The use of Digi**Explanations** as an innovative assessment technique suited to the demonstration of complex practical skills for biomedical science students

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Set the scene

Learners of the 21st Century

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What is a DigiExplanation?

- A strategy of engaging with multimedia in student learning

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Multimedia types

1. • Podcast
2. • Video
3. • Slowmation
4. • Digital Story
5. • Blended Media

DigiExplanation

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Maximise technology and build collaboration into teaching and learning

Too Connected
by sean hobson

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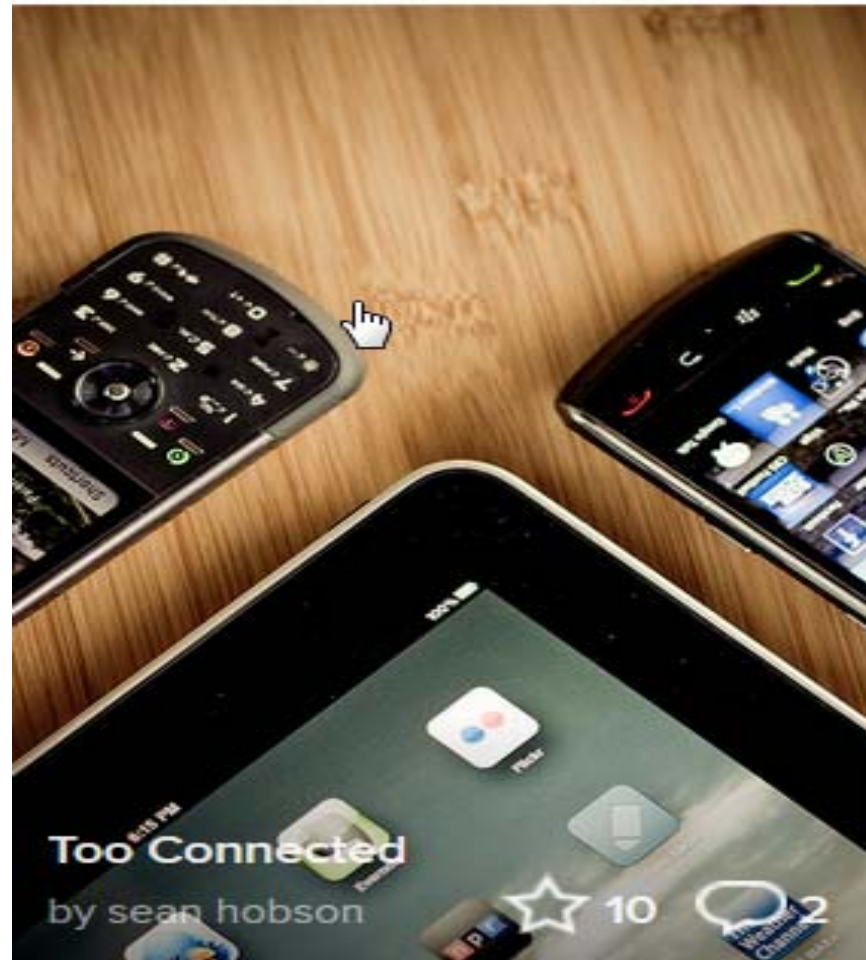
Underpinning theory behind my learning & teaching practice

Ortega (1883-1955)

Key question he asked "What is the knowledge most worth knowing by all students?" Professor of Moral Philosophy at University of Madrid (1935)

Mission 1: The Teaching of the Learned Professions

Mission 2: Scientific Research and the Preparation of Future Investigators

Mission 3: Training for Political Leadership

Mission 4: A cultured man [who] sees the path of life in a clear light

General Culture themes also resonate with Socrates, Plato & Aristotle

Boyer

Ernest Leroy Boyer was an American educator

Published the 'Four Scholarships' in 1990

Scholarship of Discovery: contribution to new knowledge, intelletual climate; investigating

Scholarship of Integration: give meaning to isolated facts; putting things into perspective; making connection across disciplines; interpretation; synthesizing

Scholarship of Application: applies to improve human good;

