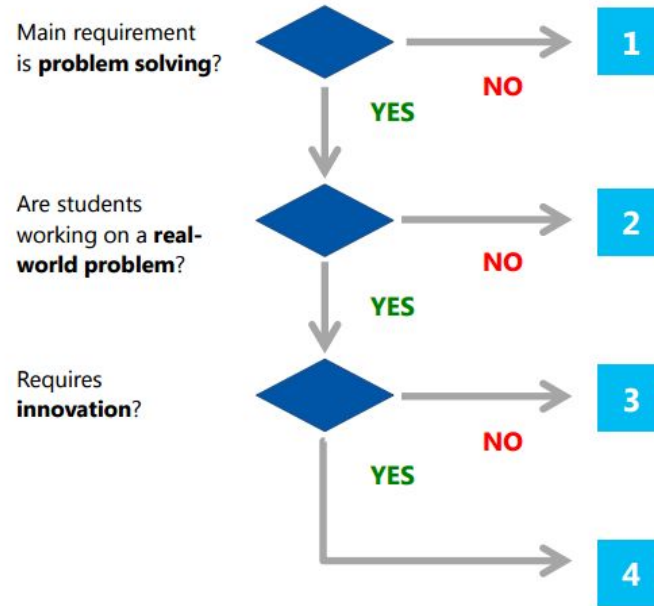
Carefully planned enterprising environments for learning, and the ways in which those learning experiences are organised and assessed, will contribute to the development of these values, competencies, and knowledge. This will equip children and young people to contribute meaningfully to the New Zealand economy and society, and will prepare them for the role of global citizens of the 21st century.

Use the "Characteristics of an E4E school" checklist to determine how many enterprising features your school currently exhibits.



Real-World Problem-Solving

Real-World Problem-Solving and Innovation: Decision Steps



Market \$hare

“I originally designed the Market Share game to help entrepreneurs learn more about business. As the game developed we realised that it offered other benefits and provided learning outcomes for students.

we realised that our **purpose** was to **grow our economy through business education, help entrepreneurs build better businesses** and **increase the financial literacy of our next generation.**”

-Nick Hindson



Let's play Market \$hare!



MARKET \$HARE®

<http://www.marketshare.co.nz/>

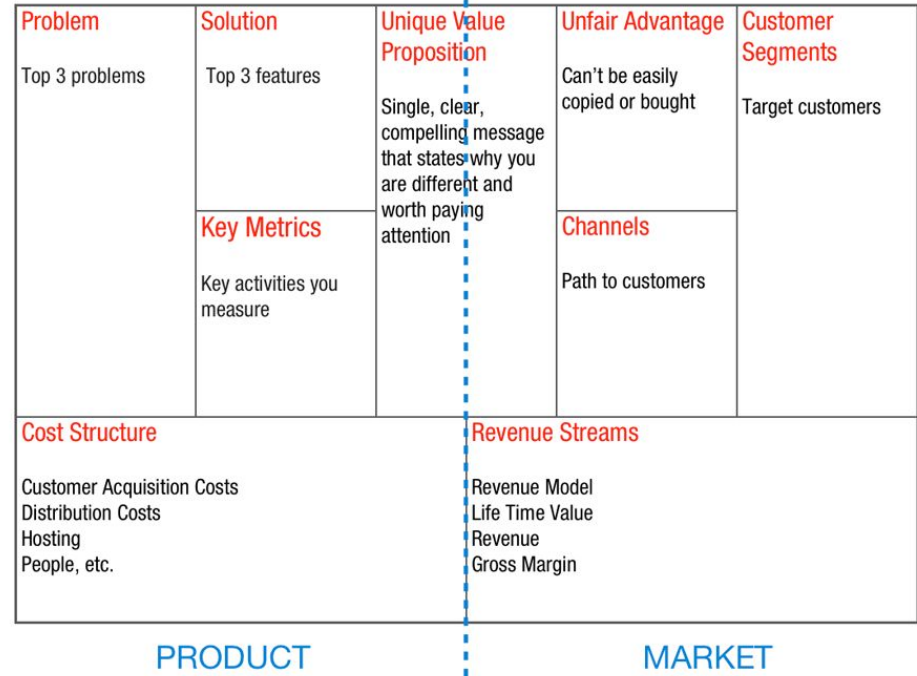


Tools from Industry...

