UCD Teaching and Learning

An Introduction to Screencasting:

Promoting Active Learning

Workbook

The aim of the this workbook is to provide a series of resources; contextual information, methods and approaches in the area of Screencasting.

> This open workshop derives from the the needs of the cohort undertaking Module UTL40190: *Promoting student engagement through the application of technology to develop active learning: 'Active Learning with Technology'* as part of the Professional Diploma in University Teaching & Learning

The workbook is not exhaustive, but attempts to focus on core issues and needs. Around each themed area you will find worksheets and activity lists, plus substantial references to original and core literarture.

Key areas covered include:

- What is Active and Student Centred Learning?
- What, When and How would I use a ScreenCast?
- An Educational Framework for ScreenCasting

You are free to edit, adapt and copy this workbook and present it to your students and colleagues, however attribution must be given to the original authors (this work is licenced under the Creative Commons Attribution Only Licence, see http://creativecommons.org/)

> Jennings, D, 2013. *An Introduction to Screen Casting: Promoting Active Learning.* UCD Teaching and Learning, UCD, Ireland.

A padlet page was set up to accompany this workbook, it resides at:
http://padlet.com/wall/IntroScreencasts

Further workbooks are available, for information contact *David.Jennings@ucd.ie*

Or you may wish to avail of the Open Educational Resources website: www.ucdoer.ie

Contents:

What is Active Learning?

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.

<div align="right">Arthur W. Chickering and Zelda F. Gamson</div>

A key tenant of Chickering and Gamson's Seven Principles for good Practice in Undergraduate Education[1](1987) is that it encourages active learning. The author's note, that whilst each principle may stand on its own, when combined they offer six potent forces in education:

Activity ➜ Diversity ➜ Interaction ➜ Co-operation ➜ Expectations ➜ Responsibility

Active learning, put simply is not passive, preferably not didactic, not mere note taking etc. Ideally it provides a shift from the teacher or facilitator 'doing' to the student 'doing'. This may take any number of forms; motor or physically active, sensory / perceptually active or activated, verbal actions, cognitive activity, collaborative or co-operative engagement / activity etc. Thus it involves the learner engaging in activities that will support and stimulate 'higher-order' thinking, problem solving and ideally critical analysis. There should be an immediate dividend in the opportunity for faculty to receive and react to immediate feedback upon these activities… leading to an ongoing journey of exploration and development, capitalizing on the learner's own prior knowledge and experiences allowing them to direct in part their own learning.

Acknowledging the seven principles and their potential impact upon our practice, let us consider how one might develop this further with the learner as the central focus.

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[1] See Appendix 1

What is Student Centred Learning?

Student centred learning may be defined as:

> ..ways of thinking and learning that emphasize student responsibility and activity
> in learning rather than what the teachers are doing. Essentially SCL has student
> responsibility and activity at its heart…
>
> <div align="right">Robert Cannon and David Newble</div>

Primarily deriving from a psychological perspective and a person centred approach to interpersonal relations (Rogers, 1951), *learner centred education* identifies a series of core goals such as: self-initiatied action, critical learning, self-direction, utilisation of pertinent experience and the ability to cooperate effectively. Combining these two elemental approaches [active learning and student centred learning] enables us the opportunity to adapt our teaching and learning practice to offer a series of supports that in effect should augment our teaching and enable the learner a means to develop and engage more effectively.

Key factors[2] in moving to a learner-centred and active approach include the development of:

1. Autonomy for teachers and students – creating a shared undertstanding and co-operative approach
2. Teaching transitions – expert to facilitator, didactic to collaborative etc
3. Student responsilibilty – provison of a supportive learning environment
4. Curriculum alignment - enabling learners to model their own learning throughout a module
5. Assessment Awareness – engaging learners in the assessment and evaluation process, developing feedback, reflection and peer supports

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[2] Based on *Weimer (2002) Learner-Centered Teaching: Five Key Changes to Practice*

To Lecture, to Communicate, *to Collaborate*

Why do we consistently choose to present lectures as the prime focus for our interaction with learners? And how, in the current climate of promoting student centred approaches can we provide a genuinely engaging process?

