Case Study: The journey to experiential learning in passive design

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The opportunity...

5 sessions of 4 hours to teach passive design
Scoping Parameters - Students

- Local / Distance / Full time / part time
  - Study time availability*
  - Study time quality*
- Semesters
- Culture differences
- Range of Academic backgrounds
  - Architecture, Landscape architecture, Interior design, Engineering, ...
  - Strong affinity for visual materials
- English language issues

*Butcher and Rose-Adams, 2015
Aim – Deep student learning

Method?

Lecturing, Reflective learning, Experiential learning, Workplace learning, Group work, Problem/case based learning, Peer teaching
• Questions in the Activity brief

• Quizzes for each theme
• Group Presentations (peer teaching)

• Summative Assessment
  • What needs does the strategy respond to?
  • How would it be applied?
  • How would it perform?
Project module

Problem based learning

Active
Experimentation

Concrete
Experience

Abstract
Conceptualisation

Reflective
observation

Dekay and Brown, 2014
Deep student learning
(Blooms Taxonomy)

Conceive
- Experiential learning cycle
- Active Experimentation

Apply
- Problem based learning
- Concrete Experience

Analyse
- Group work

Evaluate
- Reflective Observation
- Reflective learning

Peer teaching

Pappas and Nagel, 2013
Make space for experiential learning

Flipped learning

https://www.123rf.com/photo_8864429_teacher-lecturing-to-several-students-with-notebooks.html

## Make space for experiential learning

### Lecture Podcasts

<table>
<thead>
<tr>
<th>Intro &amp; Heating</th>
<th>Ventilation</th>
<th>Cooling</th>
<th>Multiple Strategies</th>
<th>Building Application</th>
</tr>
</thead>
<tbody>
<tr>
<td>- 9 presentations (pre-recorded)</td>
<td>- 7 presentations (pre-recorded)</td>
<td>- 6 presentations (pre-recorded)</td>
<td>- 3 presentations (pre-recorded)</td>
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<td>- 1h 18 min</td>
<td>- 41 min</td>
<td>- 1h 17 min</td>
<td>- 23 min</td>
<td>- 41 min</td>
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### Presentations

- **Intro & Heating**
  - 9 presentations (pre-recorded)
  - 1h 18 min

- **Ventilation**
  - 7 presentations (pre-recorded)
  - 41 min

- **Cooling**
  - 6 presentations (pre-recorded)
  - 1h 17 min

- **Multiple Strategies**
  - 3 presentations (pre-recorded)
  - 23 min

- **Building Application**
  - 6 presentations (pre-recorded)
  - 41 min

### Total Time

- 4 hours and 20 minutes total
• Student choice:
  - How / when they prepare
    - Breakup the information to fit into their own schedule
  - Format
• Benefits of presentations:
  - Less than 15 mins / natural breaks
  - Language issues taken offline
  - **Contact sessions free for other learning activities!**
Cohort communication:

“any questions?”

https://thinkreality.com/tumbleweed-buries-southern-california-homes/
Audience Response Systems

- PollEv
- Mentimeter
Distance Learner Provision

• Activities
  • Not able to participate in local group activity sessions
  • Activity briefs adapted for independent use

• Tutor contact
  • Not present at contact sessions
  • Forum on VLE (peer to peer & peer to teacher)
  • Direct email to tutor
• Survey of time distribution (using PollEv!)

• Right amount of time available for:
  • Quizzes
  • Discussion
  • Guest lectures

• Even more learning activities wanted! *(local students)*
Reflection points – Local Student view

• “a number of activities help us to understand the reason of strategies”

• “Interactive class sessions. Reading first, applying later in the class was helpful and fun to learn the principles”
Reflection points – Distance Learner view

• “I loved how in-depth each short video was, and liked the fact all material had been uploaded for viewing weeks before the module had begun” (Distance student)

• “I really enjoyed the module, and found it a lot easier to digest the shorter presentations ... than the longer lectures in other modules” (Distance student)
Reflection points – My experience

• First delivery
  • absolutely terrified, but increased student engagement gave me confidence to continue
  • Cohort average mark - slight increase (4%)

• Second delivery
  • More confident – able to enjoy the activities and the student engagement
Experiential learning

Ability to apply passive design in realistic scenario

https://www.maynoothuniversity.ie/study-maynooth/maynooth-education/experiential-learning/experiential-learning-0
No Questions!

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www.cardiff.ac.uk/people/view/1116829-stevenson-vicki

References


• Gibbs, G., 1992, Preparing to teach: an introduction to effective teaching in higher education, Bristol: Technical & Educational

• Pappas, E, O Pierrakos, and R Nagel. "Using Bloom's Taxonomy to Teach Sustainability in Multiple Contexts." Journal of Cleaner Production 48 (2013): 54-64.