



Teaching in 'blended' learning environments: How are conceptions of teaching and eTeaching associated?

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Combining face-to-face learning and teaching experiences with online tasks and activities has become an increasingly common practice for a growing number of university teachers. This phenomenon, known as 'blended' learning, has become part of the educational provision of most 'conventional' on-campus universities. The present study investigated how conceptions of teaching and eTeaching, both sides of the 'blended' experience, are associated. Three conceptions of 'blended' teaching were proposed as emerging from these associations: 1) as a disintegrated way of supporting transmission of information, 2) as a 'dissonant' way of combining face-to-face and online tasks and activities; and 3) as an embedded way of supporting students' learning. Conceptions one and three suggested that teachers tended to conceive of teaching 'consonantly' both face to face and online. Conception two represented an un-expected pattern of association. These results have important implications for eTeaching development programs. Not only technical skills should be emphasised, but also teachers' pedagogical awareness as those who held student-focused conceptions of teaching seemed to be more likely of conceiving of eTeaching as a medium for supporting quality learning experiences.

Introduction

The experience of incorporating eLearning into 'established' on-campus face-to-face teaching has become increasingly common for a growing number of university teachers. Until the end of the 90s, traditional campus-based universities perceived little advantage in embracing eLearning for their on-campus learning and teaching activities. However, this started to change in the first years of the new century. Expectations from students, who wanted to use online resources for learning, as they did for their other everyday activities; and employers, who wanted future professionals to be skilled information technology users, started to pressure universities towards incorporating eLearning (Selwyn, 2007). Moreover, trends such as the increasing volume of online learning resources and capabilities afforded by online environments, which allow interactions among peers, discussions, etc., have also promoted the eLearning up-take. At the same time, the desire to make teaching more professional and offer higher quality learning experiences to students, have encouraged a significant number of traditional campus-based universities to embrace eLearning seriously (Ellis, Steed & Applebee, 2006). This phenomenon, in which face-to-face learning and teaching experiences are combined with online tasks and activities, has been named 'blended' learning (e.g., Graham, 2006).

Despite university teachers being increasingly exposed to teaching in 'blended' environments, there is not a significant body of research on their perspectives and thinking of incorporating eLearning into their 'established' on-campus teaching. Prior research has investigated teachers' perspectives on teaching through studies on conceptions of teaching (e.g., Åkerlind, 2004; Ashwin, 2006; Carnell, 2007; Kember, 1997; Kember & Kwan, 2000; Law, Joughin, Kennedy, Tse, & Yu, 2007; Parpala & Lindblom-Ylänne, 2007; Prosser, Trigwell, & Taylor, 1994; Virtanen & Lindblom-Ylänne, in press). These studies have consistently found conceptions ranging from those focused on teachers and the content transmitted, towards those focused on students and their learning. Studies on conceptions of eTeaching have recently started to emerge (e.g., González, 2009, in press-b; Lameris, Paraskakis, & Levy, 2007; McConnell & Zhao, 2006; Roberts, 2003). An emerging pattern of similarities among their findings has been reported (González, in press-b). Conceptions of eTeaching range from those focused on provision of information, towards those focused on communication, collaboration and knowledge creation. None of the mentioned studies has systematically explored what university teachers conceive of teaching when combining face-

to-face and online. Only one study, by Ellis et al (2006), has specifically focused on 'blended' teaching. Their results showed that 'blended' teaching was conceived of as a medium for:

- Replacing part of the responsibility of being a teacher.
- Providing students with information.
- Developing student understanding through aligning media to intended learning outcomes.
- Helping students develop and apply new concepts.

While these are relevant outcomes, from my perspective, they do not allow having a clear understanding of how teaching and eTeaching are conceived of in the context of 'blended' environments. Ellis et al (2006) study focused on conceptions of 'blended' teaching as a whole, not exploring its face-to-face and online sides separately. An investigation that takes into account both sides of the 'blended' teaching experience, exploring associations between conceptions of teaching and eTeaching, is worthy because:

- Research on students' learning in 'blended' environments has shown that they do some work online and some face-to-face. At best, students see a relation between these two, but they do not experience it as a seamless whole (e.g., Ellis, Goodyear, Calvo & Prosser, 2008; Ellis, Goodyear, O'Hara & Prosser, 2007; Ellis, Goodyear, Prosser & O'Hara, 2006). It would be risky to assume that teachers experience 'blended' teaching as a unitary whole.
- It may be conjectured that there should be 'consonant' associations between conceptions of teaching and eTeaching. I employ 'dissonant/consonant' here after Postareff et al (2008) terminology, although in a slightly different manner: for referring to associations between conceptions of teaching and eTeaching, rather than associations between conceptions and approaches, as the mentioned authors did. In this line, it is reasonable to conjecture that those teachers who conceive of teaching as a process of transmission of information would see eTeaching as helping with information provision. On the other hand, it is also reasonable to think that teachers who conceive of teaching focusing on students' learning would be likely to think of eTeaching as supporting quality learning experiences.