Lean Canvas

It focuses on problems, solutions, key metrics and competitive advantages, and promises an actionable and entrepreneur-focused **business plan**.

Could that fit into education too?



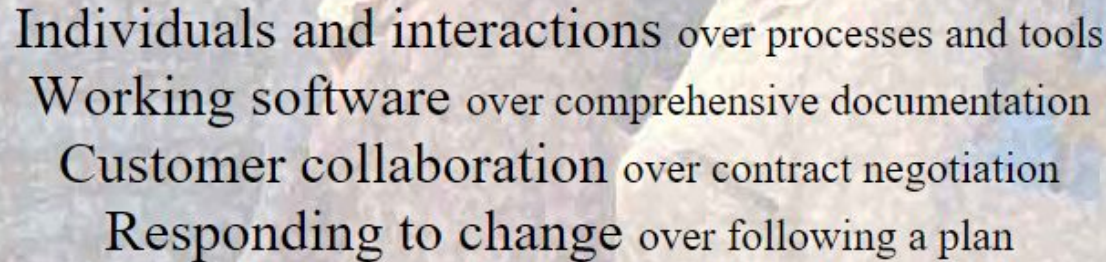
Lean Canvas is adapted from The Business Model Canvas (<http://www.businessmodelgeneration.com>) and is licensed under the Creative Commons Attribution-Share Alike 3.0 Unported License.



Collaborative Task

10:00
Stop

In groups: How would you rewrite the agile manifesto to apply to teaching and learning?



Individuals and interactions over processes and tools
Working software over comprehensive documentation
Customer collaboration over contract negotiation
Responding to change over following a plan

That is, while there is value in the items on the right, we value the items on the left more.

APA

Cunningham, W. (2001). Manifesto for Agile Software Development. Retrieved from <http://www.agilemanifesto.org>



The Agile Schools Manifesto

Individuals and interactions **over** processes and tools

Meaningful learning **over** **measurement of learning**

Stakeholder collaboration **over** **constant** negotiation

Responding to change **over** following a plan

APA

Peha, S. (2011). Agile Schools: How Technology Saves Education (Just Not the Way We Thought it Would). *InfoQ*. Retrieved from <http://www.infoq.com/articles/agile-schools-education>



Lean and the DCL programme

“From...lean production, educators can learn the importance of empowering teachers by training them to problem-solve and then expecting them to be self-reflective and to continuously improve their practice.”

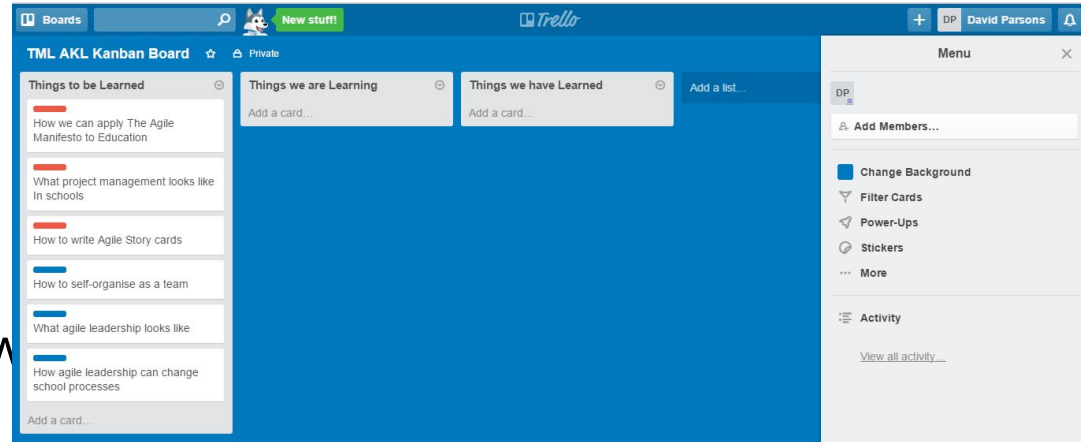
APA

Barney, H. & Kirby, S.N. (2004). Toyota Production System/Lean Manufacturing. In B. Stecher and S.N. Kirby (Eds.), *Organizational Improvement and Accountability Lessons for Education From Other Sectors* (pp. 35-50). Santa Monica, CA: Rand Corporation..



