The Lecture is Dead Long Live the e-Lecture

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Abstract: This research paper investigates if the traditional lecture is no longer appropriate for Neomillennial Learning Styles and whether an alternative blended approach could/should be used? Over the past decade the lecture as we know it, has gradually been under attack from constructivists, Twigg (1999) for example argues that the lecture is in the main a one-way process with little or no active participation and does not allow the student an opportunity to learn in a collaborative form. Exley & Dennick (2004) quote an unknown source as saying, "Lecturing is the transference of the notes of the lecturer to the notes of the student without passing through the brains of either" (p3). To counter balance this Race (1999) explores different methods of how active, interactive learning can take place within a lecture. With these and many more damming critiques of the lecture it is no wonder that HE is looking at alternative methods of delivery. This research explores whether there is a place for lectures and if blended learning technology can enhance the learning experience given within a lecture theatre environment. The primary research is based on two questionnaires, the first to a cohort of undergraduate students and the second to academic staff at Leeds Metropolitan University. The results of the research shows that students are demanding more for their tuition fees, this is in agreement with the BBC education reporter Sean Coughlan (2009) who reported that "Fees fuel campus consumer culture" and also discussed the Swansea University's student paper who following the recent bad weather reported "Students lose £20 a lecture after snow sends university into lockdown." (par 2). The paper also looks at the effects of increasing demands being placed on students' time and how this has developed the students into becoming more strategic learners in what they are prepared to attend and how much time they are willing to give to a subject. Therefore the use and availability of blended learning techniques (VLE, podcast) was investigated. The research shows that both students and academics see value in lectures, however the traditional didactic form of lecturing needs to change and academics need to embrace new technology, which can enhance the lecture and as such the overall teaching and learning experience.

Keywords: lecture, strategic learners, podcast, blended learning

1. Introduction

Leeds Metropolitan University is one of the largest universities in the UK, with over 52,000 students and 3,500 staff. The University is split into six Faculties, one of these being the Faculty of Innovation North. This Faculty is committed to its student-centered approach to its teaching of IT, Computing, information management, multimedia and animation. It also spearheads the University's Regional University Network (RUN). As well as running the Technology Enhanced Learning (TEL) team.

This paper aims to research the current perceptions towards lectures within UK Higher Education (HE). It will look at not only the academics thoughts on the subject but also the students, to see how technology could be used to develop a more interactive lecturing experience.

1.1 Benefits to lecturing

Middendorf & Kalish (1996), MacManaway (1970) and Gibbs et al (1987) have all carried out research on students' attention spans which they say declines after 15 to 20 minutes. So what are the benefits of lectures? According to Brown & Manogue (2001) and Exley & Dennick (2004) lectures are, potentially: -

- an efficient and economical way of conveying complex information to large student groups in an enthusiastic and engaging way.

- they can provide a good structure and introduction to complex topics, with current information put into an appropriate context for the students.

- they can tailor make the material for the students needs.

- can be used to provoke thought and deepen understanding.

- can be used to develop independent learning.

1.2 Issues for academics

Whilst teaching in Hong Kong the author noted the different cultural styles of learning and student participation within classes. Roettger et al (2007) supports this statement "the diverse demographic makeup of today's college student is one reason why professors need to understand learning and instruction. These students bring multiple ways of learning, a variety of cultures, and a wide range of background knowledge." (p130). Students from some cultural backgrounds are uncomfortable with directly questioning the lecturer and therefore the non-participatory approach to some lectures may actually be a more comfortable environment for these students. This also agrees with Jones (2006) when he discusses the approach of problem based learning and the exposure to embarrassment that some students face with this approach. A similar thing can also be said with regards to those students who have taken the stance that they have paid for their degree and therefore want to sit back and be educated, with little or no effort. However (Prof) Sally Brown Pro Vice Chancellor at Leeds Metropolitan University (personal communication 18/03/09) has likened this to paying for a gym membership, this act in itself does not guarantee fitness as effort, engagement with the instructors and equipment has still to be put in. However they should receive quality instruction, quality equipment, timely intervention, appropriate and prompt feedback. The following two sections are the findings of two online questionnaires given to students and academics at Leeds Metropolitan University Innovation North Faculty.

