From Teaching to Learning?

UNESCO Regional Conference on Quality Assurance
Shenzhen, China 15-16 June, 2017

Prof. Teri Balser
Fulbright-Nehru Distinguished Chair
Dean of Teaching and Learning, Science and Engineering
Why this talk?
(What are we worried about?)
We live in an accelerating and increasingly complex world

In 2010 it was estimated that:
A week’s worth of the New York Times contains more information than a person was likely to come across in a lifetime in the 18th century.

Four exabytes (4.0 x 10^19) of unique information will be generated this year. *That is more than the previous 5000 years.*
Now?  
(2.5 exabytes every DAY???)

How Much Data is Produced Every Day?  
2.5 Exabytes are produced every day

Which is equivalent to:
- 530,000,000 millions songs
- 150,000,000 iPhones
- 5 million laptops
- 250,000 Libraries of Congress
- 90 years of HD Video

LEVEL
We also live in a changing world
The problems are complex
Complex problems require adaptive and creative solutions...
Where will the solutions come from?

Math
Biology
Physics
Chemistry
The world needs catalysts, not cogs!

Innovators, entrepreneurial thinkers, boundary spanners – we need ALL minds...
And we don’t necessarily know where those minds will come from...

(Or how to produce them.)
Traditional higher education is in an existential crisis.
Traditional higher education is in an existential crisis.

There is a fundamental misalignment between our history and modern/post-modern needs.
The Challenge

- **Massified** (more learners)
- **Diversified** (wider range of learners)
- **Global/Collaborative/Borderless** (reaches everywhere)
- **Personalized/Individualized** (self-paced learners)
What does this mean for teaching and learning?
“Teaching” as passive lecturing is no longer acceptable

- Learning needs have changed (multiple jobs and careers = lifelong learning)
- Learning styles and generational expectations have changed (Generation Z and MOOCs)
- Changing social contract / expectations (i.e. customers and funding for 3° education)
- Demographics (global distribution of learners is changing, diversity is increasing)
Hence: paradigm shift

Teacher-centered

Mastery of Knowledge

Transmission

(PUSH INFO)

STUDENT

LEARNING?

Learner-centered

Development of skills

Acquisition

(PULL INFO)

STUDENT

LEARNING
But how to make it happen??
Most university teachers simply aren’t prepared or trained to deal with this.

• Subject matter experts not learning facilitators
• Not necessarily “techies,” sometimes suspicious of technology
• Uninterested in or unskilled in “pastoral care” or the psychosocial aspects of teaching and learning
• Accustomed to autonomy, rather than being part of a learning system
We have been trying to fix the teachers.
Told not to lecture.

"It's a clear case of RLS: Repetitive Lecture Syndrome."
Bombarded with ideas and rules about how to teach better
Does this help?
There is still a tendency to simply focus on teaching content better.
Bloom’s: As a result of this class, the student should be able to...
But content is only a small part of the whole. Could we look at it this way instead?

As a result of this class, how will the student BE DIFFERENT?
Cognitive and psycho-social development are both critical, need to design outcomes for both

• Examples:
  – Bloom’s Taxonomy (levels of thinking)
  – Perry’s Scale (maturity)
  – Goleman (social intelligence)
The point?

• There are other scales of measure
• They are possibly more relevant to modern and life-long learning needs
• We don’t tend to measure them as much as we could
More important

• It’s a **system**, and teachers, learners, technology, etc. all play a part in learning happening.
Need to redefine what it means to create learning experiences

- Recognise that learning happens through making meaning and practice / repetition coupled with autonomy (student interest development)

- Uncouple content goals from other goals (i.e. a robot can teach content) and be creative

- Use face to face time strategically (it’s our passion that matters more than our expertise)

- Understand that **quality** and **consistency** are not the same, and decide where you want both - and where you prefer quality alone
Deliberately design learning environments for modern learners
Use technology in support
Remember that technology can only get us part of the way

Do not forget the HUMAN side!

• Good teachers touch us heart and soul and create the deeper learning that is needed

• We will always need teachers...

• But they are needed as learning facilitators now, more than as subject matter experts
It’s our *humanity* that is needed more than our expertise

Learning comes from caring
Our caring matters

“I really got a general sense that the instructor cared more about me actually learning the material than anything else, and I definitely appreciate that. **That attitude makes me more motivated to learn** in a way that will actually help me retain the information rather than just cramming for the test.”
“My tutor’s comments/feedback - specifically encouraging me to pursue my study because she thinks I have the skills/personality/passion to do so and I do it extremely well. I have even framed her specific feedback by my desk as a reminder whenever I have a ‘I can’t do this’ moment.”
Summary
We need to go beyond our traditional ideas about teaching and learning to prepare students who are capable of operating effectively in a changing world.
Summary
A shift to a learning-focus is more than just “fixing” the teachers. It requires that we examine the entire system and better design learning environments.
Summary
We need to focus on, and measure, outcomes in more domains than those covered by Bloom’s taxonomy or levels of thinking.
Summary
We need to recognise the differences among consistency, quality, and equity in higher education and design our policies accordingly.
Summary
Above all we need to remember that this is a human endeavor and find ways to account for and embrace that.
Ultimate end result?

“Learning about the challenges we will face in the future is disheartening at times, but we will overcome. At first I thought, what can I do? But this is a team effort and we are not going to see change over night. However - sustainability is possible through incremental changes and the potential for a better tomorrow is real.”

–UF student in the Challenge 2050
Thank you!
What does it all mean?
Ultimately the results are

• Scalability of learning opportunities
• Deeper and longer lasting (genuine) learning
• Agency and outward focus
Conclusions?

• Learning comes from learning environments
• We need to better design those environments for the needs of modern learners
• We can do efficiently that by recognising that learning is part of a system, and uncoupling content from learning
The paradigm shift

TEACHING-CENTERED
• Focus is on transmission of information
• Content is “pushed” outward
• Professor is the expert/content provider
• GOAL: Mastery of knowledge

LEARNING-CENTERED
• Focus is on learner and skill development
• Content is “pulled” inward
• Professor is the designer of learning experiences
• GOAL: Development of skills
The real paradigm shift?

**CONTENT-CENTERED**
- Focus is on information acquisition
- Assessment is aligned to content mastery
- Technology is the designer of learning experiences

**GOAL:** Development of literacy

**HUMAN-CENTERED**
- Whole person development
- Learning happens anywhere and everywhere
- Professor is a cognitive role model
- Teacher is an adult role model

**GOAL:** Support lifelong learning, develop resiliency and agency/efficacy
Learning system

(Pragmatic view – not academic scholar view)

• **Input/content** (can come from almost anywhere or anything)

• **Meaning making** – individually and socially

• **Practice and apply** – learn to work with the concepts and ideas

• **Integrate** the ideas into brain and behaviors – build expertise and identity