

Teaching postgraduate distance courses using the web: a study on conceptions and approaches

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The study reported here presents a small-scale research into conceptions of, and approaches to, teaching using the web in fully online distance courses. Lecturers were interviewed from a Faculty of Health Sciences which is part of a research-intensive Australian university. Interviews were conducted and analysed following a phenomenographic approach. Three conceptions of teaching with the web emerged: 'the web for individual access to learning materials and information; and for individual assessment', 'the web for learning related communication (synchronous and asynchronous)', and 'the web for networked learning'. Two approaches emerged as well: 'informative-individual learning focused' and 'communicative-networked learning focused'. Results are discussed on the light of previous research on conceptions of, and approaches to, teaching in face-to-face and online settings.

Information Communication Technology, Learning and Teaching and Higher Education – Online teaching

Background

In the last twenty-five years, there has been an important amount of research about conceptions of, and approaches to, teaching and learning in Higher Education. It has established a relationship between students' conceptions of learning, their approaches to study and eventual learning outcomes (Marton, Dall'Alba & Beaty 1993; Marton & Saljo 1976; Saljo, 1979; Trigwell, Prosser, & Waterhouse, 1999). On the teaching side, Kember (1997) established two broad orientations to teaching: 'teacher-centred/content-oriented', which included two conceptions of teaching ('teaching as imparting information' and 'teaching as transmitting structured knowledge'); and 'student-centred/learning-oriented', which includes two conceptions of teaching as well ('teaching as facilitating understanding'; and 'teaching as promoting intellectual development/conceptual change'). An intermediate/transitional conception was situated between these two broad orientations: 'teaching as student-teacher interaction'. Further research demonstrated that conceptions and approaches to teaching were associated. Lecturers who had conceptions related to the 'teacher-centred/content-oriented' orientation were more likely to be on the side of the 'content-centred' approach; while those holding conceptions related to the 'student-centred/learning-oriented' orientation were more likely to be on the side of the 'learning-centred' approach. Additionally, teaching was related to contextual factors influencing the approach lecturers finally adopted. These factors were institutional influence, subject and

curriculum and nature of students (Kember & Kwan, 2000). In a similar line of research, Trigwell & Prosser (1996) established a relationship between intentions and strategy in the lecturers' approaches to teaching. Lectures having an intention of 'information transmission' or 'concept acquisition' used a 'teacher-focused' or a 'student-teacher interaction' strategy for teaching. Those with the intention of 'conceptual development' or 'conceptual change' used a 'student-focused' strategy.

Currently, there is little research from this area of studies relating to teaching using the web, although some has started to emerge. For example, Roberts (2003) established three conceptions of teaching on-campus students using the web: 'the web as a source of information', 'the web used for individual and independent self-paced learning', and 'the web used for group analysis, decision making and dialogue'. These conceptions would indicate an incremental use of technologies for teaching. Taken as a whole, they represent the definition of networked learning. Moreover, she developed six strategy dimensions related to approaches to teaching using the web: focus of use, nature of use, role of the teacher, time & place of use, role of students; and relationships with students. More recently, McConnell & Zhao (2006) researched conceptions of elearning held by a group of Chinese lecturers. They found lectures were the favoured method of teaching. Elearning was not conceived as a proper medium for mastering course content. These lecturers conceived networked learning as a learning resource, in which materials were uploaded online for students to use on their own.

Ellis et al (2006) studied conceptions of blended learning and teaching; and approaches to design. Conceptions of blended teaching and conceptions of blended learning were classified as 'cohesive' or 'fragmented'; and approaches to design as 'deep' or 'surface'. A quantitative analysis demonstrated strong statistically significant relationships between: a) fragmented conceptions of blended teaching and fragmented conceptions of blended learning; and cohesive conceptions of blended teaching and cohesive conceptions of blended learning; b) fragmented conceptions of blended learning and surface approaches to design; and cohesive conceptions of blended learning and deep approaches to design; and c) fragmented conceptions of blended teaching and surface approaches to design; and cohesive conceptions of blended teaching and deep approaches to design.

The current study adds to previous research by increasing the limited amount of knowledge in the area. It will help to develop a better understanding of lecturers' experiences teaching and using the web in a setting not previously researched: fully online distance courses.

