

# Engaging Faculty With Rethinking Learning and Teaching With Technology

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Vienna University of Technology  
March 20, 2009

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University of  
**Waterloo**



## LT3 Centre – Centre for Learning and Teaching Through Technology

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## During this presentation participants will consider:

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- changes in thinking about learning spaces / course design
- an instructional design model (T5) that provides a framework
- the connection to OBASL
- how technology can support student learning
- educational implications – ‘learning time’ / ‘learning space’



# Your Preferred Learning Environment(s) .....???

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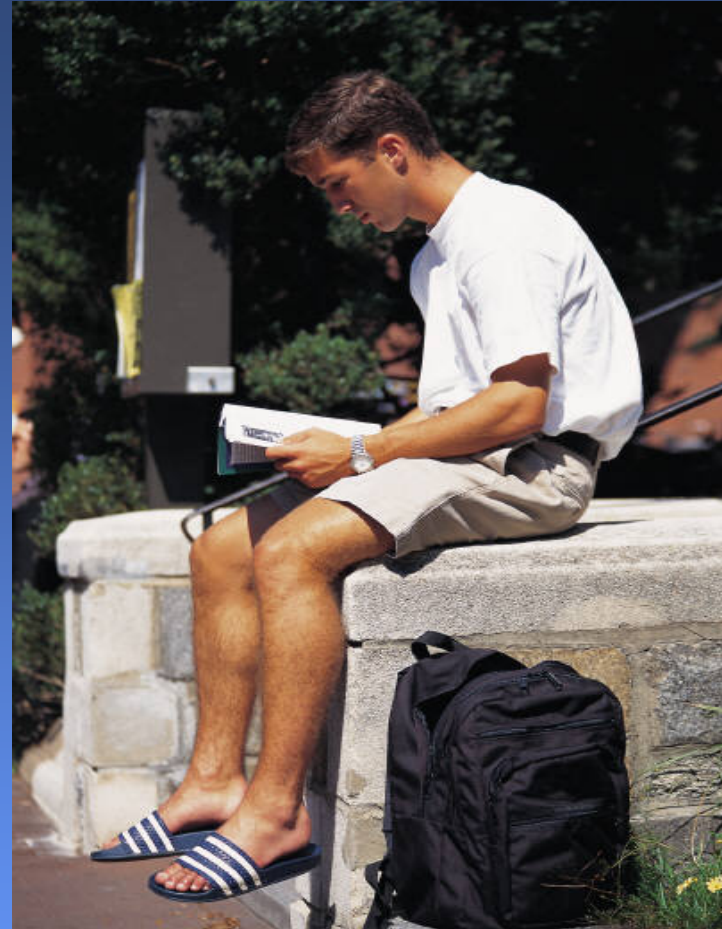
**What are you  
doing ?**

**?**

**Where are  
you?**

**Is anyone  
with you?**





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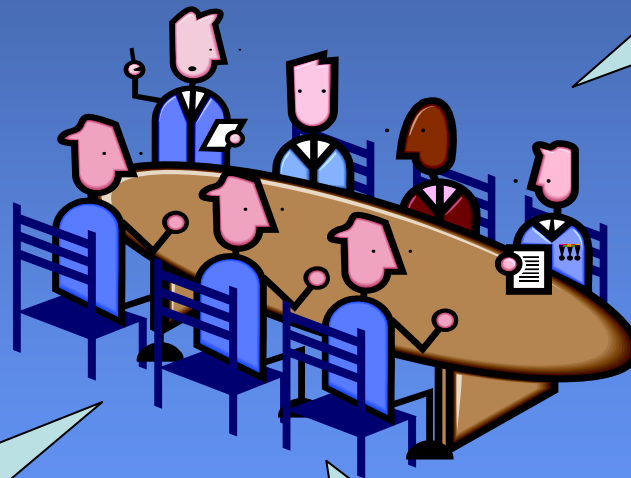


# What type of Learning Spaces ...

Around a table in 'real' space?

In a 'virtual world' ?

In a lecture classroom?



In class Blog or Wiki ?

Discussion Online or face to face ?

Individual or Group... ?

