

Video teaching and web lectures

Flipping the session

EAPRIL – University of Luxembourg November 27th, 2015

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Catching the wave of 'video teaching'

Design research to support lecturers in developing 'video teaching'

EAPRIL – University of Luxembourg November 27th, 2015

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Overview

- 1. Introduction
- 2. Context
- 3. Relevance, Literature and Theory
- 4. Research question
- 5. Methodology
- 6. Results
- 7. Conclusions
- 8. Recommendations



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Technology impacting education





Where are you on the wave?





Where are you on the wave?



Where are you on the wave?







2: Context

Tourism Team Inholland University

- 25 team members
- Most teaching for about 10 years or more
- One group of 50-60 years old, traditional
- One group, 30-40, younger, less traditional
- Use of web lectures in team limited
- Researcher sees opportunities
- Masters in Teaching and Technology at Inholland







3: Relevance

'Zone of possibilities'

'Disconnecting the lesson' (De Boer, 2013)

(Kereluik, Mishra, Fahnoe & Terry 2013)

'Tipping point' in education

(Greenberg & Zanetis, 2012; Sonicfoundry, 2013) Need for professional support (Filius & Lam, 2009; Stover & Vrees, 2013)

Theoretical Framework

TPACK/Constructivism (Mishra & Koehler, 2006)

Constructive alignment (Biggs & Tang, 2011)

Cognitive theory of multi media learning (Colvin Clark & Mayer, 2011)

Plus, extensive literature reivew...

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But...what *is* 'video teaching'?



Video Teaching

Teaching via video in which the teacher plays an active role, is visible and audible, is recorded, and where the screen presence of the teacher plays an important element in the didactic process.

(Woolfitt, 2014)

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Live Lecture Capture



Video Teaching with Swivl



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Web lecture (pre-recorded in studio)

nholland Weblectures hogeschool 0 = THE PARTY NAME THE LONDONER 142.44 04444 ART. THREE TAR. Counsel -1075 1000 **Destination Management 31Location** A Zec Woohlt Mono weblecture 11/01/0013 10:00 /ArWEST Length (0:00:00 Marg.



Screen Cast





Visibility/presence of teacher as on screen teaching presence

Complexity of technology for teacher



Visibility/presence of teacher as on screen teaching presence

Qualities of Video Teaching: Technology complexity vs. teacher visibility



Visibility/presence of teacher as on screen teaching presence

Complexity of technology for teacher

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4: Research question

4: Research Question

What are the characteristics of support to assist lecturers in the tourism team Inholland Diemen in developing 'video teaching'?

Sub Questions

SQ1: Qualities of 'video teaching'?

SQ2: Functions of 'video teaching'?

SQ3: Our current 'video teaching' level?

SQ4: What support do we need?

SQ5: Opportunities in tourism course?

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5: Methodology

Design Research

Design stage Quality criterion		Design specifications	Global design	Partly detailed intervention	Complete intervention	Implemented intervention
Relevance		- Screening - Expert appraisal	- Screening - Expert appraisal	- Screening - Expert appraisal	- Screening - Expert appraisal	
Consistency		- Screening - Expert appraisal	- Screening - Expert appraisal	- Screening - Expert appraisal	- Screening - Expert appraisal	
Practi cality	Expected	- Screening - Expert appraisal	- Screening - Expert appraisal	- Expert appraisal - Walkthrough		
	Actual			- Micro-evaluation	- Micro-evaluation - Try-out	- Survey (Quasi) experiment, Case-study
Effect iveness	Expected	- Screening - Focus group	- Screening - Focus group	- Expert appraisal		
	Actual			- Micro-evaluation	- Micro-evaluation - Try-out	- Survey (Quasi) experiment, Case-study

Research instruments

Questionnaires in team (n=22)

Semi-structured interviews (n=23)

Focus group (n=1)

Card sorting (n=9)

Expert screening (prototype)

Expert Appraisal (complete intervention)

Questionnaires (workshop evaluation, n=13)








Design Research

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Relevance		- Screening - Expert appraisal	- Screening - Expert appraisal	- Screening - Expert appraisal	- Screening - Expert appraisal		
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Effect iveness	Expected	- Screening - Focus group	- Screening - Focus group	- Expert appraisal			
	Actual			- Micro-evaluation	- Micro-evaluation - Try-out	- Survey (Quasi) experiment, Case-study	

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6: Results

Qualities and functions of video teaching



'Video teaching' level of team



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Preparation Case Study Exam



Info | More | Watch

👗 Feico Brink

On Demand Friday, December 02, 2011 10:49 AM WEST 15 Minutes 27 Seconds

Business Travel & Incenti∨es periode 4.2

Info | More | Watch

着 Lieke Teeuwen 🌲 David Eliot

On Demand Tuesday, May 07, 2013 9:15 AM WEDT 1 Hour 29 Minutes 3 Seconds



onDemand

A MINUTES 19 SECONDS 10.30 AM WEDT



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Support needed?