Scholarship of Teaching: teaching both educates and entice future scholars

John Biggs

Published "Teaching for quality learning at university"

1st published 1999; Most recent 2011

A specific focus on the Scholarship of Teaching

Effective T & L

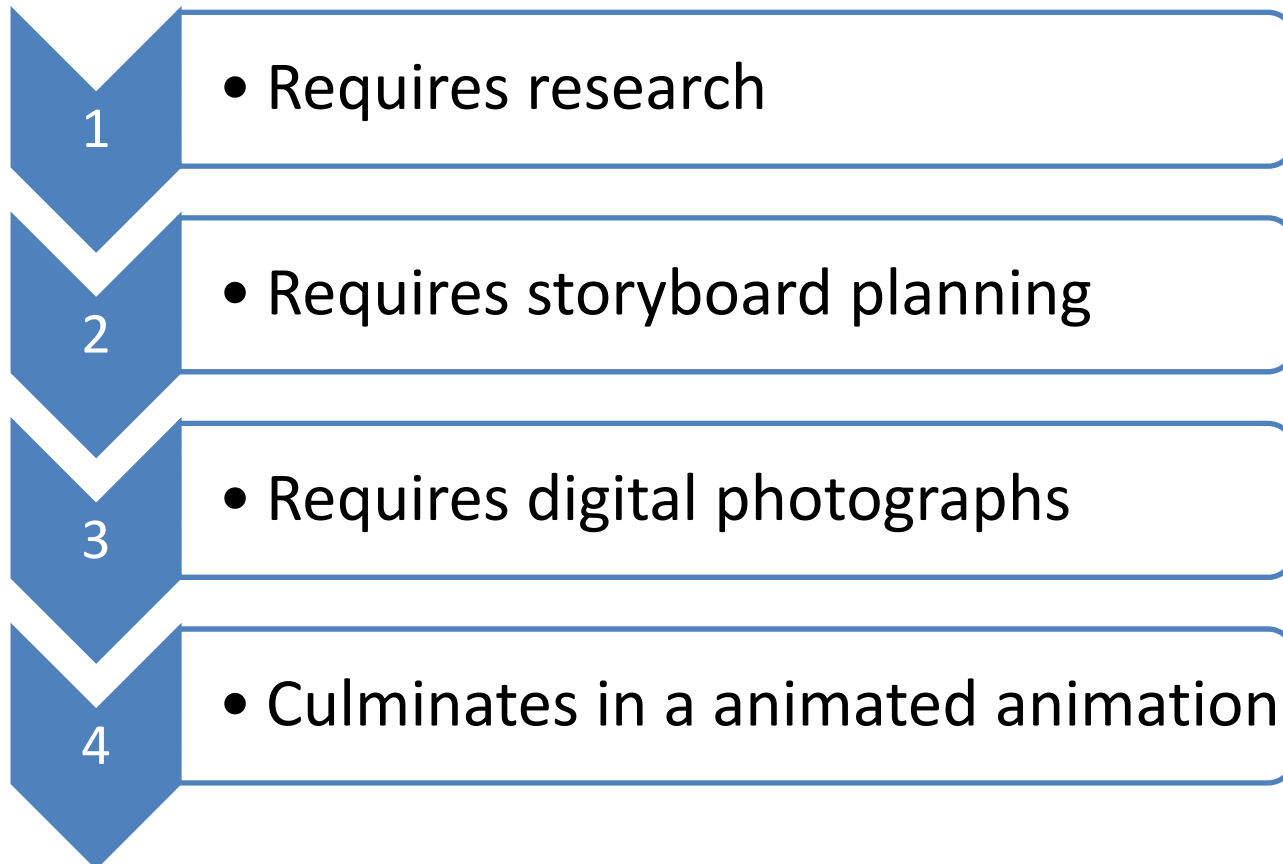Designing contructively aligned outcomes-based T & L

Contructive alignment in action

Constructive alignment between L & T strategies, assessment and student evidence of learning

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Literature around DigiExplanations

- Scholarly research from Digi**Explanation** website

- Based on semiotic theory:

  "Semiotics is the theory of the production and interpretation of meaning. It's basic principle is that meaning is made by the deployment of acts and objects which function as "signs" in relation to other signs."

