



# Reflections on University Education in the 21<sup>st</sup> Century

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# What do we want from Graduates?

At graduation I would like my students to :-

1. Think like an .....
2. Be intellectually curious about .....

So how many of us can seriously say that their students meet these criteria  
ta graduation?



# Changes over 40 years.....

Significant changes in HE in my lifetime

Overhead projectors, white boards, interactive white boards

Slide-rules, electronic calculators, programmable calculators, main frame batch computers, PC, networked PCs, phones, smart phones, tablets

.....

These are all technologies focused on teaching,

What about LEARNING?



# Student Learning in HE

A great deal of research on student learning in the past 40 years

Marton and Saljo; Briggs, Land & Meyer; Boud, Perry .....

But what is it that students actually do?



# How Students Learning

Old fashioned notion

Students READ for a degree (books, screens .....)

They also LISTEN, in lectures, to pod casts .....

They DISCUSS with peers and tutors in tutorials, problem class, in online chat rooms .....

They THINK about what they have read, what they have heard, the discussion they have had in order to try and 'UNDERSTAND' and then

They

Try to prove to us as teachers that they have UNDERSTOOD, by WRITING and SPEAKING.



# An Example

Teaching 'chemistry' to Civil Engineers

Lack of engagement

Not making connections

Failing to see the big picture, not really thinking like an Engineer

Solution

New approach to 'teaching' Problem Based Learning



## Example 2

What did problem based learning approach show up

Students lack of use of text books and research literature

Poor Discursive skills

Inability to make connections between subjects

Solution

Redesign of degree program to build skills and knowledge base in Year 1





# Example 3

## Learning to Use a Text Book

no lectures

using a text book as the learning resource

## Using Recorded lectures

lecture time used to check understanding, students listened to pre-recorded lectures whenever they wanted.

## Group Based Learning Activities

## Student Developed Curriculum



# Role of Technology

All of these examples predate the 'technology revolution' though they all use technologies

Present technologies make this easier,

Role of eBooks, podcasts, vidcasts, chat space, blogging, .....

But new skills are needed for the 'Google Generation'

Information Filtering

Making Value Judgments

Dealing with vast quantities of information, quickly.



# So What?

We need to engage students truly in LEARNING at University

Not rote learning, but deep understanding of the subject material

Students need to LEARN how to LEARN, the half life of some material taught in University is < 3 years

Technology can help, but learning is still fundamentally a social process, requiring human interaction.

We need to focus interaction between TEACHERS and STUDENTS on HIGH QUALITY engagements.



So .....

I think we need to

Focus more on developing engaged students who can truly learn for themselves

Focus on high quality interactions between academics and students

Focus on academic skills to help students deal with uncertainty, evermore information and an increasingly globalized world



# And that calls for ...

a radical rethink of how we deliver HE

- Less reliance on lectures,
- more student centred activities,
- greater emphasis, particularly in the early years of a degree on skill development
- Better of use of technology to enhance the student experience.

