

Reflections from Engineering

Technology Enhanced Learning

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Session Overview

THE TECHNOLOGY

Tablet PCs & Interactive
Whiteboards

Screen capture software

Multimedia:
Teaching core skills
Capturing 'the lecture'
'Virtual Technician'

THE REFLECTION

What worked

What didn't

Outstanding issues

UMF plans....


Tablet PCs and Interactive Whiteboards

TRIAL

- Original aim:
 - Move towards paperless office
 - & ‘immediate’ sharing of info.
 - Feedback on assignments
 - Meeting minutes
 - etc
- Uses in ‘group’ tutorial
 - Students can ‘brainstorm’ and share digitally

OUTCOME

 reading & annotating on paper

 some initial successes, but upload cumbersome

 ‘stifled’ creativity

BUT...

The (surprise) positive...

- opened us up to looking at how we use other 'Engineering Technology'...

e.g. Solidworks
(3D CAD Modeller, 2D Drawings)

- 'Comfort blanket'
- Brought back
 - Pencil & Paper!
 - Cardboard model

- Enable students to decide **when** and **what** is **appropriate**



Screen Capture Software

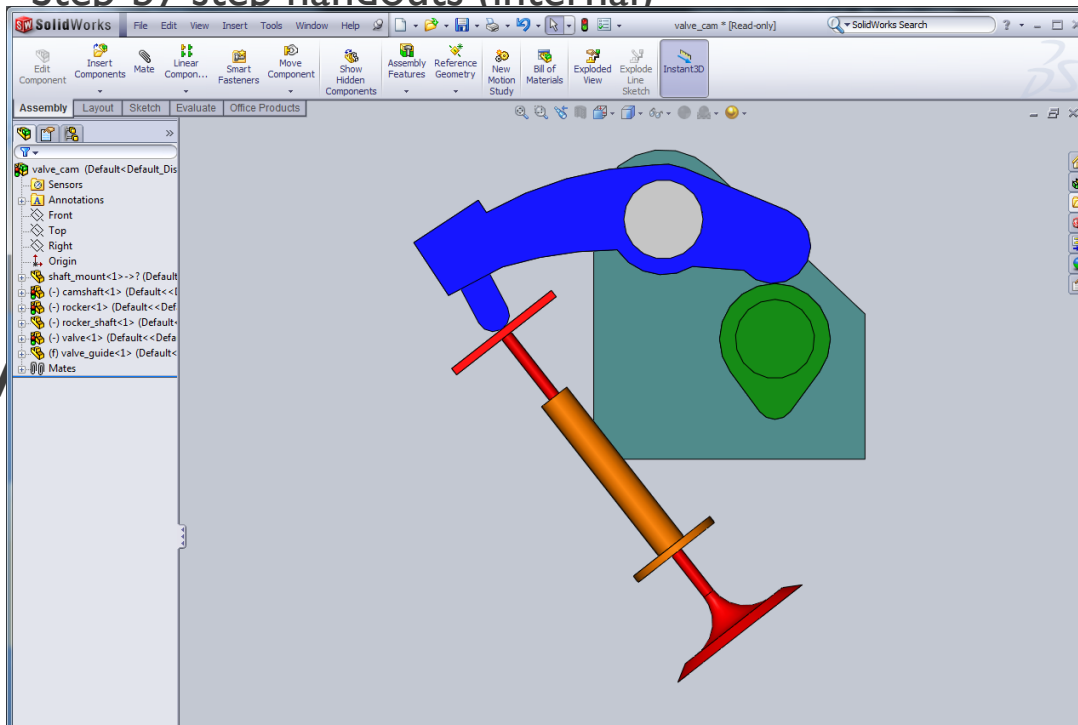
TRIAL

- Traditional software teaching
- Inbuilt software tutorials
- Step-by-step handouts (internal)

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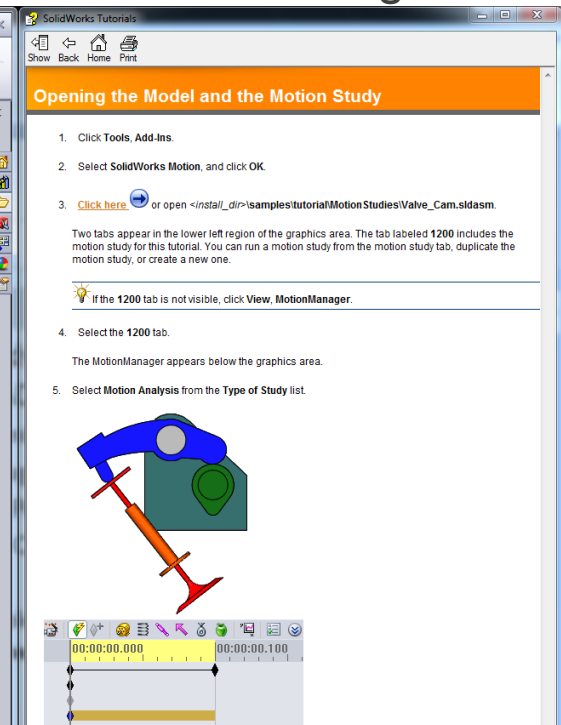
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OUTCOME