2. Survey results

This section is split into two, one section dealing with the results of the students another the academics at Leeds Metropolitan University. It was carried out on line through SurveryMonkey.com and was completely anonymous and all people taking part were volunteers. There were 49 student respondents and 48 academic respondents. The questions were designed to see what both parties thought of lectures, the importance of them, and whether they could be replaced or enhanced by technology? Leeds Metropolitan University's ethics boards accepted all the questions as being appropriate and within their regulations.

2.1 Student survey

The questions were framed either in simple Yes/No format or used the Likert-type scale where 1 = strongly disagree, 2 = disagree, 3 = neither agree nor disagree, 4 = agree and 5= strongly agree.

Table 1: Question 1

What is your average attendance at lectures?		Total	Level 1	Level 2	Level 3
	Answer Options	Response Frequency	Response Frequency	Response Frequency	Response Frequency
I attend 100%		19.5%	38.5%	11.8%	9.1%
I attend 75%-99%		48.8%	23.1%	47.1%	81.8%
I attend 50%-74%		17.1%	23.1%	17.6%	9.1%
I attend <50%		14.6%	15.4%	23.5%	0.0%

The written feedback indicates that the students are becoming more independent learners and/or the students are becoming more strategic learners. They want to know what the lecturer will be covering and how relevant to their assignment it is. Apathy is also an issue and that maybe academics should consider Brent, (2005) comments when he says teaching should be more like "performance art that unfolds in real time"p3. Laing (1996) concurs when he says the lecture must contain the required information, its meaning but done in a manner that both captures and motives the audience.

Table 2: Question 2

In light of the hours you spend in lecturers would you prefer		Total	Level 1	Level 2	Level 3
	Answer Options	Response Frequency	Response Frequency	Response Frequency	Response Frequency
more lecturing hours		31.7%	23.1%	41.2%	27.3%
Less lecturing hours		4.9%	0.0%	5.9%	9.1%
its about right		63.4%	76.9%	52.9%	63.6%

It is interesting that the students agree that the amount of lecturing hours is appropriate and yet they still do not attend them all. This could possible be due to students preferring something to nothing.

Table 3: Question 3

Please rate the sentences below on how strongly you agree or disagree with them. 1-5					
		Total	Level 1	Level 2	Level 3
Answer Options		Rating Average	Rating Average	Rating Average	Rating Average
I believe the use of lectures are an important part of my learning.		3.88	4.08	3.82	3.73
I would prefer other teaching methods to lectures i.e. tutorials/workshops/practices.		4.15	3.77	4.24	4.45

The perceived importance of lectures from a student's point of view seems to be reducing through the academic levels this, may be said to be due to the fact that the students are gradually becoming independent learners and would therefore like alternative teaching methods that are more interactive or self study.

Table 4: Question 4

Select the following items you would like to be included in the Virtual Learning Environment VLE (X-Stream/Blackboard/Webct) for each module to better support your learning.					
		Total	Level 1	Level 2	Level 3
Answer Options		Response Frequency	Response Frequency	Response Frequency	Response Frequency
I do not use use a VLE.		2.5%	7.7%	0.0%	0.0%
the assignment brief.		80.0%	61.5%	94.1%	80.0%
the lecture notes/presentations.		82.5%	76.9%	100.0%	60.0%
ability to submit my assignments and get my marks and feedback.		82.5%	69.2%	88.2%	90.0%
Discussion areas.		55.0%	23.1%	70.6%	70.0%
synchronous chat.		22.5%	15.4%	29.4%	20.0%
provide a podcast of the lecture.		50.0%	53.8%	52.9%	40.0%
provide a vodcasts of the lecture.		60.0%	38.5%	76.5%	60.0%
audio feedback.		15.0%	0.0%	23.5%	20.0%