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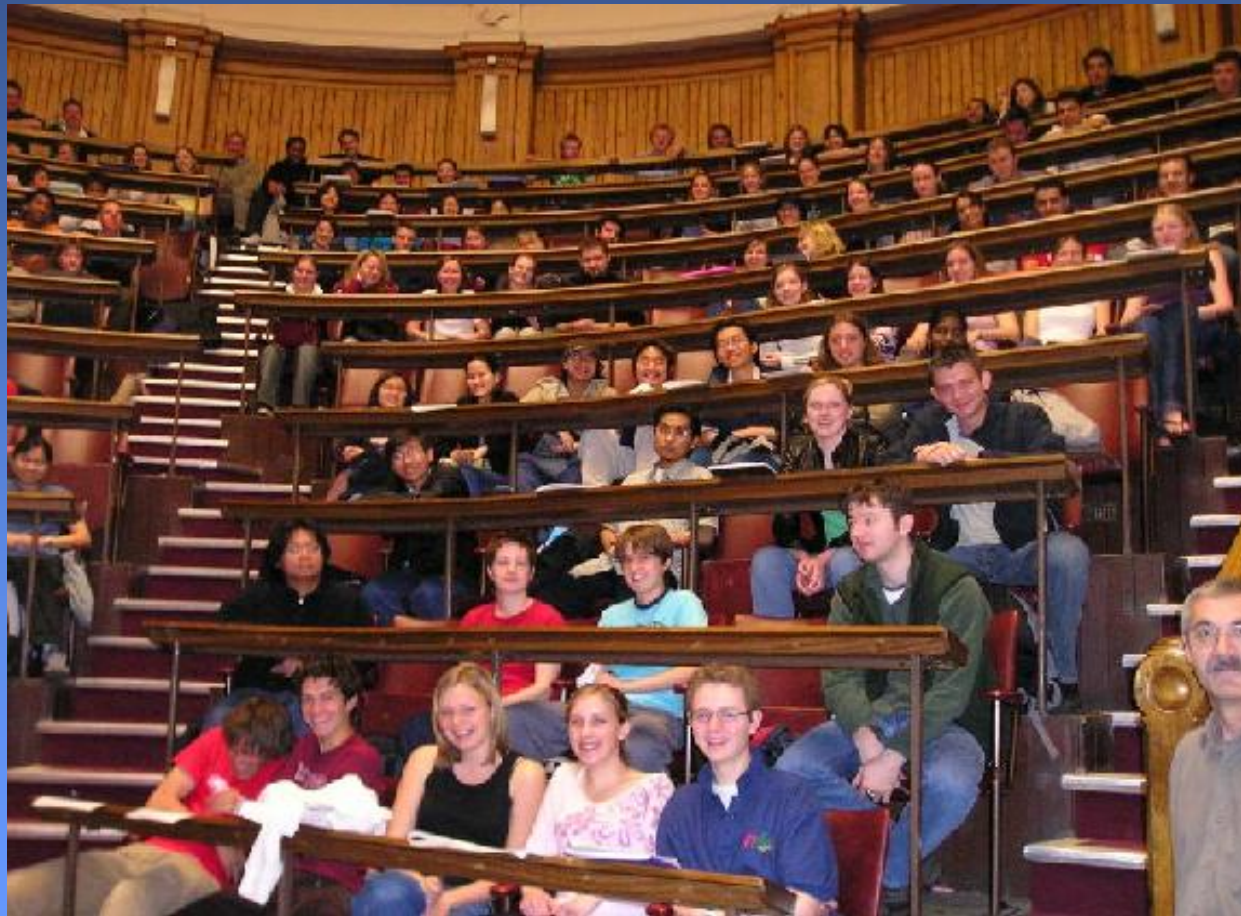
*“Learning is not a spectator sport. Students do not learn much just by sitting in class listening to teachers, memorizing prepackaged assignments, and spitting out answers. They must talk about what they are learning, write about it, relate it to past experiences, apply it to their daily lives. They must make what they learn part of themselves.”*

(Chickering and Gamson, 1987, p. 3)



# Large and Larger.....

50... 100 ....500.....1000...



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## The 'traditional' didactic approach

My job is to talk.

*Your role is to listen.*

***PLEASE LET ME KNOW IF YOU FINISH FIRST!***

# Why plan for 'Active' Lectures?

## Problem of Attention span

Psychological constraints on learning:

**Concentration drops with sustained and unchanging low level activity (such as sitting and listening), but to follow lecture content concentrated effort is required.**

*Students attention is typically maintained for  
????*

*\_\_\_\_\_ minutes.*

# Comparing Lectures to Discussions

(Pascarella & Terenzini, 1991, review of 17 studies)

Lectures = Discussions Learning **Low Level Factual Material**

**Discussions** > Lecture

**Retention of Information**

**Transfer of Knowledge to New Situations**

**Motivate students to learn more**

# What is Innovation?

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Doing old things in new ways?

Doing new things in new ways?

