

# The Future of Teaching and Learning

How Teaching and Learning will be Transformed in  
the Digital Age

Robert Tinker

# You will not recognize learning in ten years

- No books, no lecture halls, ubiquitous technology
- The educational world will be flat
- Students assemble their education from the best educational resources worldwide
- No “captive” students forced to take mediocre courses

# Technology will be the driving force for change

- Ubiquitous technology has created a tipping point
- Courses can be anywhere
- Content can be outstanding
- New approaches to learning: Much more than simply making old approaches available in a new format

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- **It better be good.** If it isn't outstanding, competition will kill it.
- There is no need for 9,999 similar courses.
- Courses will not be crafted by single academics, they will be made by large teams of specialists
- You can invest 10,000 times the resources in creating the course

# What makes a world class course??

- Research-based educational strategies
- An excellent curriculum
- Attention to the individual learner
- Accurate assessment and accreditation

# Research-Based Educational Strategies

- Learn through exploration and design
- Technology greatly increases what can be explored and designed
- Collaboration



# An Excellent Curriculum

- Coherent
- Tested and evaluated
- Uses powerful tools and models
- Provides scaffolds for exploration
- Motivates
- Exploits new content enabled by technology

# Attention to the Individual Learner

- Universal design for learning (UDL)
- Discussion groups
- Trained facilitators
- Formative, actionable feedback

# Accurate assessment and accreditation

- Performance assessment
- Stealth assessment
- Educational analytics
- Portfolios
- Verbose accreditation

# Where is the expertise?

- Excellent courses need to build on current research on teaching and learning
- There is a rich literature, much based on precollege STEM research

# Challenges

- Simplistic solutions
- Lack of hands-on experiences
- Resistance to change
- Too much junk
- Backlash

# Why the challenges will not stop this juggernaut

- Competition on the flat earth
- Fear
- The unsupportable cost of education today
- Existing educational knowledge



# New Roles



- Universities are educators, not wardens of bricks
- Universities are guarantors of quality
- Survivors will offer large-scale, world-class courses
- To create these, they will need to concentrate investments in just a few courses

# Uniandes

- Uniandes used to change. You have created a leading institution in just 65 years
- Now you have to change again, but in ten years
- The educational landscape will be divided by content, not geography
- This celebration indicates that transformation at Uniandes is well underway

Thank you

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