Kanban

- One of the ideas that has been taken from Lean Production by agile practitioners is Kanban - the 'visual card'
- This enables 'Pull' and 'Flow'



APA

Anderson, D.J. (2010). *Kanban: Successful Evolutionary Change for Your Technology Business*, Blue Hole Press.



Collaborative Task



Create Story Cards

As a ...

I want to ...

so that I can ...

In groups, write some story cards that express:

- what you think your students might want from your classes **or**,
- your requirements of the PGCAP course **or**,
- some other relevant set of requirements



Collaborative Task



Group Activity (2) - Story Card Tests
the 3 'C's

Card, Conversation, Confirmation

Write some tests on the side of the story cards that could be used as **acceptance tests** (assessment) for your stories.



The Agile Team

Agile teams are self-organising teams...

We will explore this idea using a combination of Boris Gloger's Ball Point game and Mike Rother's Kata in the Classroom.

APA

Gloger, B. (2008). *Ball Point Game: A game to feel what Scrum is*. Retrieved from <https://kanemar.files.wordpress.com/2008/03/theballpointgame.pdf>

Rother, M. (2015). *Kata in the Classroom: A simple exercise to help you teach scientific thinking*. Retrieved from <http://www.slideshare.net/mike734/kata-in-the-classroom-overview-47711515>



Design Thinking Kite Model



Empathise
Define
Ideate
Prototype
Test
Reflect



Trigger



Individual Task



Collaborative Teaching Research

Richard Rowley & Karen Baker

The aim of our research is to investigate how collaborative processes and team dynamics impact on collaborative teaching in a New Zealand context.

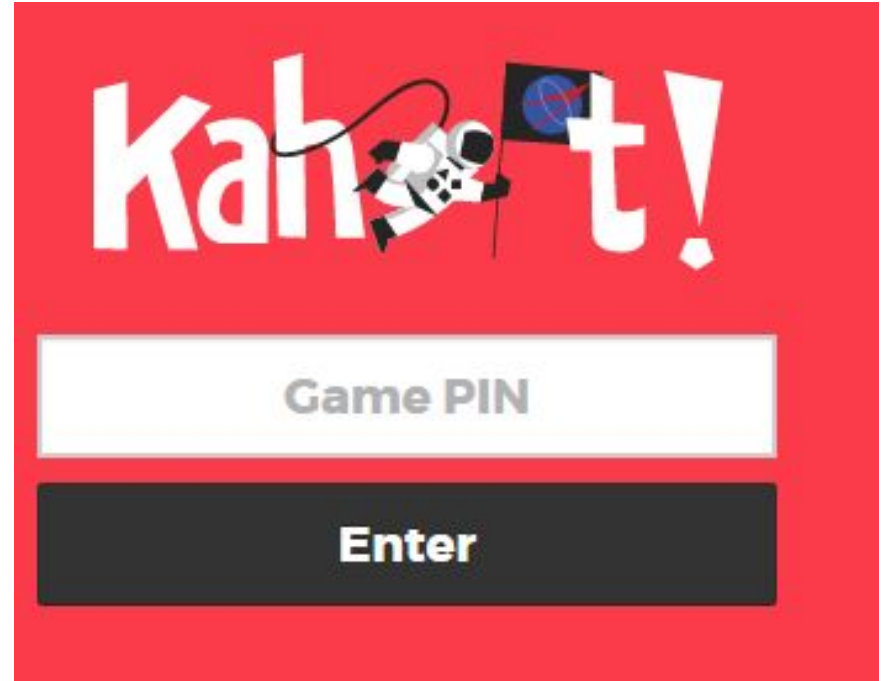
Please take the time to complete this questionnaire

<http://tinyurl.com/jtp8279>



Let's Finish with a Kahoot!

1. Go to kahoot.it
2. Watch the screen for your game PIN
3. Give yourself a nickname
4. Compete!



The Mind Lab by Unitec



www.themindlab.com



<https://www.facebook.com/themindlabnz/>



<https://www.youtube.com/channel/UCby1Fo11UYLJQ1R7Zl1EQyg>



<http://www.slideshare.net/themindlab>



@nzmindlab #mindlabed