> "Most people tire of a lecture in 10 mins; clever people in 5. Sensible people never go to lectures at all."
>
> Leacock, S in Sherin , 1995

The benefits of a lecture:

- It enables one to present 'current' information quite quickly and efficiently
- It may provide framework for students, upon which to emphasize, aggregate and synthesize information
- It provides an opportunity to explain concepts, problems and issues
- It enables the facilitator to help make links between new materials and the knowledge and experience of students, often tailoring material to meet their needs
- It may provide a stimulus to students to question their beliefs and attitude and to encourage further inquiry
- It provides an opportunity for the facilitator to express their enthusiasm for a topic
- It may be the only viable solution in dealing with large numbers, venue issues etc

Task: Addressing the issues of lecturing

How may one overcome the common weaknesses in the lecture process? Take a moment to review the following table, identify how you might use the example solutions, and offer additional solutions…

Faculty Issue	'Active Learning' Solution
Saying too much too quickly	Interactive handouts
Assuming too much knowledge	Quizzes
No summary given	Team notes
Time management problems	Segmentising
Not stressing major points	Review exercise
Not linking sections/lectures together	Muddiest point
Using technical language too early	Silent review/reading

Approaches to Learning

Approaches to learning are sometimes confused with learning styles. An approach is often determined by external factors such as overload, curriculum design, assessment methods etc. and may be catagorised in one of three ways; surface, deep and strategic (Marton et al 1997,).

Invariably a learner may adopt different approaches as required, in order to deal with their circumstances. One of the key reasons why we would seek to promote the deep approach to learning is that in this realm the learners genuinely engage with the materials, information and learning opportunities, seeing it as relevant to themselves and their experiences (of the moment and going forward). Gibbs (Gibbs, 1992) notes that a students approach to their own learning is directly associated with their perception of what 'good teaching' is, thus what and how we choose to deliver our materials and activities will have a fundamental impact on a learners experiential recall.

Deep Approach	Surface Approach
Actively seek to understand the material	Try to learn in order to repeat what they have learned
Interact vigorously with the content	Make use of rote learning
Make use of evidence, inquiry and evaluation	Take a narrow view, concentrate on detail
Motivated by interest	Fail to distinguish principles from examples
Relate new ideas to previous knowledge	Tend to stick closely to the course requirements
Relate concepts to everyday experience	Are motivated by fear of failure
Tend to read and study beyond the course requirements	

Active Learning Template:

Lecturer's Name:	
School / Unit:	
Number of students in the session:	
Stage / Year:	
Topic:	

Present Method:

New Method to Encourage Active Learning:

Challenges:

What is a Screen Cast?

A screen cast is the result of a capturing a series of actions performed by a user on the screen of their computer. Where a screen shot is a single image, the screencast may provide an annotated (by audio and/or text) mini-video of these interactions.

Similar to a podcast (an audio capture) the screen cast is ideally a personalised review/presentation of a specific topic or activity. By its nature, it is easily distributed and widely accessibly, either by streaming or direct download [file sizes being relatively small].

A variation on the screencast is a pencast – where one uses an interactive and independent electronic pen to capture ones notes/lecture as it happens.
A further variation is the abiility of some of the screen casting software to utlise an inbuilt (or optional) camera feed and thus capture presentations, laboratory experiments, demonstrations etc.

When Would / Should I use one?

In any traditional learning context, one would wish to respond to an identifiable learning need. With this in mind there are two prime areas where one may consider the use of screen casts;

1. For *individal* usage i.e. personal review, access, guides, feedback, 1:1 demonstrations etc
2. For *mass / group* usage i.e. fixed resources, large group training / preparation etc

Individual:	Provision of feedback	- annotated reviews
Indiv & Group:	Micro Lectures	- for review, preparation, revision etc
Indiv & Group:	A software tutorial	- how to guides
Indiv & Group:	Problem scenarios	- introducing real world examples

How do I create a Screen cast?

Consider the learning design first, followed by the instructional design, then the infrastuctural decisions… and do not forget to conside how you might evaluate.

Learning Design:

Identifiable Learning Need.

React to a known issue or need. Identify prior knowledge and what needs to be addressed, how does this map to current teaching (activities).

Establish Learning Objectives.

Provide information in discrete sections (micro-lectures), build in time for the learner to review, reflect and respond.

Offer guidance as to how the intervention supports, enhances, prepares one for the next face to face session or activity (is this part of the screen cast or an additional item e.g. task list, or prepartory notes etc)

Instructional Design:

Script, Storyboard and Set

If there is to be an audio track, then prepare what has to said; be clear, articulate and concise – take the time to write the script. If the screen cast is only 3-7 minutes long, you need to have your 'story/presentation straight'(!)

Consequently map where (on your computer) and how (which software) you will use to explain, explore, compare, demonstrate, apply etc.

