

(Westmount School: 'Learning to Learn' which falls under the umbrella of One School-a global network)

### MC: Andrew Patterson

- Skills are more important than knowledge
- Life learning, what does it mean?
- There must be a balance between education and technology
- The key is to acquire new skills throughout the years, therefore we must build a foundation skill set (universal set of skills)
- **'Future shock'**. The key is **to learn, unlearn, relearn**
- We have IQ and EQ, now we have **AQ (adaptability quotient)**
- Singularity University (idea incubator in San Francisco), currently at a tipping point that is characterized by exponential growth in AI, Synthetic Biology, Biotech, Robotics, Digital Medicine, Computation/Networks
- **Disruption**=new defining term

### Sugata Mitra

SOLE (Self Organised Learning Environment)

Minimally invasive education

- Self-Organized Systems and Children's Learning
- First we must look at what the issue is, then what we should do.
- Not going to do it this way as it becomes too prescriptive. Instead, tell a story chronologically...then this enables us to see what this work is pointing towards.
- His entry into education was accidental, series of accidents: Do one thing and it points to the next thing...Leads to the school in the cloud.

### 1999-2005 Hole in the Wall

- While he was doing the experiment the world of learning was changing (cf electricity, the nature of which isn't changing)
- What happened in Exp A won't happen again as world changing.
- Office in Delhi, teaching people how to use computer systems...children in the slum next door, wasted talent? Inefficient way to develop people
- Thought why can't we give the same opportunity to all? Can't pay-not economically sustainable, also slums not very safe or healthy...this meant the kids don't get a chance. This exists worldwide, we are using good people all the time
- Wanted to give the 200 kids a computer
- Kids just watched...realized that if you have someone staring down at them (in suit and tie) they do nothing, if he walked off then the kids did something
- **Walk away = first lesson in education**
- Kids started to surf the internet in English...how did they do it when he did nothing?
- Thought that it might have been a student of his walking past
- Tested again in a village 300miles away from New Delhi...Same thing happened.
- They were playing games that he hadn't installed, 'we need a faster processor and a better mouse'
- Metaphorical view: Archery and Shiva's drum and magic! **All of us use metaphors, explain in your own terms**

- **Piaget:** Let kids make assumptions and don't disprove them, they will do this in their own time...Let them be
- The kids had downloaded a game and were using it....
- Happening by itself. Why? He couldn't answer
- World Bank funded him...to do it properly (repeated 15-7 times based on diversity)
- **Results:** Groups of kids (30-50) given unsupervised access to internet in a safe and public space, would go to a computing literacy of 0 to that of the average secretary in the west in 9 months
- So what?
- *Kids changed, quality of their work-English is perfect, sometimes can't understand the depth of what they are writing. Kids were googling their h/w...Quoting the search engine even from Harvard Business Review (He didn't check this-mistake, after 2 years he realized that they had been distilling the information to put it into a coherent piece.*
- Something is happening here that he didn't understand and we don't still, the hole in the wall said to 'Look a little harder'
- **Hole in the wall, Remoteness, Limits to Self Organised Learning, Examination Results, SOLEs**
- Examination results correlated to teachers' desires...Further away from Delhi, results dropped
- Rather than saying I know it's different, learnt to say-Somebody told me it's different, why don't we check? Let's find out why?
- Question then move away.....Each time he moved away a **buzzing noise**
- They worked out about planet orbiting
- **Hasn't been able to pose a question difficult enough- Kids 8-10 years**
- **Quantum intanglement!**

**Children, given access to the Internet in groups, can learn anything by themselves**

If you give them a question to which there is no answer...

**SOLE:** Self Organised Learning Environment

(5 computers with big screens, see all screens clearly, 25 kids, Yr 4s)

- Ask them a question, buzzing noise began
- Ask them to present in groups, want only one answer from the entire room...who is going to give that answer? Consensus of opinion, they have to select the speaker and agree
- When the buzz quiets the answer has been found
- Children in groups have an understanding that is greater than that of each individual, Like a hive...Spontaneous Order appears out of nowhere
- Learning can emerge as Spontaneous Order at the Edge of Chaos
- The importance of a hive