A conclusion that could be drawn from the above is that students expect a certain level of technology and are comfortable with it and as such universities have to keep up with the times and respond to student demands. Massingham & Herrington (2006) agree with this "Students expect to have this material available online through learning management systems such as WebCT" (p85). Beldarrain, (2006) discusses the benefits of social networking software/environments and other collaborative tools that both motivates the students but also supports the general needs of the 21st-century learner and how these align themselves with constructivist environments. It is however, important for educators to develop pedagogically sound material and avoid just going with the trends, Schrum (1998) backs up this point by reminding us that, "educators must avoid being distracted by superficial changes while at the same time using appropriate technologies to create courses that are pedagogically sound, organizationally strong, and institutionally supported" (p53). A down side to increased content on a VLE comes from Naber & Köhle, (2004) where research found the main reason for poor attendance at HE was due to the amount of content easily available elsewhere to the

student. This actually agrees with a students comment on this survey "The lectures are available on podcasts so don't see the point in going to the lectures".

Thus proposing the question if students can access learning material from a VLE why attend lectures/tutorials and does it really matter? I think Jones (2006) answers this very well when he said, "At the heart of achieving constructive alignment, is a need to move beyond merely displaying information and assuming students have the motivation to absorb it. To extend beyond what the teacher does, to ensure the focus is on what the students do. Are the students engaged in appropriate learning activities?" (p360).

Table 5: Question 5

Please rate the sentences below on how strongly you agree or disagree with them.				
	Total	Level 1	Level 2	Level 3
Answer Options	Rating Average	Rating Average	Rating Average	Rating Average
I believe a podcast/vodcast could be used to enhance my lectures in some way.	4.03	4.00	4.00	4.10
I believe a podcast/vodcast could be used to replace my lectures.	2.58	2.00	2.59	3.20
I would like to see more use of technology to support my lectures.	3.87	3.91	3.82	3.90
I would like to see more use of technology to replace my lectures.	2.74	1.83	3.12	3.20

The findings suggest there is a demand for podcast/vodcast support material to be developed but not to replace the lecture but more to enhance the overall teaching learning and assessment process. Although the remit of this research is not to look at podcast/vodcast best practice it is however interesting to see what examples are currently available in education in general. Therefore six podcast/vodcast/screen capture providers were analysed to see what they offered. The reasons for choosing these were to gauge a diverse range of delivery, quality and content. From Tedtalks (www.ted.com), which is an internationally renowned conference with high profile guests to the open ended nature of Youtube.

Table 6: (Data collated 3/3/09)

	Ted Talks	iTunes Education	Youtube Education	3D Buzz	Teachertube	iTunes U
Average Time (minutes)	16.51	14.74	5.72	17.11	4.53	39.36

Whether these examples are based around pedagogical good practice is unclear however their popularity is unquestionable with huge amounts of Internet traffic. What we can see if we initially remove the iTunes U there is a trend towards the 15 min podcast/vodcast (granted TedTalks has a cap of 20 minutes but it still managers to get very complex information over to the audience/student within this time frame). Edirisingha et al (2009) strongly recommend not producing podcasts greater in length than 10 minutes, this is based around studies which showed an inverse relationship between the length of the podcast and the likelihood of the students being willing to listen to it, this therefore puts some doubt onto the benefits of some of the podcasts produced for iTunes U with an average of 36 minutes and some being as large as two hours. Bligh (2000) has concluded that after numerous studies that lectures should not be longer than twenty to thirty minutes without a varied stimulation as the students' attention spans deteriorates after 20 minutes. Therefore whether by design, market forces or simply necessity these web sites have hit on the golden time limit for a learning object in the form of a podcast as being 10-20 minutes.

