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

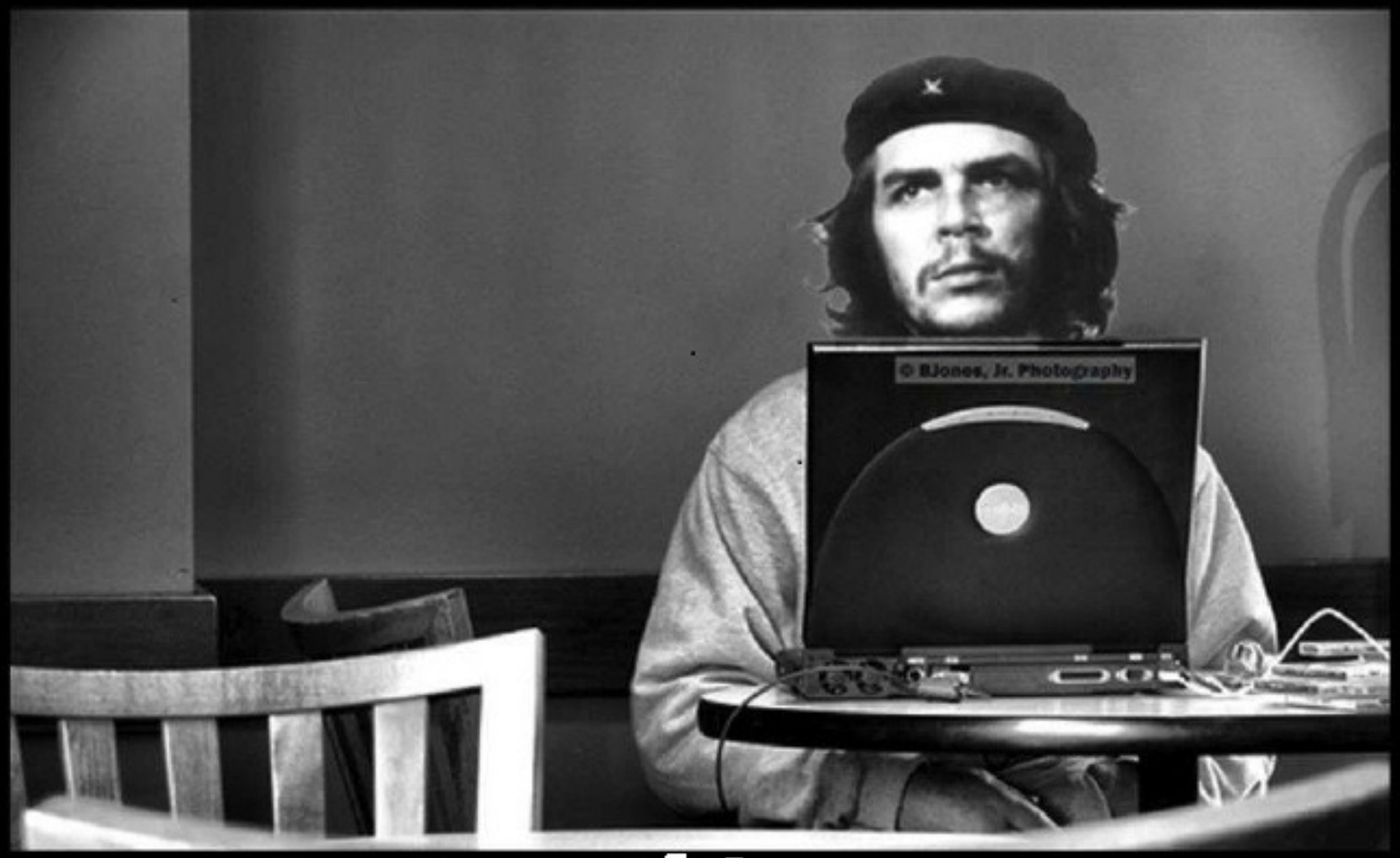
- How well informed are the educational choices people make?

- 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

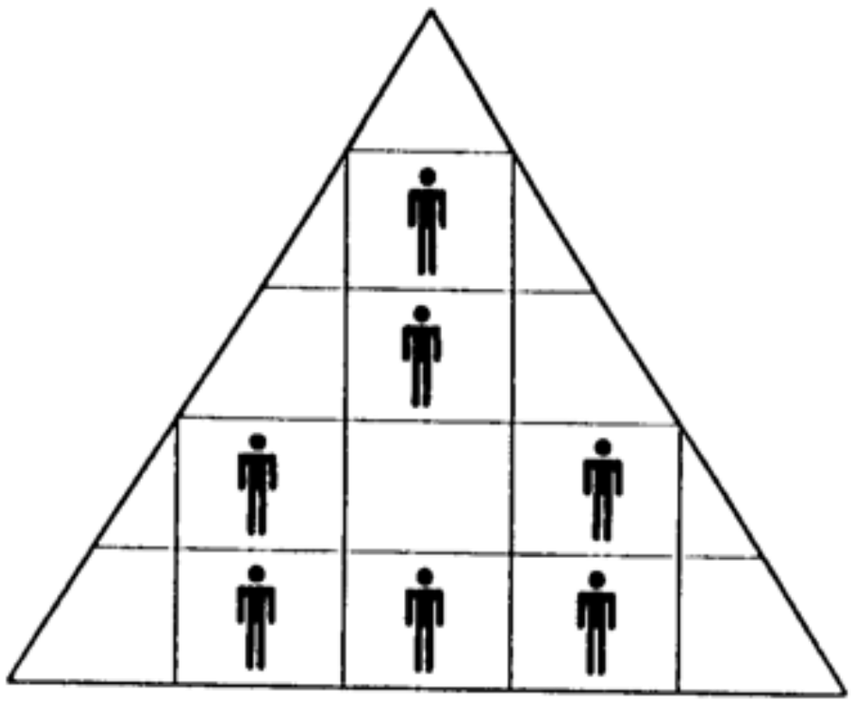
- automation customisation - robots, algorithms, driverless cars