Method

A phenomenographic perspective is used in this study. This strategy facilitates research on people's experiences, conceptualisations, interpretations, understandings and perceptions about the world around them or particular phenomena in their world. It allows qualitative descriptions of how people experience phenomena in different ways (Akerlind, 2005; Marton 1978; Marton, 1981; Marton & Pong, 2005). This study aims to find variation in conceptions of, and approaches to, teaching online courses, through the experiences of a small group of lecturers.

Seven lecturers were interviewed from a Faculty of Health Sciences, which is part of a research-intensive Australian university. The sample was purposive, including lecturers having experience teaching postgraduate online distance courses.

In-depth interviews were conducted with each of the seven lecturers. Interviews followed a list of wide topics related to conceptions and approaches to teaching. Questions such as, ‘What is good teaching with the web?’ or ‘How do you conduct your online teaching?’ were used. The interviewer asked for deeper or further descriptions when necessary, exploring topics and issues relevant for this study; using questions such as, ‘Could you explain more?’ and ‘What else would you say about this issue?’

The analysis included examining relevant parts of each transcript for conceptions of teaching using the web. The aim was to become familiarised with lecturers’ conceptions. After accomplishing this, an initial set of categories of description were developed, trying to identify logical relationships among them. Relevant parts of the transcripts were re-examined against the initial set of categories, which led to deleting and rearranging. This process was iterated until categories of description stabilised. Once a stable set of categories emerged, interviews were read again to classify them into one of the categories, for example, to relate conceptions and approaches. The same was done when analysing approaches to teaching using the web. NVIVO 7.0 supported the process.

Findings

In this section, three conceptions of, and two approaches to, teaching using the web are presented.

Conceptions are:

- ‘The web for individual access to learning materials and information; and for individual assessment’.
- ‘The web for learning related communication (synchronous and asynchronous)’.
- ‘The web for networked learning’.

Approaches are:

- ‘Informative-individual learning focused’.
- ‘Communicative-networked learning focused’.

Quotations from transcripts are used to illustrate the argument. Lecturers’ names are avoided to ensure anonymity. A number is provided at the end of each quotation to identify them from different transcripts.

Conceptions of teaching using the web

- a) The web for individual access to learning materials and information; and for individual assessment

In this conception, the web is understood as a medium to provide information and opportunities for self-learning activities to students. The web is used to upload papers, lecture notes, links to relevant web resources, etc. There is an idea that students learn by individually accessing materials provided. If materials are comprehensive and similar to lectures, the online environment will fulfil students' learning needs.

I give them pretty comprehensive (web based) written notes, that's basically like lectures. Besides...for example in the ageing unit I get them to look demographic information about different countries and lots of things like calculating how much do you exercise, how much do you smoke, how much you weight and put all that information to calculate life expectancy. (I1).

The content needs to be well-structured and organised material. Knowledge is something provided to students by the expert.

When you put that online (materials provided) it needs to be structured and work in a logical sense. You really need to be very comprehensive, you have to say more rather than less... you are assuming really nothing about how much they know and you need to structure very well. (I1)

This conception represents a limited understanding of using the web for teaching. It is seen as a medium to 'replicate' lectures by uploading lecture notes and associated learning materials. The emphasis is in transmitting lecturers' understanding of the topic taught.

- b) The web for learning related communication (synchronous and asynchronous)

In this second conception, the web is seen as a medium for learning related communication among course participants. Lecturers advance their understanding of the web by seeing it as space to engage in online discussions. Online activities are a central part of the learning experience.

The whole unit is organised around the discussion. (I6).

In this conception, the focus is mainly on lecturers' understanding but space for students to develop their own understanding is given.

You need to be an expert in your area. I'm an expert in counselling so I feel comfortable teaching in that area... For me teaching is... someone who has some knowledge and delivers this knowledge or skills to other people... (but at the same time) I believe in exchanging of messages, in exchanging of questions and answers, in exchanging of ideas....(I5).

Lecturers see themselves as learning facilitators through online discussions.

'I see my role as a teacher while online...I can see my role as a facilitator, as somebody who can provide feedback, as someone who can synthesize the discussions... (I3).

This understanding of the web is different than the first, it presents the web as a space for engaging in discussions. This is related to a more 'student-centred' approach to teaching. Students are expected to have a higher level of reflection on course topics and develop their own understanding.

c) The web for networked learning

In this conception of teaching using the web, lecturers see it as a space to create, build and share knowledge; making extensive use of its capabilities. A broad range of media and tools are used: uploading materials and providing links to web based resources; using asynchronous discussion boards; and using a wider range of tools, such as video-conferencing, animations, online videos, etc.