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Examples on how to construct thinking around Slowmation

1
- Requires research

2
- Requires storyboard planning

3
- Requires digital photographs

4
- Culminates in a animated animation

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Examples on how to construct thinking around Digital story

- M: Main idea or purpose

- E: engaging the listener

- D: details of the science

- I: illustrate with an example

- A: application & relevant to the ausdience and assessment criteria

Examples of Dig**iExplanations** from Fed Uni Students

- Students upload clips into Fed Uni TUBE website.
  - This: **http://video.federation.edu.au/**

- Example 1: Infectious Disease (Team 2) Digi Ex No. 2

Grading Rubric for the DigiExplanations
Refer to RubricStar website

Team Members: CATEGORY	4 – High Distinction/Distinction	3 – Credit	2 - Pass	1 - Fail
Clearly explains the key concept of the practical using all the digi-explanation modes (PODCAST, VIDEO, DIGITAL STORY, SLOWMATION = BLENDED MEDIA (40%)	Establishes a purpose early on and maintains a clear focus throughout. All 4 modes are utilised in the blended media clip. 33-40	Establishes a purpose early on and maintains focus for most of the presentation. Only 3 modes are utilised in the blended media clip. 25-32	There are a few lapses in focus, but the purpose is fairly clear. Only 2 modes are utilised in the blended media clip. 20-24	It is difficult to figure out the purpose of the presentation. Only 1 mode is utilised the blended media clip. <19
Point of View - Awareness of Audience Audience is 3rd SCMED 3033 Anatomical Pathology students (30%)	Strong awareness of audience in the design. Students can clearly explain why they felt the vocabulary, audio and graphics chosen fit the target audience. 23-30	Some awareness of audience in the design. Students can partially explain why they felt the vocabulary, audio and graphics chosen fit the target audience. 19-22	Some awareness of audience in the design. Students find it difficult to explain how the vocabulary, audio and graphics chosen fit the target audience. 15-18	Limited awareness of the needs and interests of the target audience. <15
Quality of chosen images and videos to support the clip Remember to use Creative Commons when choosing items to embed into your clip (10%)	Images/video create a distinct atmosphere or tone that matches different parts of the story. The images may communicate symbolism and/or metaphors. 9-10	Images/videos create an atmosphere or tone that matches some parts of the story. The images may communicate symbolism and/or metaphors. 7-8	An attempt was made to use images/video to create an atmosphere/tone but it needed more work. Image choice is logical. 5-6	Little or no attempt to use images/video to create an appropriate atmosphere/tone. <5
Voice/Sound- Consistency (10%)	Voice/Sound quality is clear and consistently audible throughout the presentation. 9-10	Voice/Sound quality is clear and consistently audible throughout the majority (85-95%) of the presentation. 7-8	Voice/Sound quality is clear and consistently audible through some (70-84%)of the presentation. 5-6	Voice/Sound quality needs more attention. <5
Duration of Presentation (10%)	Length of presentation was 5 minutes. 9-10	Length of presentation was 4 minutes. 7-8	Length of presentation was 3 minutes. 5-6	Presentation was less than 2 minutes long OR more than 5 minutes. <5

Peer Review Feedback:
Building accountability, reflective practice, critical review skills

Six Criteria (Quantitave) and Qualitative Feedback

1. Capturing of images and other visual content

2. Format and content of verbal script

3. Production and editing of final visual content

4. Production and editing of final audio content

5. Completing delegated tasks

6. Team communication

- Rating Criteria: 0 = No Contribution1 = Below Satisfactory; 2 = Borderline Satisfactory; 3 = Satisfactory; 4 = Above Satisfactory

- Team member peer review after each cycle of Digi**Explanation**

Strengths

- Builds teams work
- Builds in accountability, time management, self reflection
- Builds new skills in electronic presentation
- Build in peer review; proud of a new creation

Weakness

- You can't please everyone
- Ensuring computer skills and media skills were sufficient
- Ensuring the task is clearly outlined