This paper presents an enquiry into the association between conceptions of teaching and conceptions of eTeaching. In so doing, it will explore whether it is appropriate to explore blended teaching by detailed analysis of face-to-face and online; and to what extent conjectured associations are present in the data gathered. The rest of the paper is structured as follows: the next section summarises of previously reported outcomes on conceptions of teaching and eTeaching are presented. Then, associations between them are explored. Conceptions of 'blended' teaching emerging from those associations are proposed, including examples taken from interview transcripts for illustrative purposes. Finally, implications for further research and academic development are discussed.

Previously reported work

The present report is part of a wider investigation on university teachers' experiences of 'blended' environments. For this research, teachers who have had the experience of combining face-to-face and online teaching were invited to participate from two campus-based research-intensive Australian universities. The sample was built aiming for variation in experiences (Bowden, 2000b): in terms of discipline, teaching experience, academic position and gender. The sample achieved was fairly distributed in regards to these elements. Moreover, the number of participants (n=18) is considered suitable as it allows the chance of finding variation and, at the same time, reasonable data management (Trigwell, 2000). University teachers participating in this study had been involved in academic development programs. Regarding e-learning, all of them had, at least, participated in workshops for learning how to use the LMS employed in their universities. Table 1 presents characteristics of the sample.

These teachers were interviewed regarding their experiences of combining face-to-face and online teaching. Conceptions of teaching and eTeaching were discovered through phenomenographic analysis of interview transcripts (González, in press-a, in press-b). Categories of description for both outcome spaces are summarised next.

Conceptions of teaching (González, in press-a)

- Conception A: teaching as transmitting the basic information of the discipline.
- Conception B: teaching as transmitting teachers' understanding.
- Conception C: teaching as developing students' understanding.
- Conception D: teaching as changing students' understanding – developing critical thinking.

Table 1: Characteristics of the sample

Teaching experience	Academic Position	Discipline	Gender
More than 20 years	Associate Professor	Law	Female
More than 20 years	Senior Lecturer	Biochemistry	Female
More than 20 years	Senior Lecturer	Physics	Male
More than 20 years	Lecturer	Counselling	Male
Between 11 and 20 years	Associate Professor	Law	Male
Between 11 and 20 years	Lecturer	Astronomy	Female
Between 11 and 20 years	Lecturer	Social policy	Female
Between 11 and 20 years	Lecturer	Psychology	Female
Between 6 and 10 years	Senior Lecturer	IT	Male
Between 6 and 10 years	Senior Lecturer	Accounting	Male
Between 6 and 10 years	Lecturer	Vet Sciences	Male
Between 6 and 10 years	Lecturer	Psychology	Female
Between 6 and 10 years	Lecturer	Pharmacy	Female
Between 6 and 10 years	Lecturer	Sociology	Female
Less than 5 years	Lecturer	Counselling	Male
Less than 5 years	Associate Lecturer	Management	Female
Less than 5 years	Associate Lecturer	Industrial safety	Male
Less than 5 years	Tutor	Biology	Female

Conceptions A and B represent a less complex and inclusive understanding of teaching. In these conceptions the role of the teacher is seen as a provider of information, students are seen as passive recipients of knowledge and the content taught is seen as constrained by the syllabus and /or teacher's choices. On the opposite, conceptions C and D represent a more complex and inclusive understandings of teaching. In these conceptions the role of the teacher is seen as a learning facilitator, students are seen as active learners who have the opportunity of participating in the construction of the content taught. Teachers are focused on the students and their learning, but they are also aware of the teacher-focused perspective.

Conceptions of eTeaching (González, in press-b)

- Conception A: eTeaching employs eLearning as a medium to provide information.
- Conception B: eTeaching employs eLearning as a medium for 'occasional' online communication.
- Conception C: eTeaching employs eLearning for engaging students in online discussions.
- Conception D: eTeaching employs eLearning as a medium to support knowledge-building tasks.