1. Traditional software teaching **supported by HAUC Video Tutorials**
2. Traditional software teaching

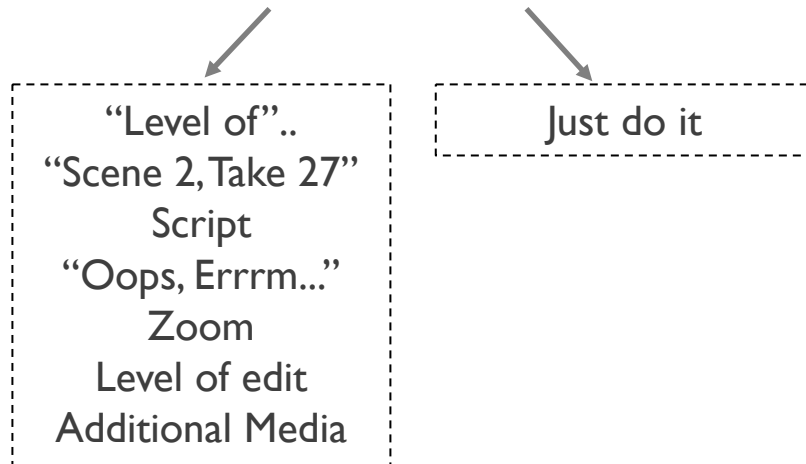


Screen Capture Software: Development of...*

INVESTIGATION

Production Efficiency (vs quality?)

- 'Professional' vs 'As is'




Length


- Lots of short 'topics'
- Applied where assimilate skills

OUTCOME

'Just do it' (but not easy at first) with:

- some (minor) edit,
- add zoom manually (only where necessary – 'sea-sick'!)

 Monotonous, out of context

 +ve Progress, helped students engage; 5-10 mins MAX!

Multimedia: 'Virtual Technician'

TRIAL

Professional Video RLOs

- Capture *practical sessions*
 - HAUC USP
 - Inc student numbers
 - Difficult to 'make notes on'
 - Large demand for refresher/repeat!

Trial: Professional vs 'point & shoot'

OUTCOME

Student Perspective

- Excellent feedback
- Support **NOT** replace
- **Professional** vs **Point & Shoot**



Staff Perspective

- **Professional:** vs 'point and shoot'
- Tips....
- Benefits
 - **Secondary Time Saving**
 - **Student Centred Learning**



Multimedia – teaching core skills

TRIAL

- Issue: large variation of skills that students enter our courses with
 - E.g. Sketching ability (key communication skill for engineers)
- Generated RLO Sketching videos
 - Basics - Advanced,
 - Supported by **animations & 3D models** to provide theory

With

- 1st yr design students
(vs trad. teaching)

OUTCOME

Student Perspective

- Start at indiv appropriate level
- Work at their own pace
- They owned their learning



Staff Perspective

- Very time consuming to produce
- BUT allows more appropriate use of contact time
- Animations challenge to produce but options limitless & exc. payback



Multimedia – Capturing Lectures

TRIAL

Videoining a real lecture
(camera at back of room)



Initial thoughts:

Revision: Useful for ‘scanning’ to revisit
key information?



Replace: Could it be used to ‘replace’
the lecture next year?

OUTCOME

Revision?

- Lots of lectures therefore lots of
search time...ask tutor/notes
better! 
- Once students were aware lecture
available on VLE, less likely to
engage during lecture 

Replace?

- Prefer a real lecture 
- Can't hold attention
- BUT is very useful for capturing
info to turn into VLE resource!
(explanations & anecdotal stories) 

Multimedia – Capturing Lectures

TRIAL

Videoring a ‘staged’ lecture

OUTCOME



- Lots of prep (esp. if scripted)
- ‘Nerves’!
- Lots of setup/edit time
- **Adds little value....**
- **...on its own** but does as part of ‘bigger picture’ <later>



TRIAL

Videoring students carrying out
group design tasks

OUTCOME

- Reflection:
 - Our involvement
 - Their level of engagement
 - What they'd learnt...!
- Docu-style could replace case study...
**BUT RESOURCE HUNGRY:
FILMING (NEED MULTI-
CAMERA; LARGE EDIT)**

...initial student feedback is that this
could help bridge gap between
theory and practice

Outstanding Issues

ISSUES

- Security / copyright / ownership
 - Freely available?
 - Downloaded & seen elsewhere
e.g. YouTube?
- Is it all perfect?
 - What if 'not quite right'
 - Maintaining 'standards' - QA

SURPRISE BENEFITS

- Forces reflection
 - Surprising how 'short' a normal
2hr session is when its edited to
the actual 'content'



Multimedia RLOs: Development of...

LESSONS LEARNT

Planning is key

- Plan the **Resource/Learning**
 - Storyboard
- **Variation**
 - Think of a TV programme
- Allow sufficient setup time
- Editing – resource & time hungry!!
 - Track recording
 - Initial loose edit from camera

Decide

Teaching/delivering vs supporting
vs enabling learning

Philosophy for UMF

GENERAL

- Plan is not to replace contact time
- Value adding
 - Promotes student centred learning
 - gives students more time with tutor
- Efficiency savings are in:
 - Secondary areas – door knocking, repetition, refresher
 - Giving student feedback (CAA)

SPECIFICALLY

CAA

- Use CAA to give 1st yr students regular progress feedback on core *knowledge*

RLOs

- 1st yr – Skills training
 - levelling of student ability
 - By Info available on demand
- Also, to replace f2f delivery of information – freeing up the contact time to be used as time to work with & develop students.
- **Aim to use RLOs to replace ‘1st Door Knock’**

Future development....

Lecture

“a traditional way of disseminating information to lots of people in an efficient way”

VLE

a ‘virtual’ lecture

BUT

Not as simple as ‘Videoing a lecture and putting it on Moodle’

Working on **recreating** the lecture experience for a Virtual Environment

AND in an efficient way

The opportunity?

Virtual University

“always open, always accessible, never full”