I have a website and on that I have all the resources they may need for preparing a research project online, the statistical analysis, qualitative methods, how to prepare to conferences, how to prepare publication, those sort of things. I also have discussion board, so students can actually ask questions to each other and keep them updated for review. The discussion board is essential for them to develop their projects. Because the main thing is...working online to develop their projects. (I2).

This conception represents a more advanced understanding of using the web for teaching online distance courses. It includes the previous conceptions, but goes further, focusing on understanding the web as a space for the students to develop their understanding. Students are expected to engage in building knowledge and sharing of information. It does not consider the web as a space to 'replicate' lectures by uploading lecture notes. It understands that online activities open new possibilities for quality learning experiences.

Approaches to teaching using the web

a) Informative/individual learning focused

This approach to teaching using the web reveals an intention of presenting online learning materials to provide the students with the 'basics' of the discipline.

I'm teaching this sort of the basics, and from my professional experience, I know that if you know the basics you can then work things out on the basics...It is like Ok if you have these problems this is what you do this is how you treat it. There is no flexibility, it's not we can try this, we can try that.' (I1)

In order to do that, the strategy provides online materials to students.

The students have an introduction and then they have lecture notes. They have other activities as well...things like looking at websites...I'm teaching the basics, and this is from my professional experience, I know that if you know the basics you can then work things out on the basics. It is like...ok, if you have these problems, this is what you do; this is how you treat it. There is no flexibility, it's not we can try this, we can try that. (I1).

In this approach, lecturers use the web to present information sources. They give students notes, papers and web sites to look at, in a very structured and organised way. It implies that students and lecturers do not seek relationships leading to sharing and knowledge building. In this

approach, the aim is to provide information rather than seeking interaction with or among the students.

b) Communicative/networked learning focused

In this approach, the intention is engaging students in communicating with each other to have reflective discussions or share-create knowledge. The aim is developing students understanding. The strategy designs and sets up spaces for communication, sharing information and knowledge building. Lecturers see their role as facilitators of the process.

Lecturers try to encourage the development of an online learning community.

What we try to coordinate to make them active building a virtual community in the first few weeks of the course...we ask students to introduce each other, to get to know each other and discuss the plan: what they want to achieve from the course as well as what they want to achieve from they longer program. That's a nice foundation to begin with. (12).

Examples of how lecturers work in the online environment are presented next:

For each module I give them readings, I do an introduction about what the unit is about and then I ask them to read and then to reflect. I post some reflection or focus questions and then I may ask them...in some of the reflective or focus questions, I may ask them to post their responses online for discussion. In other instances I don't ask to post the answers on the focus questions but I ask...I usually ask them to...I usually frame the question...OK, having reading that what are the issues you want to clarify from these articles...or what are the issues you want to discuss. So, you know, we can have some discussion. (16).

Sometimes I just encourage them. Things like: I like that comment, interesting question, go further with that idea, etc. Sometimes I just want they feel I'm present, that I'm part of the unit. Sometimes I give some guidelines or directions to them. I think I have to present my own knowledge. (15)

Students' working experience and knowledge is important. They were encouraged to use them in courses' tasks and activities.

What they do is come up with a case from their own personal experience. And if you can you apply what you have learnt to your own professional activities. (13).

In the approach described, using the web for communicate and share knowledge, students are encouraged to be active and develop their own understanding. Lecturers act as facilitators of the process providing spaces to discuss and share, developing a sense of community. Rich online learning environments are developed.

I got the resources: web links, videos, books, articles, other resources...so tests...I got quizzes after each case, I got a set of questions they will know what I expect near of semester exam and got discussion forum, they are in groups on discussion forums, they got chat space, they got groups... assignment box, calendar, private mail...this was a complete distance unit so you can scan your picture so you can see the people in your group. (17).

Discussion

How are conceptions of, and approaches to, teaching online related?

Table 1 presents the relationship between conceptions of, and approaches to, teaching online. It is possible to see, the lecturers who have a conception of teaching using ‘the web as a medium for individual access to learning materials and information; and for individual assessment’ would be more likely to apply an ‘informative-individual learning approach’. Those with a conception of teaching using ‘the web as a medium for learning related communication’ or ‘for networked learning’ would be more likely to have a ‘communicative-networked learning focused approach’.