Conception A is the less complex and inclusive. It represents an awareness of the informative feature of eLearning only. Conception B advances to represent a limited awareness of the communicative feature of eLearning, focusing on occasional communication. Conception C represents a qualitative shift towards more complex and inclusive understandings of eLearning. It is seen as a medium for learning related online communication. Participation in critically discussing in online settings is seen as critical for developing students' understanding. Conception D positioned as the highest category of description. It reflects the more complex and inclusive understanding of eLearning. It is the most inclusive, because eLearning is understood as a medium to support knowledge building tasks. At the same time, it is seen as a space for engaging in online discussions, for occasional communication and for provision of information. Moreover, it is more complex because it implies an awareness of more aspects of eLearning: simultaneously covering the informative, communicative and collaborative.

Results

Associations between conceptions of teaching and eTeaching

In this section, associations between the above described sets of conceptions are explored. Prior research on learning and teaching in higher education has explored associations between conceptions and/or approaches by situating individual interviewees or respondents to the highest category of description found in their interview transcripts or responses to open-ended questionnaires (see e.g., Ellis, Goodyear, Calvo & Prosser, 2008; Ellis, Marcus & Taylor, 2005; Prosser, Trigwell & Taylor, 1994; Trigwell & Prosser, 1996; Trigwell, Prosser, Martin & Ramsden, 2005). This method has been effective in identifying patterns in associations between different conceptions of phenomena, as well as associations between conceptions and approaches. A similar method was used in this study. Each of the

18 interviewed university teachers was allocated to the highest conception of teaching and conception of eTeaching found in the transcripts. Teachers were allocated after re-reading the interview transcripts, having in mind conceptions previously developed. Results were input in a 2*2 matrix for better visualising patterns of associations. Table 2 presents how conceptions of teaching and eTeaching are associated.

Table 2: Associations between conceptions of teaching and eTeaching

Conceptions of teaching		Conceptions of eTeaching			
		Less complex and inclusive conceptions (information focused)		More complex and inclusive conceptions (communication/collaboration focused)	
		A	B	C	D
Less complex and inclusive conceptions (teacher-focused)	A	1	1		
	B	1	3	2	
More complex and inclusive conceptions (student-focused)	C			3	2
	D			1	4

Conceptions of teaching. Teaching as:

- A. Transmitting basic information of the discipline
- B. Transmitting lecturers' understanding
- C. Developing students' understanding
- D. Changing students' understanding – Developing critical thinking

Conceptions of eTeaching. eTeaching employs eLearning as a medium:

- A. To provide information.
- B. For occasional communication.
- C. For online discussions.
- D. To support knowledge building tasks

Table 2 reveals three groups of teachers, highlighted in different shades of grey. The first group, in palest grey, is composed of teachers who held less complex (teacher-focused) conceptions of teaching and less complex (information-focused) conceptions of eTeaching. The second group, in mid-grey, represents un-expected associations between conceptions of teaching (in this case teacher-focused) and eTeaching (in this case communication-collaboration focused). The third group, represented in darker grey, is composed of those who held more complex (student-focused) conceptions of teaching and more complex (communication/collaboration focused) conceptions of eTeaching.

These associations may suggest two things. Firstly, for teachers in groups one and three, eTeaching is conceived of 'consonantly' with their conceptions of teaching. Those in group one, who conceived of teaching in a teacher-focused manner, conceived of eTeaching as a good medium to support transmission of information. On the other hand, teachers in group three, who conceived of teaching in a student-focused manner, conceived of eTeaching as a good medium for engaging students in tasks supporting their learning. In contrast, teachers in group two, those who described their conceptions of teaching 'dissonantly', present an un-expected pattern of association. At the face-to-face level, they emphasised good teaching as transmitting teachers' understanding while in online settings they give emphasis to active participation in online discussions.

Conceptions of 'blended' teaching

After exploring the patterns of associations visualised in Table 2, I returned to the interview transcripts to get a grounded insight of them. In this way, it is proposed that conceptions of 'blended' teaching emerge from associations between conceptions of teaching and eTeaching as found in the experiences described by teachers in the interviews. Three ways of seeing 'blended' teaching are suggested:

- Conception A: 'blended' teaching as a disintegrated way of supporting transmission of information.
- Conception B: 'blended' teaching as a dissonant way of combining face-to-face and online teaching.
- Conception C: 'blended' teaching as an embedded way of supporting students' learning.

These are described below.