‘Rethinking’ old and new things to use new tools in new ways?

Pedagogy ↔ **Technology** ↔ Pedagogy



## Past Experience with Online Learning Spaces (Delivering 'Content')

Early use of online:

*(Why do you think this model was so common?)*

Content resources:

- Lecture Notes
- Power Points
- Syllabus

*Problems??*

## Challenging assumptions: Biggs and Tang (2007) suggest:

Stop thinking about the next lecture that we have to give, and start considering how to create 'situations for student learning'.

**(within the lecture as well as out of class )**

Shift the focus from 'how do I teach this' to 'what should the student to do to 'learn this'.

Stop assuming that all learning takes place within a teacher-directed classroom.

How do we introduce the paradigm shift ?

How do institutions support the change?



# Academic Development around Strategic Initiatives

- ‘Rethinking Learning Series’ U Waterloo
- E-scholars Hong Kong Polytechnic  
University
- OBASL University of Hong Kong



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# 4 Phases of Support

- 1. Professional Development*
- 2. Subject development (technology support)*
- 3. Implementation*
- 4. Evaluation, Dissemination, Revisions.*



## The T5 Model

- a learning-centred instructional design structure where learning outcomes define the framework for a unit of study.
- learning tasks and feedback are the primary vehicles for learning.

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# T5 Model: Components of a learning environment

Learning Outcomes ..... Tasks/feedback ..... Assessment

- **Tasks** (learning activities)
- **Tutoring** (feedback)
- **Teamwork** (collaboration)

Ownership ▲

Reuse ▼

- **Topics** (course resources)
- **Tools** (resources/social networking/repositories)

Followed by Reflection – Next iteration

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# What is the relationship of the learning task to the content?

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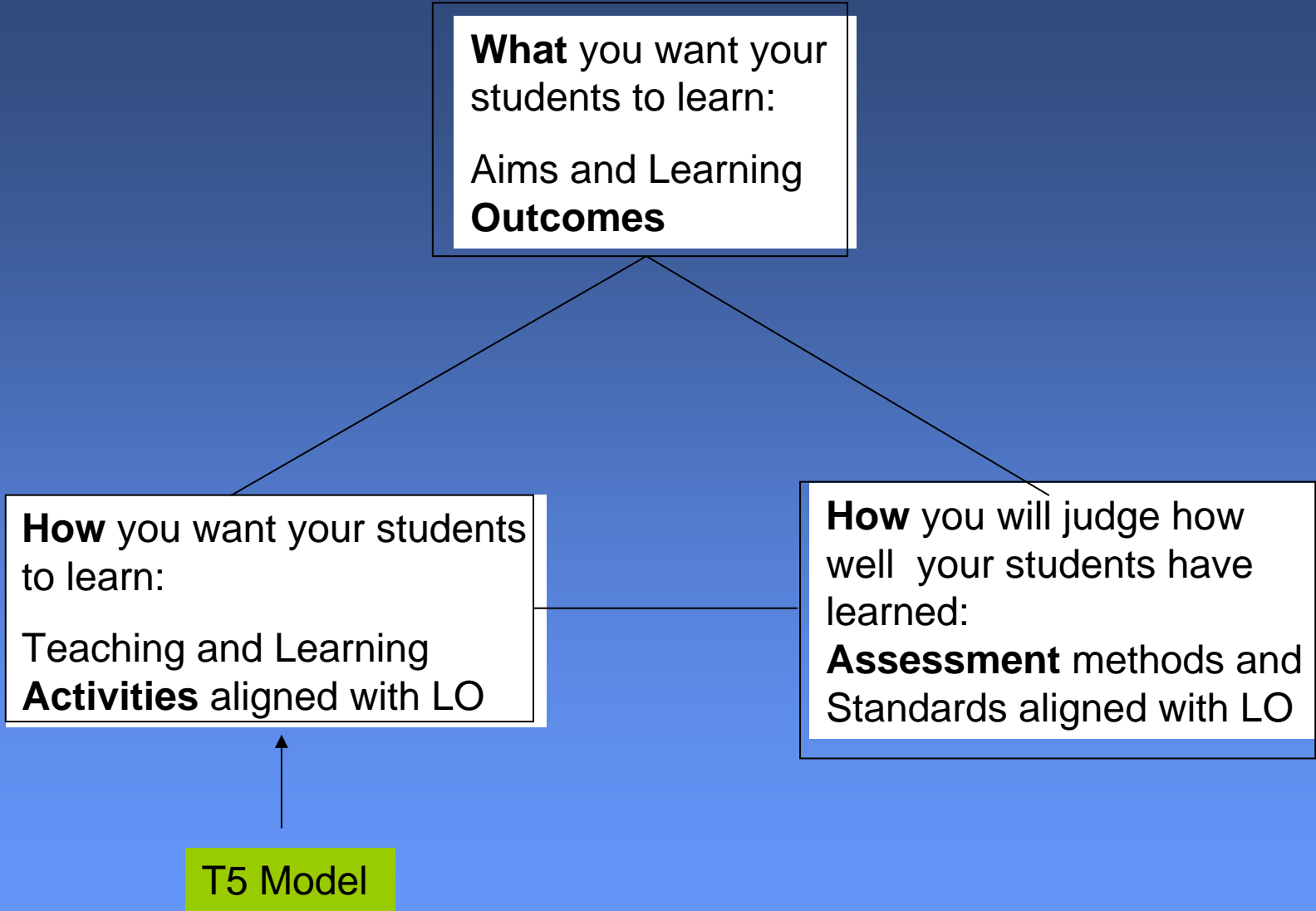
*Encourages 'learning for meaning'  
Vs 'learning for replication'*