## Mark Osbourne: Change Leadership in Innovative Environments

- Rapid disruptive change-depth and speed means it is challenging
- Moving from the industrial mindset to post industrial mindset
- 'What shape our buildings, thereafter they shape us" Winston Churchill
- If we are in harmony with physical environment and mindset/behavior
- 'The internet in real time'
- SOLE are possible when there is no indicator that the teacher is the main person for learning to happen
- Reconfigure primarily industrial schools...where it's at.
- True innovation and creativity leads to 😊
- 'The Global Achievement Gap', Tony Wagner
  1. Knowledge is a commodity: It's free like air or water (Decoupling in learning in schooling-you can now learn without schooling)
  2. Any job that can be routine is rapidly being offshored or automated
  3. What the world cares about is not what you know, but what you can do with what you know
- Telstra scientist: Hugh Bradlow (Diverless cars throughout Australia by 2030?), Self-driving trucks! 3.5 million truck drivers in the US
- Harold Jarcho (jarcho.com) curiosity, creativity, empathy, talent are enhanced by connectivity
- Learning is what most adults will do in the 21<sup>st</sup> century
- Super-diversity: When 25% of the population are migrants and 100+ ethnicity are present
- **Learning to learn is key**
- **Connections to the outdoors need to strong...views of nature, natural levels of acoustics, light, ventilation, etc leads to increased cortisol levels, stress=enemy of learning**
- Pot plants, decreases the level of cortisol
- **Exercise: Get up and move, moving memory to long term memory-working on a swiss ball, increases oxygen levels, challenging that we learn best by sitting**
- **Extra 7 min engaged learning per hour, let them stand up if they want to**
- Foot tapping, leg swinging, chair scooting movements of kids with ADHD
- Sitting still (no of hours per day) linked to cancer etc
- The greater the variety of learning spaces, the greater the variety of learning

*Tony Wagner: Developing Innovators, Most likely to succeed*

### **Francis Valentine**

- Take teaching back...'this is the shed, go for it'
- Under 12 (We) vs Over 12 (I)
- Under 12s are self-educators, they have learnt to self-educate in a way that their peers have not
- Educators are leading a new generation of thinking
- Self forming groups
- Skills set. Inquiry based learning: Kids are natural problem solvers, there is not one answer for each question, answer is variable based on different parameters
- How do we teach kids to be right and wrong depending on the question?
- NZ Industry: Synthetic milk, fish, meat, Tourism, Dairy, trees..

- Biotech, nanotech, cyber security
- Plus Plus System: Start at Zero, build confidence, provide relevance, bring in the real world, relevance and context is everything
- **The day you're born and the day you work out why=TWO most important days of your life**
- **Curiosity and open mind** set is not age based, it is the catalyst to innovation
- **Collective knowledge of all is only way to solve problems**
- Global student numbers have reached 150 million and will increase to 260 million by 2025-competition is going to be great
- **Blend between STEM subjects is key, open access belongs in every school**
- By 2020 every person in the world will have a 1MB per second connection
  
- 12 Companies all claim to cover the world with WIFI by end of 2017...Greatest period of Innovation?
- [www.themindlab.com](http://www.themindlab.com) and [www.techfutureslab.com](http://www.techfutureslab.com)
- Portfolios of work rather than a single approach

### Panel Discussion

- Being **PRESENT** is key: Excitement and Emotional Energy between us
- Assessment is outdated
- Learn from the kids and value it
- Life is assessment, is there any evidence that I passed by today. Stop trying to value what we measure...Time to measure what we truly value.
- We want the exam system to be less invasive.
- **Self and peer assessment are key**
- What you can do with what you know is key.
- We have been measuring what is easy, not what is necessarily an accurate reflection on their ability...
- **Get rid of our obsession with numbers**
- Taxonomy of emotional language...not what we are talking about but **how** we are talking to each other
- Open platform schools vs closed. Kids would like to find the response straight away...created curiosity, how do we facilitate open access?
- Find the democratic way to agree on the big question.
- Teaching is the art of answering the big question
- **Concrete vs abstract** (speaking to the imagination as this is very imp)
- From an explainer to a mystifier
- Divergent thinking is critical
- Denmark: **To form**, ability to solve complex scientific problems to thinking musically, embrace mixing...Everything we do, we can build upon
- STEAM: School becomes real in performing arts... In life what gives people the most joy is the arts (the whole school together)...
- Collectively mindful through the arts
- To see the bright eyes of one to discover...

