Pathways in Education

Structure of the presentation:
• topics with digital links to background information, published research, views and changing systems

Disruption and exponential change
• Overview and issues

How established systems are responding
• Experiments, large bodies move slowly, interest protection

New Pathways
• Examples of pathways that break the hierarchy while acknowledging the different roles of theory and practice
The pathway map is disrupted

- The map is dynamic and there are more changes to come

- How well informed are the educational choices people make?

- Are the pathways in place now, relevant, equitable and fit for the future?
We need a new ‘joined-up’ map

- The knowledge we need and where we find it is changing
- The skills we need and how we develop them is changing
- The way we learn and where we learn is changing
What to understand, what to do?

the Digital revolution
Disruption in work

• globalisation of job market
  Freelancer - https://www.freelancer.com/

• Investment- crowdfunding
  Kickstarter - https://www.kickstarter.com

• automation customisation - robots, algorithms, driverless cars
  3D printing - http://3dprinting-magazine.com/#welcome
Disruption to work and society, cultural change

**Old Mindsets**

Hierarchies
The way it used to be...

**New Perspectives**

“...The failure of hierarchies to solve society’s problems forced people to talk to one another – that was the beginning of networks.”

Naisbitt, Megatrends

Jan Reha, Career Discovery
Planning your career

The way it was

• Education ladder
• Career ladder
• Climbing the education ladder helped you climb the career ladder
• http://www.afr.com/leadership/careers/career-advancement/gloss-going-off-university-degrees-20150726-giju8v
Who ‘owns’ and ‘manages’ knowledge and skills?

Contested as change happened overtime in Western systems:

• oral to written

• religious to secular

• the rise of the ‘laboratory’ - evidence/data

• the age of the algorithm and robot - STEM and creativity?
Who ‘owns’ and ‘manages’ knowledge and skills?

Definitions/rules that shape economies...

Example - What is productivity? –


https://en.wikipedia.org/wiki/Productive_efficiency

Changing ‘rules’?

Social & Knowledge hierarchy

- Reinventing knowledge
  https://books.google.tl/books/about/Reinventing_Knowledge.html?id=jBzY0nQe7UIC&redir_esc=y

- Jargon silos
  http://www.tees.ac.uk/depts/careers/careers_help/careers_jargon.cfm

- Transforming the system now?

- vested interests work hard to keep hierarchies in place -
The future worker

1. Has a flexible work environment
2. Can customize own work
3. Shares information
4. Uses new ways to communicate and collaborate
5. Can become a leader
6. Shifts from knowledge worker to learning worker
7. Learns and teaches at will


Patterns and pace of change

- linear and gradual - agriculture, telephone, automobile
- disrupted & exponential - Facebook, mobile, data analytics, big data, genetic engineering – we are here!  
  [http://famousbloggers.net/graph-facebook-twitter-google-20-million-users.html](http://famousbloggers.net/graph-facebook-twitter-google-20-million-users.html)
- growth and collapse (bubble) - tulips, South Sea Company
It is already happening

• the 19th C industrial and knowledge hierarchy is disrupted
  http://learning.xprize.org/
  http://www.barefootcollege.org/

• new locations for learning - on the move, online
  hhaeducation.org/science-of-life/

• develop skills such as - communication, problem solving, critical thinking, digital literacy, philosophy - learning to think.
  http://www.theguardian.com/education/2015/jul/10/philosophy-for-children-pupils-maths-literacy
Happening now

- Massive Open Online Courses MOOCs
- increased interest in non accredited education and training
- learner managed knowledge and skill exchanges
- employers looking for aptitude and abilities over credentials
- from discipline based to project based
New literacy?

fact finding was by memory and in books - Now - look up google/Wikipedia - Warning!

Dump memory and move to Watson?

https://en.wikipedia.org/wiki/Watson

science, technology, engineering and mathematics (and creativity) in project based learning?

http://www.ervet-journal.com/content/6/1/2

Manage your learning

- Plan manage and document your own learning - what to learn, how to learn and for what purpose

- Document learning using language common across education and employer organisations
  https://opencollege.kaplan.com/events/LRC100/

- With support from teachers/trainers/employers/lecturers
Start Project Based Learning


1. scope – what are we doing and what is the result we want?
2. time - how long will each task take and in what sequence? What tasks must be done before others – dependencies?
3. cost – for people, materials and services
4. quality – aim for the best we can
5. people – what skills and knowledge do we need?
6. stakeholders - who are they? (communications/ consultations)
7. Results/products – check back to the scope
8. lessons learned during the project.
What to do now?

• Document/map learning across non accredited and accredited education and training in many locations - use learning matrix

• organise learning pathways into and out of school, non formal/informal, Vocational Educational & Training and university education

• identify critical quality benchmarks/standards

• provide full qualifications, skill sets and Continual Professional Development
What to do now?

- Collaborate – employers, training institutions, universities, schools, government, parents
- Develop pathways that provide movement between theory and practice-based qualifications
- Provide easy access to the digital highway