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Student Feedback - Positive

- *"The videos were new exciting, innovative"*

- *"The videos were fun to make and working in a high performing team was great"*

- *I don't mind the videos as I like all that sort of stuff on a technical/creative level and I think they are a great learning tool. The info just sticks better in my mind compared to answering questions on a piece of paper;*

- *"Thanks for the great comments and response on our group video. There is a bit of work in it and I can definitely see a difference in quality when looking at the others. This has been a good task to do as it is repetitive with working on the different parts of the video so by the end of it, it is all stuck in your head. (much better than an exam anyway) Thanks again"*
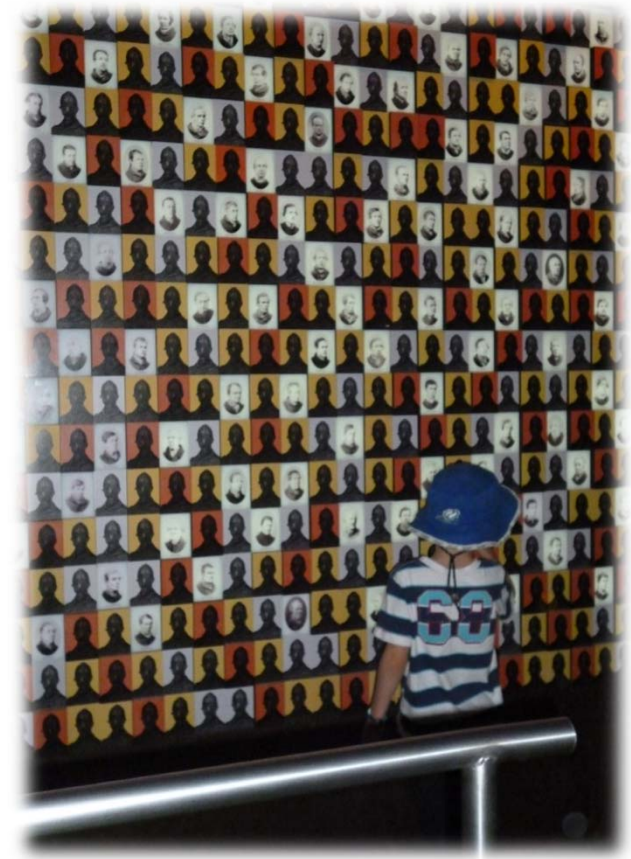 - *Female student SCMED 3033 Anatomical Pathology*

Student Feedback - Negative

- *"Too time consuming….we spent too long on editing and the media part). In saying all of that, it was a fun task and I believe that it could be beneficial to have it as an assessment task, perhaps it's even the modern day 'scientific poster'".*

- *"Stressful to learn something new"*

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How to introduce DigiExplanations into your classroom?

- ## Utilise existing resources
  - Read the literature and overview for each type of media on website
  - View the overviews on the website
  - Think of theoretical underpinning that supports the intended learning outcome
  - Revise documentation

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Take home messages for trying a new innovation that involves <u>teams</u> and <u>digital assessment</u>

- **DigiExplanations**
  - *Associate Professor Garry Hoban*
- **Team Based Learning**
  - *Setting up teams; Professor Larry Michaelson*
- **Office of Learning and Teaching**
  - *Resource sections: Teams, Assessment 2020*

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Further assistance and enquiries …

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Student Feedback – General on my courses including assessment tasks

- *"It is fundamentally the most inclusive form of education that I have seen and it extends beyond the class room to the laboratory. It is demanding, a lot of work, requires the development of interpersonal as well as personal skills and time management.*

- *Most students here have high aspirations and this form of teaching probably represents the levels a student needs to be able to function at to achieve their goals, I refuse to accept that a student cannot reach their desired profession with the right amount of dedication, tears and stubbornness.*

- *The structure is earth shattering and its ground breaking. It really is the type of experience where what you put in is exactly what you get back"*

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References

- *Ortega*
- *Boyer, E 1960. Four Pillars of Scholarship*
- *Biggs J, 1991.* Teaching for quality learning at university
- Hoban, G, 2013

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