**Tasks** (learning activities)  
are open questions  
which students respond  
by engaging with the  
content.

**Content**  
resources to help the student  
to resolve the task.

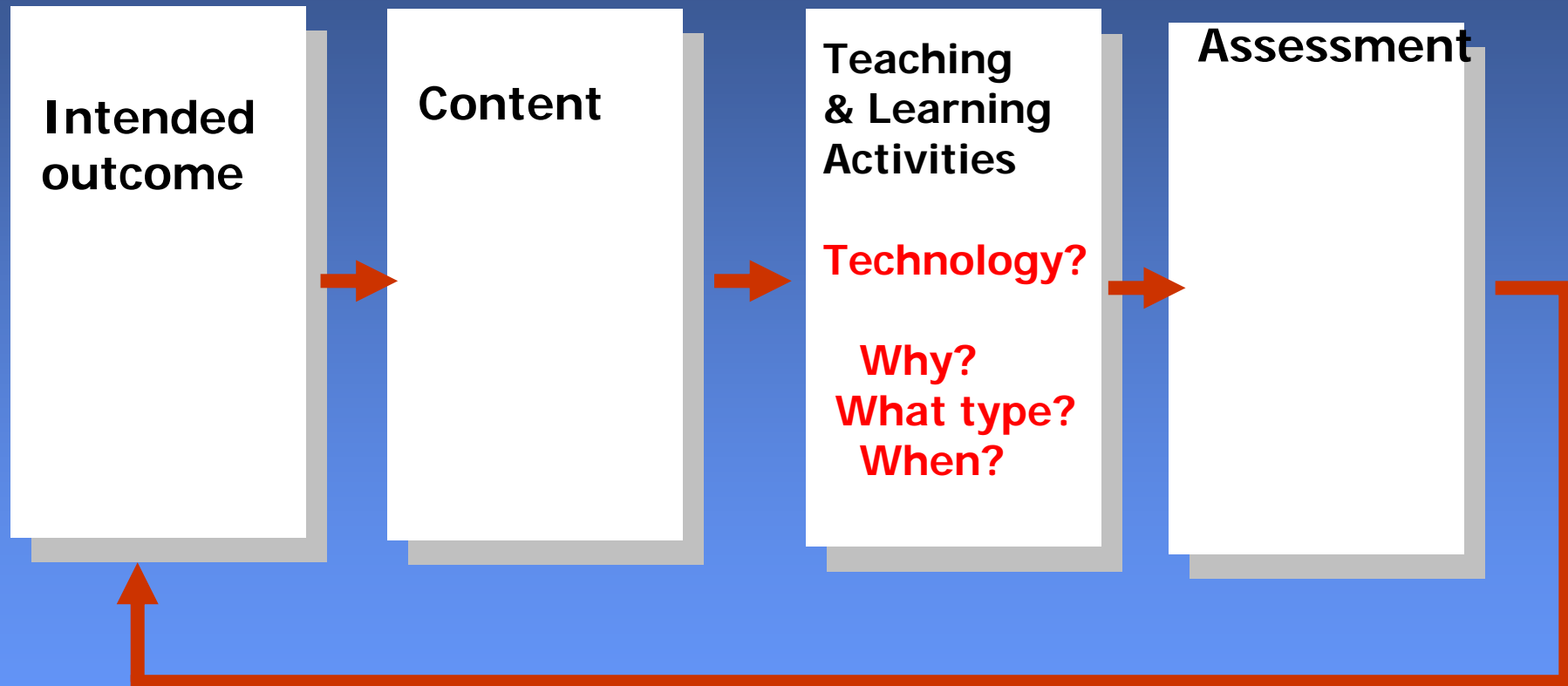


# Model of OBASL





# Outcome-based Approach



(Consider alignment)

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# What is the desired Learning Outcome?