3D printing - http://3dprinting-magazine.com/#welcome

Disruption to work and society, cultural change

social and education hierarchy

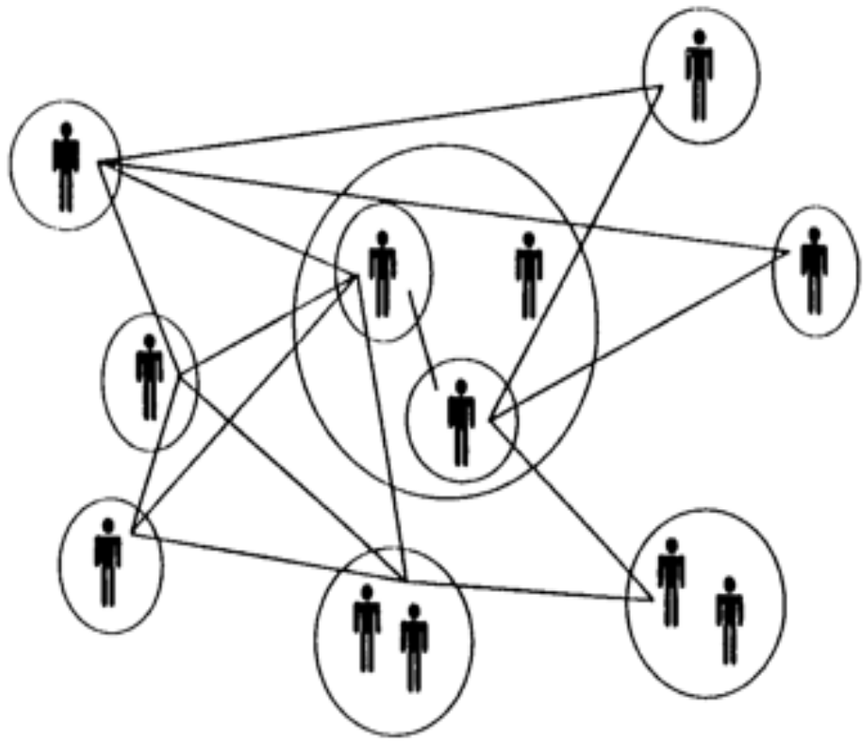
Old Mindsets



Hierarchies
The way it used to be…

Jan Reha, Career Discovery

New Perspectives



"The failure of hierarchies to solve society's problems forced people to talk to one another – that was the beginning of networks."
Naisbett, 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? –

http://www.wsj.com/articles/australias-artisan-conundrum-are-thriving-craft-businesses-an-economic-drag-1435729734

https://en.wikipedia.org/wiki/Gross_domestic_product
https://en.wikipedia.org/wiki/Utility
https://en.wikipedia.org/wiki/Contract_curve
https://en.wikipedia.org/wiki/Invisible_hand
https://en.wikipedia.org/wiki/Productive_efficiency
https://en.wikipedia.org/wiki/Economic_efficiency

Changing ‘rules’?
http://www.economist.com/news/briefing/21594264-previous-technological-innovation-has-always-delivered-more-long-run-employment-not-less

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? Http://12most.com/2011/11/21/12-common-barriers-education-reform/
- vested interests work hard to keep hierarchies in place - http://www.espacestemps.net/articles/the-social-production-of-hierarchy-and-what-we-can-do-about-it/

The future worker

http://www.forbes.com/sites/jacobmorgan/2014/11/11/the-7-principles-of-the-future-employee/

http://www.economist.com/news/briefing/21594264-previous-technological-innovation-has-always-delivered-more-long-run-employment-not-less

Patterns and pace of change

- linear and gradual - agriculture, telephone, automobile
- disrupted & exponential - Facebook, mobile, data analytics, big data, genetic engineering – we are here! https://en.wikipedia.org/wiki/Exponential_growth http://famousbloggers.net/graph-facebook-twitter-google-20-million-users.html
- growth and collapse (bubble)- tulips, South Sea Company https://en.wikipedia.org/wiki/South_Sea_Bubble

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

http://blog.uncollege.org/9-tips-for-effective-self-directed-learning

- 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

Creative innovation - http://tv.adobe.com/watch/creativity-in-education/picaso-and-the-plumber-where-is-the-true- creative/

Manage your learning

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

http://www.careercentre.dtwd.wa.gov.au/careerplanning/Pages/CareerPlanning-4StepPlanningProcess.aspx

- Document learning using language common across education and employer organisations

https://opencollege.kaplan.com/events/LRC100/

- With support from teachers/trainers/employers/lecturers

Project based learning

Start Project Based Learning

http://www.pmi.org/pmbok-guide-and-standards/standards-overview.aspx

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 provides movement between theory and practice based qualifications
- provide easy access to the digital highway