Research Question

What are the characteristics of support to assist lecturers in the tourism team Inholland Diemen in developing 'video teaching'?









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Before During After







Before During After



Criteria for Prototype

Small-scale workshop 'video teaching' 2-3 staff + technician and trainer Prepare with web lectures Safe, fun and practical 2 hours Learning goals Peer to peer feedback Reflection





Supporting micro web lectures

Introduction to workshops (07:20) The truth about web lectures (09:24) Making friends with technology (06:35) Making your Power Point (10:02) Web lecture interface (10:56)



Workshops & participants

Workshop	Denartment	Month	Participants
	Department		
Workshop 1	Tourism	Nov	
Workshop 2	Tourism	Dec	
Workshon 3	Tourism	lan	
	i curisti	Jan	-
Workshop 4	Pedagogiek	Mar	
Workshop 5	Tourism	Apr	
Workshop 6	Tourism	Jun	
			13





Evaluation of workshop

Work shop		disagree	disagree slightly	neutral	agree	Strongly agree
	The workshop met my expectations:	-	-	1	6	6
	As a result of the workshop, I feel more confident about using video in my teaching:	-	-	-	5	8
	The format of the workshop was appropriate for the learning goals:	-	-	-	6	7
	The content of the workshop was appropriate for the learning goals:	-	-	-	7	6
	The trainers made me feel comfortable during the workshop:	-	-	-	1	12
	I enjoyed the workshop:	-	-	-	1	12

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Participants attending workshops - Cumulative



'Adjusted' workshop learning goals

- Practising making a web lecture (not finished product)
- Gain experience
- Reflect
- Get kick-started!

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7: Conclusions



Conclusions



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Source: Everett Rogers: Orlusion of Innovations model





Source: Evenet: Regies: Difusion of Innovations model

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8: Recommendations

8: Recommendations



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Further Research

- Learning curve of teachers with technology
- Student use of web lectures
- Student generated web lectures
- Learning effect of web lectures
- Didactic embedding of web lectures
- ...?

Selected sources

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Flipping the session 1

Video Teaching is an essential skill for 21st Century Lecturers





Fostering meaningful learning with web lectures and concept mapping

Cell Biology redesigned to foster meaningful learning

EAPRIL 2015 Richard Kragten, Inholland University of Applied Science November 27, 2015

Context and research purpose



- Difficulty understanding specific subjects
- Passive behaviour in class (not active)

Meaningful learning

- Active learning can foster meaningful learning and positively influences the learning outcomes
- Constructive learning van increase learning results
- Better understanding of concepts due to meaningful learning activities

(Biggs & Tang, 2007; Huet et al., 2008; Novak & Cañas, 2008; Ausubel, 1963)



Problem statement

What are the characteristics of a redesigned Cell Biology module in which meaningful learning is fostered with web lectures and concept mapping?

(Day, 2005, Marée, 2013) ATP inholland Weblectures hogeschool DNA mitosis Cell nucleus 4 Transcription Transcriptie A Frens Pries Info mbt. bediening, onder de paperclip staan links. Video beeld kan full screen Vraag stellen via ballon. Doorsturen via envelop mRNA Copyright @ 2006 Pearson Prentice Hall, Inc 29-11-2013 12:38 WEST Length: 00:12:4




Methodology

Design research

- Fase 1: pre-research phase
- Fase 2: prototype phase
- Fase 3: evaluation phase

(Plomp & Nieveen, 2007)

- Context analysis and needs analysis
- Questionnaire (5-scale Likert)
 - 2014: online en paper, 70%, n = 132
 - 2015: online, 44%, n = 204
- Focusgroeps
 - o 2014: 4 groeps, 27 students
 - o 2015: 4 groeps, 23 students
- Interview Cell Biology teacher

Results web lectures



Results web lectures

Students say:

- Web lectures were motivating but does not automatically lead to active learning
- Assignment in weblecture was an added value
- Active learning was promoted due to the summarizing assignment
- They start earlier with learning

Results concept mapping



Results concept mapping

- Most students positive about concept mapping
- Concept mapping promotes active learning
- Collaborating was motivating
- Explaining each other contributed learning
- Teacher guidance important
- Lack of feedback concept maps

Problem statement

What are the characteristics of a redesigned Cell Biology module in which meaningful learning is fostered with web lectures and concept mapping?