Before deciding on the use of a technology option

## Consider

What types of Learning Activities might be appropriate to help the student achieve the outcome?

- Audio Visual Presentations
- Field Trips/guests/panels
- Demonstration and Practice
- Small group Discussions
- Case Studies
- Interviews
- Lectures (but Active Lectures)
- Other

**Then** – consider online options to support student learning  
**ALL of the above can be done using technology**

# Learning Mapping

Provides a framework for considering the course Learning Outcomes and designing appropriate Learning Activities

Can be paper based (with templates) and/or

With 'web-based tools' with online templates

# Mapping

## Content (Topic)

### Activity:

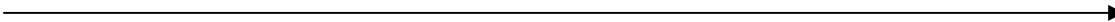
- what does the learner do? 


- what does the teacher do? 


- what are the deliverables? 


- what is the feedback?  
(how deliverable evaluated) 


Unit of Study  
content  
content  
content

Timeline 

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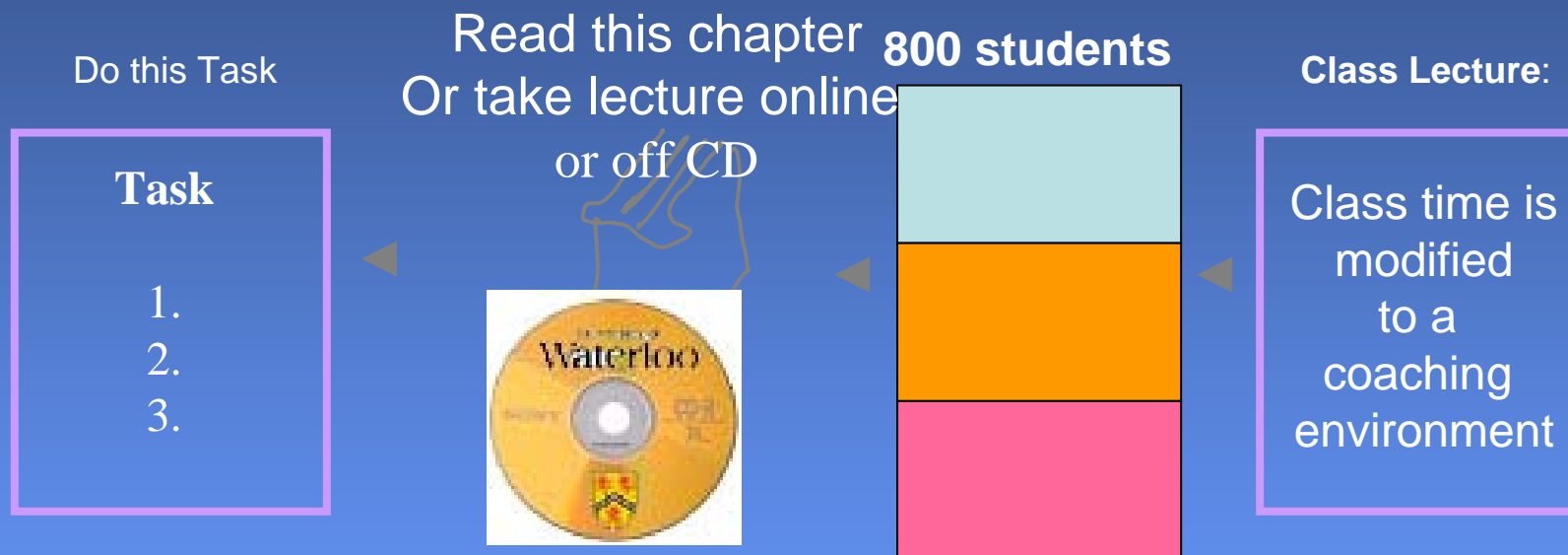