Ensure that you have all the necessary components 'open' and prepped for filming [consider the use of a second screen or alternative workspaces. If this is not an option, then perform the screen capture in individual 'takes'.

Remove extraneous materials, applications, surreptious marketing(!) etc)

Infrastructural Design:

Capture.

Ideally you will have mapped out the timing and the flow of the piece. Consider carefully the means by which you will capture the audio (in-built mic, in-line mic, a test may be required to ensure there is appropriate audio quality) and carefully synchronise your screen actions with the voice over.

Edit (or not!)

If the 3S' have done there job, then there should be little or no editing required other than preparing the piece for export…

Distribution

Take a moment to consider how this will be done;

- Streamed or downloadable?
- via an authenticated VLE (e.g. Blackboard)
- via an open source data set (e.g. youtube)
- via a web page, social network, or media streaming site
- via an RSS or twitter feed
- deliverarble to a mobile device
- with or without supporting documentation (e.g. introductionary / explanatory notes, mirco lectures etc)

Consequently consider the export format required and how your end user will access this… ideally most screencasts may be viewed in a simple web browser with the required media player or plug-in

Comparing Software

This is a short overview of some key examples and things 'you' need to know… I have purposefully listed some of the free and open software first – as this would be a good place to start before pursuing the proprietary and potentially expensive licenced products.

Please note this list is not exhaustive, a quick search revealed another 50+ variants!

Software / URI	Platform	Audio	Editing	Licence (Cost)
Jing http://www.techsmith.com/jing.html	Win/Mac	Yes	No	Freeware
Dahu http://dahuapp.github.io	Win/Mac	No	Yes	Opensource
Freeseer http://freeseer.github.io/about/index.html	Win/Mac	Yes	No	Opensource
Screencast-o-matic http://www.screencast-o-matic.com	Win/Mac	Yes	No/Yes	Hosting Fee / Pro Version: €11
Screenr *http://www.screenr.com*	Win/Mac	Yes	No/Yes	Hosting Fee / Pro Version: €19+
Snagit http://bit.ly/1cUGKxd	Win/Mac	Yes	Yes*	€28.95
Camtasia http://www.techsmith.com/camtasia.html	Win/Mac	Yes	Yes**	€169
Adobe Captivate http://adobe.ly/vxTVma	Win/Mac	Yes	Yes**	€222
Articulate Replay http://bit.ly/16CxbAr	Win	Yes	Yes**	€200 or *c.€417 part of suite[3]

[3] The HEA offer a 60% discount for purchasing Articulate Storyline, you may then apply to Articulate to gain access to 'Replay' that is part of its Studio suite.

Review Rubric for a Screencast.1

Learning Design				
Criteria	**Unacceptable**	**Acceptable**	**Good**	**Exemplary**
Introduction				
Content				
Example/s				

Review Rubric for a Screencast.2

Instructional Design				
Criteria	**Unacceptable**	**Acceptable**	**Good**	**Exemplary**
Structure				
Annotations				
Voice over				
Visuals				
Editing				

Review Rubric for a Screencast.3

Infrastructural Design				
Criteria	**Unacceptable**	**Acceptable**	**Good**	**Exemplary**
Software				
Accessibility				
Inclusive				

Guidelines for effective screencasts[4]

Question the need for an enhanced Screencast intervention?

Do you need free form text, audio, animations etc Would static graphics (slides)

work just as well?

Minimize cognitive load

Learning Design:

– create clear learning objectives;

– start with an outline;

– indicate when you are beginning/ending each element / objective;

– end with a summary;

Activitiy Design:

– make activities within the capabilities of students;

– give learners control over pace;

– provide learners access to further / complimentary learning supports

– include feedback on activities

Promote critical thinking

– ensure connections to broader conceptual framework (and f2f sessions),
  demonstrate how they fit into larger processes.

– include activities that help develop higher levels of learning (evaluation,
  analysis) as well, as lower levels (understanding, applying).

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[4] Based on Joanne Oud, (2009) "Guidelines for effective online instruction using multimedia screencasts"

Appendix 1

Chickering & Gamson, 1987: Seven Principles

Good practice in undergraduate education:

1. Encourages contact between students and faculty
2. Develops reciprocity and co-operation among students
3. Encourages active student learning
4. Gives prompt feedback
5. Emphasizes time on task
6. Communicates high expectations
7. Respects diverse talents and ways of learning

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End of Workbook