Conclusion

Meaningful learning is promoted when:

- Using web lectures
- Web lectures are assigned to an assignment
- Web lectures are recorded by the teacher
- concept maps are created collaboratively
- Feedback is given at concept maps

Flipping the session 2

All lectures can be replaced with web lectures.



Learning with pre-recorded web lectures in a Nuclear Physics programme in higher education

Iris Sutherland Master research Learning & Innovation November 27, 2015



Agenda

- 1. Context and reason
- 2. Outline research
- 3. Student's point of view
- 4. Discussion
- 5. Recommendations and future research











...ideal situation



...ideal situation





...ideal situation





Innovator NP (5 yrs ago)



Teacher group NP (1 yr ago)





Aim

Gain insight into the use and the appreciation of the newly designed series of pre-recorded web lectures on Nuclear Physics

Question

What is the design for the programme of Nuclear Physics enriched with web lectures and how do students use, appreciate and value the weblectures?





Themes

Design (flipped classroom) Practice (flipped classroom, referring)

Themes

Design (flipped classroom) Practice (flipped classroom, referring)

Use (strategies, behavior and needs) Quality (multimedia principles) PU and PE (alignment, referring and TAM)

Bischop, 2013; De Boer, 2013; Mayer, 2008; Reints & Wilkens, 2012; Biggs, 2003, Davis, 1989)







Participants

Teachers: 4 (3)

Students: 99 first years (97%) 119 second years (35%)

Studentpanel: 17 first years 11 second years 20 student journals 88 viewing reports

Results

Design: no formal design, no referring in study material/guide Practice (class): no flipped classroom limited referring to WL sufficient quality (MMP) Quality (WL): not all students use all WL Use: complete viewing and rehearsal, before exam based on individual needs PF in line with goals

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WL	Yr	Teacher	N	Time	Variant	Level
1	1	E	96	9	Knowledge clip	Rememb/underst
2	1	E	96	9	Knowledge clip	Rememb/underst
3	1	F	56	9	Knowledge clip	Rememb/underst
4	1	С	100	11	Knowledge clip	Rememb/underst
5	1	С	91	18	Knowledge clip	Rememb/underst
6	1	С	73	11	Knowledge clip	Rememb/underst
7	1	D	181	18	Knowledgeclip	Rememb/underst
7 8	1 1	D D	181 159	18 8	Knowledgeclip Knowledgeclip	Rememb/underst Analyse
7 8 9	1 1 1, 2	D D B	181 159 135	18 8 12	Knowledgeclip Knowledgeclip Knowledgeclip	Rememb/underst Analyse Rememb/underst
7 8 9 10	1 1 1,2 2	D D B C	181 159 135 93	 18 8 12 16 	KnowledgeclipKnowledgeclipKnowledgeclipInstruction	Rememb/understAnalyseRememb/understAnalyse/apply
7 8 9 10 11	1 1 1,2 2 2	D D B C D	 181 159 135 93 85 	 18 8 12 16 16 	KnowledgeclipKnowledgeclipKnowledgeclipInstructionInstruction	Rememb/understAnalyseRememb/understAnalyse/applyAnalyse/apply
7 8 9 10 11 12	1 1,2 2 2 2	D D B C D B	 181 159 135 93 85 70 	 18 8 12 16 16 17 	KnowledgeclipKnowledgeclipKnowledgeclipInstructionInstructionInstruction	Rememb/understAnalyseRememb/understAnalyse/applyAnalyse/applyAnalyse/apply







Conclusions

Web lectures are:

usefull, effective, easy to use, in line with the programme, suits individual needs

Referring by the teachers is necessary

More as part of a flipped classroom concept

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Student's point of view





Discussion

1. Which instruments are adequate to evaluate the quality, the use and the perceived usefulness of pre-recorded web lectures?

2. Which instruments can be more usefull in the designing based research on using pre-recorded web lectures?

Questionnaire Student journals Log data (analytics) Viewing reports Interview / focus group

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Recommendations and further research

Flipping the session 3