## Changes to:

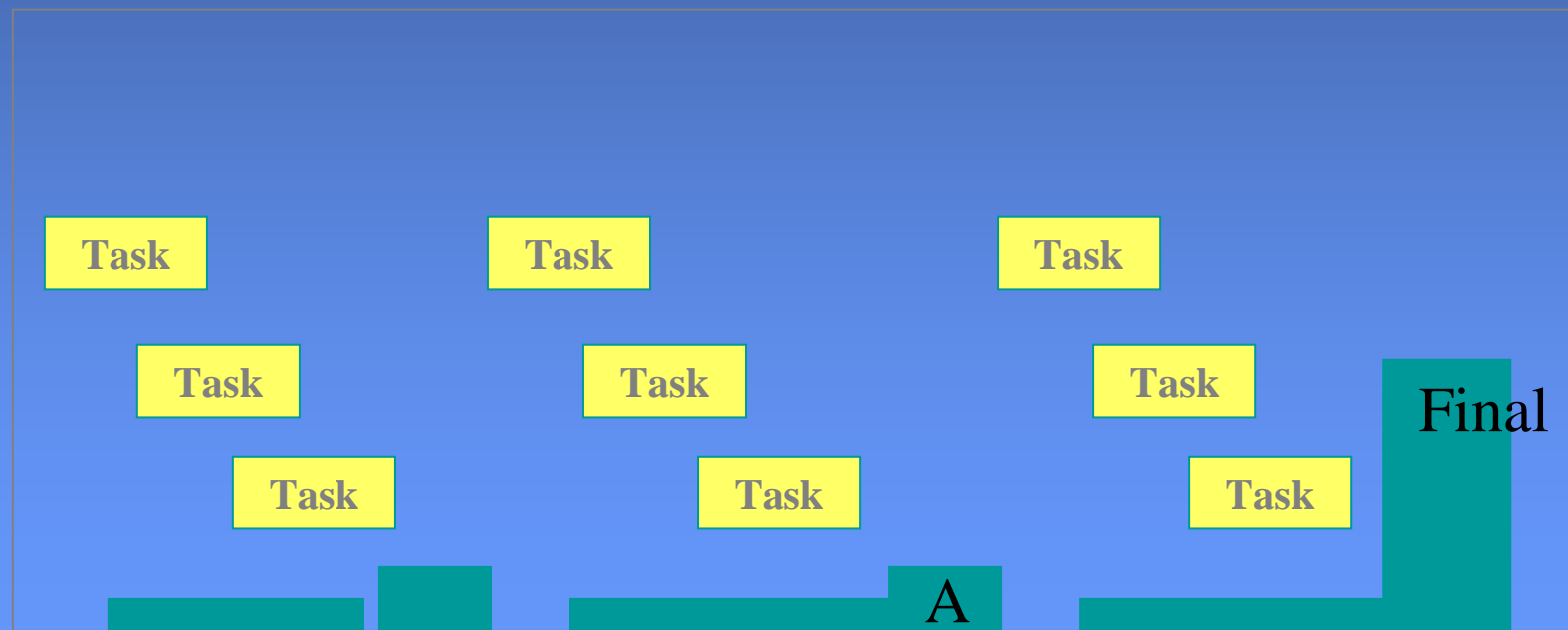
In Class	Out of Class
What the learner does	What the learner does
What the teacher does	What teacher does



# Pre Class Tasks



# Homework Patterns



Time Spent  
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Weeks

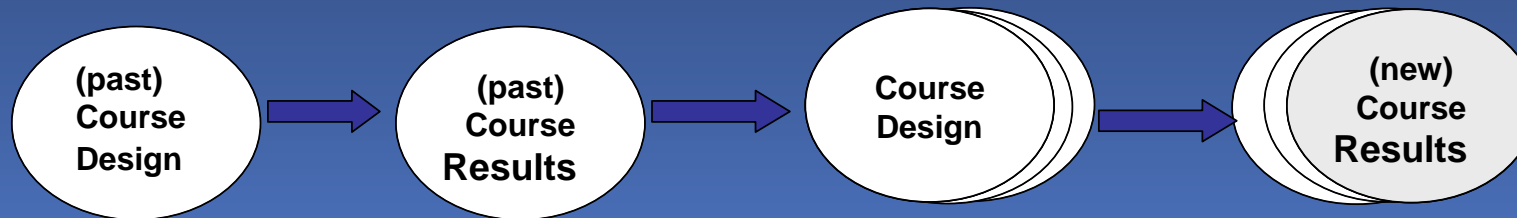
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# Your examples