### Sugata Mitra (Afternoon session: The school in the cloud and beyond)

- 100 kids can share a computer
- If they can use computers, answer difficult questions, how are they reading in a different language and grappling high level thinking ideas...How? Don't know

- Hive activity idea: Spontaneous Order out of Chaotic Systems
- Order out of Chaos
- **Existence is undoubted but why we are not sure of**
- Clap synchronously...in a few seconds happens, who decided the frequency of the claps? The volume of the claps? Nobody...Yes, it is no one, it is a principle barely understood, = spontaneous order
- If all of us couldn't hear, would the claps come together?
- Look at a table, no peripheral vision, wave hands and they don't come in order.
- If WE CAN look, connect with each other. My clap affects the others and the others clapping affects them, a bond forms and a bond pulses and out of the bonding a pattern forms... that's nature
- One affects the many and the many affect the one. The bond pulses and you get patterns, is that then the way of human thought? Is it the basis of learning.
- **Connection is key: Complex dynamical systems.** It is going to be as important to our century as physics was to the last century.
- **Hole in the Wall was pointing at connection, communication...**what they were doing and seeing and saying was affecting what they do and see next
- **Create the HIVE ACTIVITY**
- **SOLE suggest complex dynamic systems and spontaneous order in action**
- School in the Cloud lets the cloud in, SOLE and teaching in a different kind of way...where would it work and what way?
- Built 7 'schools in the cloud'...no electricity/internet to middle class, outside/inside school, plus 2 in Newcastle: 4/5 kids for each computer (**19 inch**), must **be able to see** all the screens, you have to have the **bonds so that the collective** can form, if you don't like your group go ahead and change...called sharing, not cheating, must give due credit. Also, internet does have **+/- information**, if they hit a screen they shouldn't little girls will say don't, give the internet the same status as TV...private viewing = bad, bring it the internet back into the living room...
- Restricting the resource was acting as a pedagogical tool
- To set one up: *Need community or in a school (more sustainable), need 2 supervisors, approx. USD 400 per sq m, to build from scratch, USD 250 per sq m inside an existing room, easier to understand in urban context*
- *High public visibility, glass walls preferred, large screens-visible to all participants, reliable internet, sturdy, safe and easily moveable furniture, eg) hexagonal shaped room (5 x 5 m)...15 kids at a time*
- Can the school in the cloud co-exist with traditional assessment systems?
- **What does it do? Improvement in:**
  - Reading comprehension in the language they are accessing in (how do they make sense of this information, a group of kids can together read text that is 6/7 years ahead of what they can do individually...how? Spontaneous order? Don't know
  - Communication skills (ask a question you don't know the answer to and they will tell you)
  - Internet searching skills (we don't teach this, and we don't have a subject called 'the internet' because we use it all the time and most of us don't actually know how it works, make it a subject and the kids will figure it out)
    - Discerning skills (they will work it out, 2 sites don't agree, then they look at
    - Problem solving skills
    - Self-confidence (the way they look at you in response to a question, they don't make evasive faces)

- To prepare them
- Let the internet in during exams, and divide them into more modern categories  
Comprehension (Reading), Communication (Writing), Computing (How will you solve this equation)

Schools should enable people to live, happy, healthy and productive lives

C                      C                      C                      Skills

Happy  
Healthy  
Productive

#### What we need:

1. Curriculum of questions, not facts
2. A pedagogy which encourages questions
3. A new assessment system

#### Gordon Poad

- Principle of 13 schools in Europe (Started with kids)
- Teaching isn't rocket science, it's much harder. 'Moving minds'
- To do this you have to move your head and your heart. You have to move the two together
- Need to be 'self directive' learners
- Questions must be asked,
- **Possibility thinking: Increases likelihood to be creative**
- Impact: Visible Learning (John Hattie)
- You **must** demonstrate the baseline and progress. All kids must be aware of their learning journey. You must say what success looks like from the outset. Make the learning visible, learners must know where they are going, where they are and what success looks like from the outset
- You don't learn anything without there being an emotional context
- Pygmalion context: Expectations, Feedback, they need to see the progress, curiosity =key
- Leading Remarkable Learning: Kids giving each other feedback=learning to learn
- Latest research is that when we have initiatives that are designed to boost your belief, your confidence (Collective Teacher Efficacy), this is the biggest success
- All work together, fail with the kids, try things out-model the habits our kids need...if they are afraid to fail, there is no way they will want to innovate.
- **Safe spaces for continual development for all**
- Teachers, learners= Imp to ask I **wonder**
- **Oliver Jeffers, 'The heart and the bottle'**

#### Sir John Jones

- 'The magic weaving business', Sir John Jones
- Accidental behaviors...building our lives around things that disappear
- Kaizen
- 'There to ask brilliant questions and shut up'
- Teachers are the only people on the planet who ask you a question to which you already know the answer
- Teach the love of a subject