Table 1: Relationships between conceptions of, and approaches to, teaching using the web.

		APPROACHES	
		Informative/individual learning focused	Communicative/networked learning focused
CONCEPTIONS	The web for individual access to learning materials and information; and for individual assessment	I1	
	The web for learning related communication (synchronous and asynchronous)		I3 I4 I5 I6
	The web for networked learning		I2 I7

This is consistent with previous research conducted in face-to-face settings. Kember & Kwan (2000) established, teachers on the side of ‘transmitting knowledge’ were more likely to rely on ‘content-centred’ approaches; while those who saw learning as a process of ‘facilitating understanding’ would rely more on ‘learning-centred’ methods. Although, Kember & Kwan’s (2000) research outcomes were not originally developed from teaching online settings, it can be stated that the ‘transmissive’ and ‘facilitative’ approaches found by these authors are similar to the ‘informative’ and ‘communicative-networked’ approaches found here.

In relation to Roberts’ (2003) conceptions of teaching using the web, it is possible to say that her conception ‘the web as a source of information’ and ‘the web used for individual and independent self-paced learning’ are similar to the conception emerging from this study: ‘the web for individual access to learning materials and information; and for individual assessment’. Additionally, her conception ‘the web used for group analysis, decision making and dialogue’ is similar to the one emerging here as ‘the web for learning related communication (synchronous

and asynchronous)’. However, Roberts did not provide evidence of a conception similar to ‘the web for networked learning’, which is novel to this study.

Dimensions delimiting conceptions of, and approaches to, teaching using the web

Conceptions emerging from this study are marked by variation along four interrelated themes.

- Teacher: providing information to set up spaces for communication, discussion and knowledge,
- Student: from studying individually materials provided to share and participate in a community that builds knowledge,
- Content: from provided by the lecturer towards being built by students, and
- Knowledge: from owned by the lecturer to be built by students

Table 2 shows dimensions delimitating conceptions.

Table 2: Dimensions delimiting conceptions of teaching using the web proposed in this study.

	The web for individual access to learning materials and information; and for individual assessment	The web for learning related communication (asynchronous and/or synchronous)	The web as a medium for networked learning
Teacher	Provides structured information/directs students to selected web sites	Set up spaces for discussion/facilitates dialogue	Set up spaces for communication, discussion and knowledge building/facilitates-guides the process
Students	Individually study materials provided	Participate in online discussions	Share and build knowledge
Content	Provided by the lecturer	Provided by the lecturer but students can modify – extend it through online discussions	Built by students using the space set up by the lecturer
Knowledge	Owned by the lecturer	Discovered by students within lecturer’s framework	Built by students

Regarding teachers’ approaches, four dimensions describing them emerged: intensity of use, resources, role of the lecturer; and role of students, as seen in Table 3.

Table 3: Dimensions delimiting approaches to teaching using the web proposed in this study.

	Informative/Individual learning focused	Communicative/Networked learning focused
Intensity of use	Small range on media and tools used to support learning tasks and activities (mainly sources of information with small opportunities for interaction and communication)	Wide range of media and tools used to support learning tasks and activities (with emphasis on interaction and communication)
Resources	Web pages with information. Lecture notes. Links to web sites.	Web pages with information. Lecture notes. Links to web sites. Discussion boards. Chat. Blogs. Spaces for sharing. Animations. Videos. Still images.
Role of the lecturer	Select and present information	Design spaces for sharing and communication. Support the process.
Role of the students	Study individually information provided	Participate in a process of knowledge building

Conclusion

In this study, seven lecturers were interviewed, following a phenomenographic approach, investigating their conceptions of, and approaches to, teaching using the web. Three conceptions of teaching using the web emerged from the analysis: ‘the web for individual access to learning materials and information; and for individual assessment’ ‘the web for learning related communication (asynchronous and/or synchronous)’ ‘the web as a medium for networked learning’. Two broad approaches to teaching using the web are proposed: ‘informative-individual learning focused’ and ‘communicative-networked learning focused’. An association was found between conceptions of, and approaches to, teaching using the web. Lecturers having a conception of teaching using the web for individual access to learning materials and information; and for individual assessment are more likely to have an informative-individual learning approach. Those with a conception of teaching using the web for learning related communication or for networked learning are more likely to have a communicative-networked learning focused approach.

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