# The Simple View of Course Redesign



Dr. Tom Carey

Professor, Management Sciences, Faculty of Engineering,  
University of Waterloo, Canada

on leave as

Visiting Senior Scholar

Higher Education Quality Council of Ontario

and

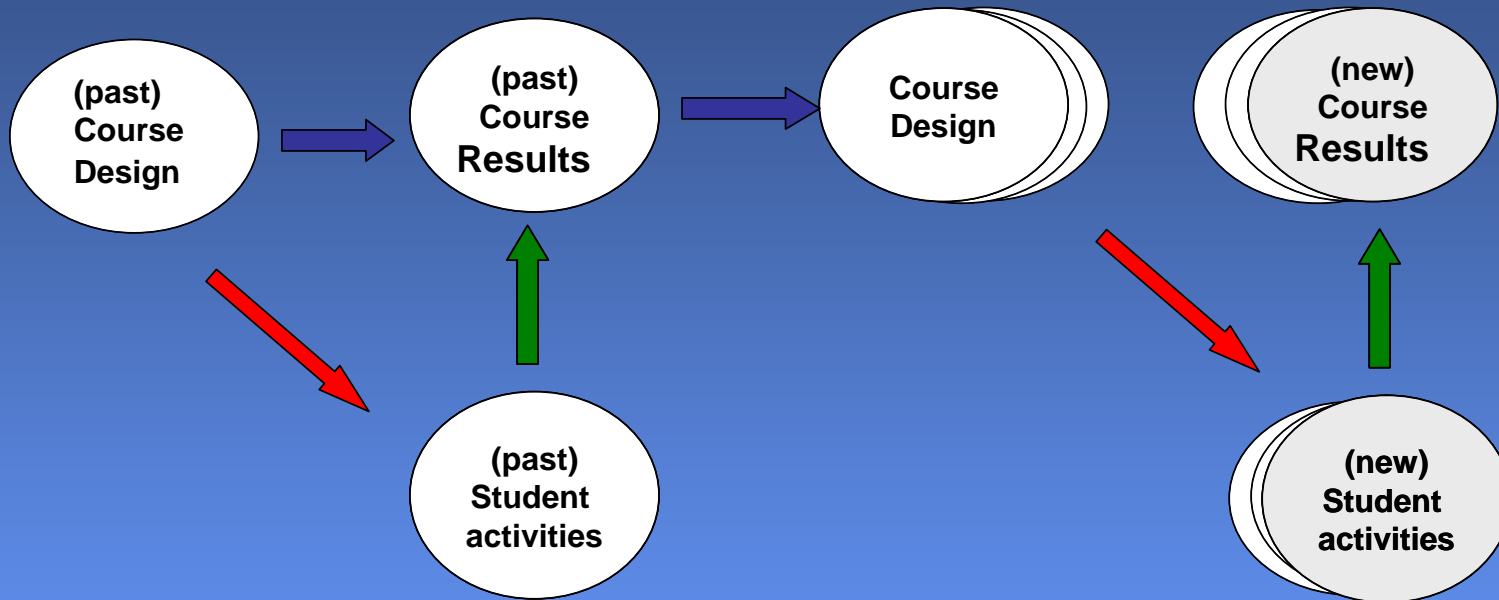
Visiting Senior Scholar, Chancellor's Office, California State University