2.2 Academic survey

Table 7: Question 6

Please rate the sentences below on how strongly you agree or disagree with them. 1-5					
	Total	Yrs 1-5	Yrs 6-10	Yrs 11-15	Yrs 16 +
Answer Options	Rating Average	Rating Average	Rating Average	Rating Average	Rating Average
I believe the use of lectures is no longer appropriate within my subject field that I teach.	1.82	1.86	1.56	2.00	2.00
Whilst giving a lecture you are willing to adapt your content/lesson plan in line with the needs of the students	4.30	4.21	4.33	4.33	4.50
"lectures cannot be replaced by reading combined with discussion". Hale (1964)	3.64	3.07	3.78	4.00	4.75
I believe lectures are an important part of student learning.	4.15	4.00	4.44	3.50	5.00

The findings suggest a strong opinion across the board that the lecture is still perceived as a very useful form of delivering content to students. As well as the positive feedback with regards to academics being willing to adapt their lesson plan in line with the students needs. According to Brown & Manogue (2001) whilst in a lecture theatre the non-verbal signals from the students and whether they are received, interpreted and acted upon are one of the main differences between recorded and live lectures.

Table 8: Question 7

Select the sentences that describe your use of technology within a lecturing environment (tick as many as are applicable).					
	Total	Yrs 1-5	Yrs 6-10	Yrs 11-15	Yrs 16 +
Answer Options	Response Frequency	Response Frequency	Response Frequency	Response Frequency	Response Frequency
I use a OHP.	12.5%	7.1%	22.2%	16.7%	0.0%
I use a PC and projector with Powerpoint (or equivalent).	87.5%	85.7%	100.0%	83.3%	66.7%
I use a PC and projector with award specific software.	81.3%	85.7%	66.7%	83.3%	100.0%
I use DVDs/video.	68.8%	71.4%	66.7%	66.7%	66.7%
I support my lecture with video podcasts.	15.6%	14.3%	22.2%	16.7%	0.0%

Academic staff as expected in a Faculty that is very computer based, are comfortable with standard equipment within a lecture theater and are happy to use them where appropriate. However there is a poor uptake of podcasts, and this may in some part be due to the effort and skills required to produce a truly professional looking blended intervention. Yamanoue et al (2005) discussed their video content to support their teaching and mentions collaboration with a partner production company, "The process of making the video is as follows: We proposed ideas for the clips, and a professional writer developed interesting scenarios. After filming in a studio and on location, narration and music were added. The main narrator is a popular disc jockey of a major FM station in Japan." (p459). The author questions whether current HE establishments fully appreciate the amount of time, effort and planning

that goes into something as simple as creating a learning object like a podcast that the students will fully engage with. With this in mind, Leeds Metropolitan University has created the Technology Enhanced Learning (TEL) Team whose remit is to "enhance the student educational experience through embedding the appropriate use of technology in the support and delivery of assessment, learning and teaching." (The TEL Team 2009 para 1).

Table 9: Question 8

Select the sentences that describes your use of virtual learning environments (VLE) i.e. WebCT, Blackboard. (tick as many as are applicable).						
		Total	Yrs 1-5	Yrs 6-10	Yrs 11-15	Yrs 16 +
Answer Options		Response Frequency	Response Frequency	Response Frequency	Response Frequency	Response Frequency
I do not use use a VLE.		6.3%	0.0%	11.1%	16.7%	0.0%
I use a VLE to display the assignment brief.		96.9%	100.0%	88.9%	100.0%	100.0%
I use a VLE to display the lecture notes/presentations.		93.8%	92.9%	88.9%	100.0%	100.0%
I use a VLE to allow students to submit assignments and I can mark and give feedback.		87.5%	85.7%	77.8%	100.0%	100.0%
I use a VLE with discussion areas.		65.6%	71.4%	66.7%	50.0%	66.7%
I use a VLE to allow students to use synchronous chat.		12.5%	14.3%	0.0%	33.3%	0.0%

Using online tools increased the interactivity between students and academics but also amongst students themselves which leads to a better learning environment, Beldarrain, (2006) supports this view, "As new technologies emerge, instructional designers and educators have unique opportunities to foster interaction and collaboration among learners, thus creating a true learning community." (p140). Boulos et al (2006), agree "The combination of wikis, blogs and podcasting technologies, then, has the potential to both liberate and tie learners together, creating dynamic learning communities" (p4).