- Demographics (Family, Income, Neighborhood, Quality of schooling-makes 20x difference if it is done well) and Destiny
- Lifetime struggle:
  - A) Cognitive (40 million words from reading etc vs 10million words by the age of 4) society confuses the gap of literacy with ability
  - B) Positivity Ratio (12:1 vs 1:2 positive to discouragement)
  - C) Aspiration (High vs low...broad vs narrow)
  - D) Expectation (Expect to go to uni vs have never heard of university)
- 'Teaching is the ministry of hope in the service of the young'
- 'No dream denied'
- **The invisible ones:** *The vulnerable, the disaffected, the disappointed, the disappeared, the different, the labelled, the average...*
- Find something you're passionate about, then get them to pay them for it.
- Have belief in someone, love them
- 'Come as you are and leave us great'
- **Music is under under-utilized in teaching: Turn it on for an activity (2min) then turn it off**
- 'Happiness helps learning', increases maths ability by 30%
- **You can't judge another brave unless you have walked one month in their shoes**
- **Controlled learning is killing them, creating cognitive overload. Give the kids brain breaks.**
- Let them free learn, they will decide when they have had enough..
- **Give them 2 min...YouTube prime time...**
- 'Get them addicted to learning'...build a passion for it...
- 'Black box is orange and round, polar bears are left handed, lions have sex 30x per day, butterflies taste through their feet'
- **McKINSEY Report: PD, Best people, People are placed**
- Standardization, control, conformity etc...
- **Crisis of Integrity: Tension in the change game is a great thing...**
- Especially between left vs right brain
- **Need cognitive dissonance-tension between current reality and the future as we like it to be**
- **What we want: creativity, ingenuity (what to do when you don't know what to do), portability, flexibility**
- People don't like change...don't get upset about it, let the tension build up
- Most people=single loop thinkers. Mental Model leads to action leading to outcome. They don't get what they want, do the same thing harder and expect the same answer. **You lock in. This means you lock out of other possibilities**
- Double loop thinkers, go back to the mental model...re think it
- **Neural pathways: Comfort Zone...nothing grows there. We are genetically disposed to see different as weird...seen as a threat**
- **Change something**
- Crowd mentality...we like to be sheep
- Paint the right picture with the right people, do the right things in the right way for the right reasons
- **Our daily mood possesses the weather...In all situations, teachers make the difference (HAIN GOTT)**
- *Invictus, 'I am the master of my fate, I am the captain of my soul'...William Ernest Henley*
- Poverty thinking vs probability thinking, then **possibility thinkers...think the impossible**
- **Optimists outlive pessimists by 7 years**

- Irresistible Optimism
- *Keep hope alive*
- *Be the public face of optimism*
- *Put world class people in front of the kids*
- Integrity is what you do when no one else is watching.
- Inspire (do simple things relentlessly, breathing life into people), Develop, Get out of the way, Tell them
- Every conversation you have with anyone is a moment of leadership
- Eat that frog...Read it, 'Do the worst first'
- 'I don't want to have this conversation with you personally, but I have to have it professionally'
- **Connoisseur of Quality: Five things he looks for...**
  1. **Passion** (*Breathe life and breathe possibility by being life, being possibility*)
  2. **Warmth** (*Ubuntu...filled with humanity*)
  3. **Righteous Indignation** (*Fire in your belly...never stop caring*)
  4. **Unconditional Positive Regard** (*Love all kids*)
  5. **Relentless pursuit of excellence** (*There is always a better way*)
- Cognitive Dissonance is getting hot...Break the mold
- 'A beautiful mind', BELIEVE in every student, the system just puts a timeframe on them
- Carole Dweck
- 'High performance coordination' ...everyone is there if they want to be
- **Everyone has promise**
- Free learning, allow them to develop their hidden habits **CHARACTER** (courage, habits, abstinence, rejection, awareness, conviction, tears, effort, resilience)...currently these are nurtured by accident
- Visible vs hidden, want fame, success, fortune...character underneath
- 300 rejections Walt Disney...
- Key points: Working hard is more important than being smart, fail fast, fail often, fail forward, genie (inner greatness in everyone)-'everyone has the genie in their lamp', our ability can change and grow...elasticity
- 'Dream the impossible dream', everyone is capable of greatness
- Things to give kids....
  1. Give kids a chance (**opportunity**)
  2. Give kids your **passion** (*creates desire for more, desire for more creates addiction...for learning*)
  3. Give kids your **belief** in them
  4. Give kids your **time**
  5. Give them a **world class teacher**

[www.sirjohnjones.com](http://www.sirjohnjones.com)

*The secret of life is to plant trees under whose shade you do not expect to sit*