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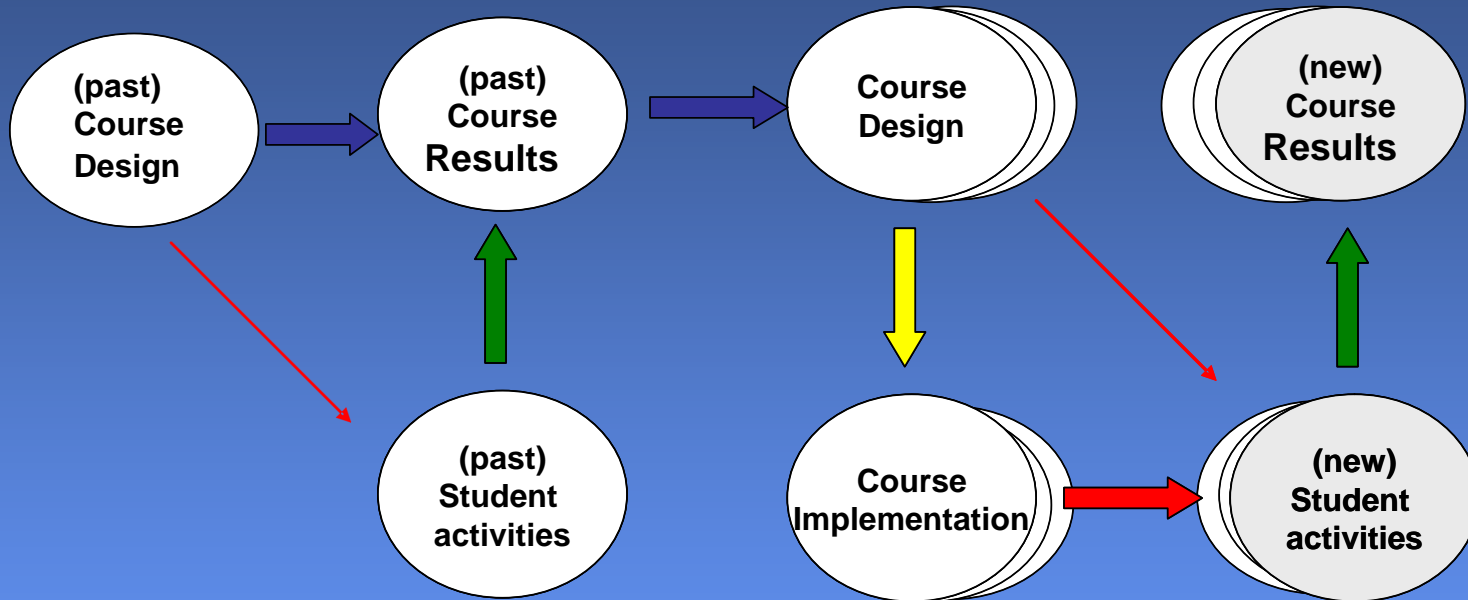
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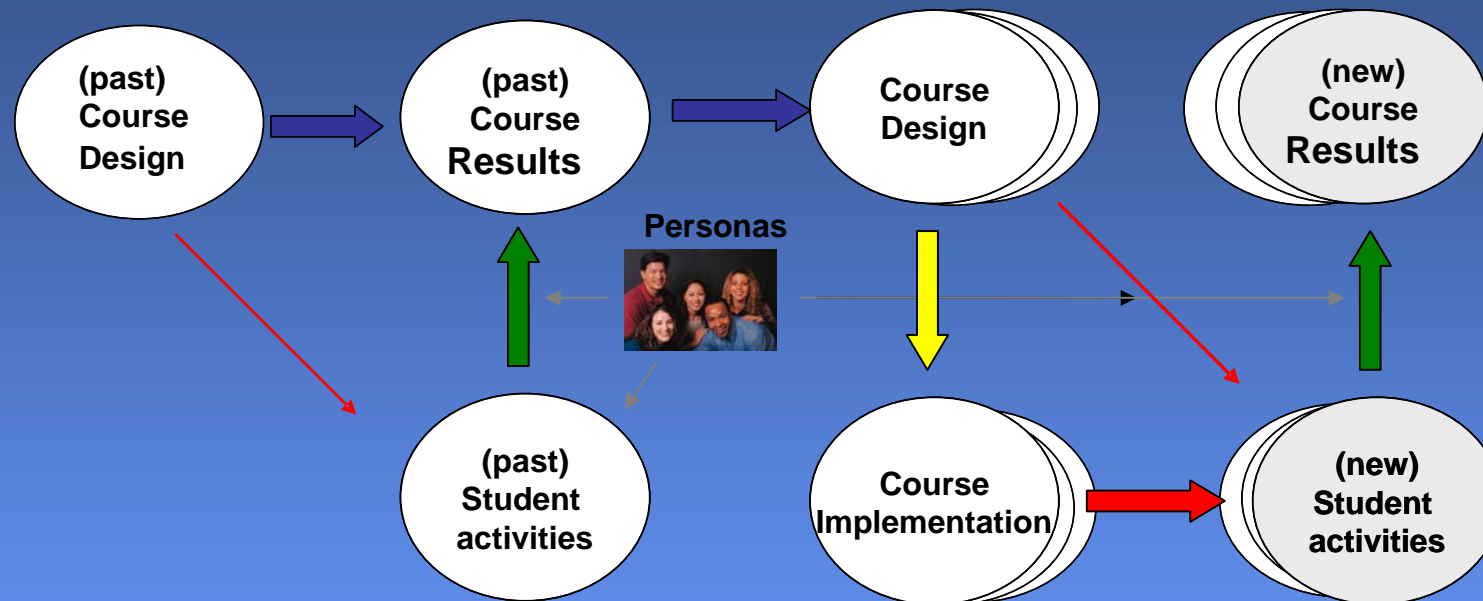
What matters, of course, is what our student actually do...



and the grandest Designs are subject to details of Implementation..



# Where Student Personas can help us in Course Redesign...





# How will you/your institution deal with change?

- RESIST?
- PRETEND?
- EMBRACE?
- CREATE?

Change Agents

*Thank you!*

*Questions/Discussion/Comments?*

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