Table 10: Question 9

Please rate the sentences below on how strongly you agree or disagree with them.						
		Total	Yrs 1-5	Yrs 6-10	Yrs 11-15	Yrs 16 +
Answer Options		Rating Average	Rating Average	Rating Average	Rating Average	Rating Average
I believe a vodcast could be used to enhance the student learning.		3.81	3.86	3.89	3.50	4.00
I believe a vodcast is better than a lecture.		1.75	1.93	1.78	1.50	1.33
I would like to use more technology to support my lectures.		3.69	4.00	3.56	3.33	3.33
I would like to use more technology to replace my lectures.		2.19	2.50	1.78	2.33	1.67

There is appears to be a desire amongst academics to use Vodcast to support and enhance their lectures. Which is not surprising as Mount and Chambers (2008) conclude that the benefits of video podasting (vodcast) are: -

- "improves learner cognition through better integration of visual and textural materials found in paper based manuals

- improves learner efficiency through reduced information redundancy and a less abstract representation of the steps needed for effective software operation

- it encourages a more flexible approach to learning.

- offers a new element of learner independence and control

- improves student motivation by directly engaging with contemporary students' expectations about the benefits of mobile technologies for their learning" (p.56).

Intellectual Property issues should always be considered with reference to podcast/vodcast and the legal department of JISC (www.jisclegal.ac.uk) have produced an excellent range of support material and advice on this subject.

3. Discussion

There is some evidence to support the theory that both students and academics feel there is value in lectures. Students seem to have become far more strategic in their learning and more customer based, therefore the lecture and supporting material (VLE, podcast etc.) needs to be appropriate to the students' study, professionally developed, pedagogically sound, interactive and engaging. This study has shown that academics are now embracing the need to develop their own assessment, learning and teaching skills and thus embrace blended and e-learning. However they need to ensure their knowledge of teaching theories to support their delivery methods is appropriate. Leeds Metropolitan University is committed to this via its requirement for all new lecturers to undertake a teaching qualification as well as introducing the Technology Enhance Learning Team which was developed to lead and support technology enhanced learning developments across the University.

4. Conclusions

The research suggests that those people who support the constructivist theory have enough evidence to say that you wouldn't take Pavlov's dog to a traditional didactic lecture with little or no interaction. However delivery styles of lectures have to be acknowledged to have changed over the years but also need to keep on changing. Exley & Dennick (2004) say "the scope of the lecture can be broadened by using 'active learning' strategies and encouraging students to engage more interactively with lecture material, with the lecturer and each other in the lecture theatre." (p11). We should also remember the lecture does not happen in isolation and different learning styles necessitate varying delivery and assessment methods and academics need to try and address these by presenting their material in as many different formats as possible. Desikan (2006), "since individual needs differ, there is no reason why a single learning or teaching technique will work equally well for everyone" (p2).

Whilst it is acknowledged that this research was carried out with a small and select group of students and academics and therefore the data is not necessarily representative in its entirety, nonetheless it does constitute an important contribution to the Assessment Learning and Teaching research base. So is the traditional didactic lecture dead? Previous research alongside this shows there is little value in this method, however this study has shown there is a role for technology enhanced lecturing (e-lecture) and both academics and students see value in them. Therefore the challenge to HE is to develop staff in blended and e-learning, give appropriate resources to support the creation of learning material and learning objects and to appreciate you cannot take any learning method in isolation and expect it to fully stand up to such narrowly defined scrutiny.

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