'Blended' teaching as a disintegrated way of supporting transmission of information: This conception represents a limited understanding of the incorporation of eLearning into 'established' face-to-face teaching. Teaching is seen as providing a basic understanding of the discipline or teachers' understanding. The online component is understood as a way to improve distribution of materials, answer students' occasional questions, and keep people informed about unit updates. A limited relation only is foreseen between the online and face-to-face components, one in which the online side is just another way of providing information. eLearning is seen disintegrated from the face-to-face teaching experience.

An example of one interviewee holding this perspective on 'blended' teaching is offered next. The interviewee conceives of teaching as providing the basic information of the discipline. This basic information is seen as a 'foundation' for further studies:

Teaching for me is providing the foundations of the discipline...if you want to do these three topics here...you need to understand these things... and in science is like this, you need to know the foundations to go to a higher level and in these units I'm trying to build the foundations with the students. (Male, Physics)

The interviewee conceives of eTeaching consonantly with his perspective on teaching. It is seen as a space for providing information to students: a 'supply channel' rather than a medium for learning. Besides, it is conceived of as a space for occasional communication. In both cases the 'easiness' afforded by the web in teaching is emphasised:

For me the web is fantastic for putting extra information up and it does it very easy...that's one thing that I like. Because I've done it before...give some information, put some extra things and people needed to photocopy it from the library. I had 3 or 4 copies of that...Now with the web you don't need to do that and this is fantastic to me. All students can access those materials at the same time. I think in that sense is fantastic. [] To communicate with students between classes, because this is easier than email students, to post announcements into the [unit's website], and that is a nice and convenient way to do that. (Male, Physics)

'Blended' teaching as a dissonant way of combining face-to-face and online teaching: In this case, teachers may present teacher-focused conceptions of teaching combined with conceptions of eTeaching focused on communication/collaboration.

In the next example, the interviewee conceived of teaching in a teacher-focused manner. However, she held a more complex conception of eTeaching, focusing on online discussions. She conceives of teaching mainly as providing the basic information of the discipline, which is seen as needed for further studies:

[My teaching] is really a lot of information giving [] and I guess the point is giving them a solid framework because if they don't understand the basics they won't be able to do anything on top of that. (Female, Biology)

At the same time, eLearning is conceived of as a space where students can discuss about the project they are working on:

They are given a group assignment [] in the lab time they do a lot of discussion in the group []. So they discuss different strategies...and then go away and continue their discussions online. (Female, Biology)

'Blended' teaching as an embedded way of supporting students' learning: This conception represents a more complete way of understanding how eLearning may be incorporated into 'conventional' face-to-face teaching. Teaching is seen as a way of promoting students' learning, developing understanding and critical thinking. The online learning environment is seen as a space where learning can take place through discussions, supporting group work, etc. In this way, it is seen as key part of the learning and teaching experience. eLearning is embedded with the face-to-face component of the unit and associated tasks are designed in this way. Teachers see the possibilities of eLearning as creating a space where learning may take place: continuing face-to-face discussions, supporting collaborative tasks, etc.

An example of this perspective is presented next. The interviewee understands teaching in a student-focused manner. The emphasis is on what students learn rather than what teachers teach:

My teaching is based on social constructionist principles. So I believe that learning actually takes place in a social milieu. [] so I use a mixture of lecturing and teamwork [] just

transfer information from the lecturer to the student is not my ideal way of lecturing. So [it] is an interactive...iterative process. (Female, Sociology)

eTeaching is conceived of consonantly with the interviewee's conception of teaching. It is seen as a space in which students can work collaboratively. In this process, students may use available tools, related to content (such as relevant websites or online materials), communication (such as discussion boards) and collaboration (such as repository space). eLearning is employed to support the creation of learning products that reflect high level engagement and understanding. In this case, a collaboratively written report:

[eLearning] is vital for my teaching...[] because that's the place where they can all communicate with one another, as well as do the drafts and store their material...that they've already got: the summaries, the booklets or whatever. So, that's a really important repository, as well as the communication device of the teams [which are writing group reports]. (Female, Sociology)

Discussion

Conceptual and further research implications

In the introduction of this paper it was stated that research on conceptions of 'blended' teaching would benefit of considering both sides of the experience, face-to-face and online, because it was conjectured that teachers probably would conceive of teaching and eTeaching 'consonantly'. Results suggested that this was the case for most university teachers participating in this study. Their understanding of eTeaching seems to be highly associated with what they conceive of as good teaching. Teachers who held teacher-focused conceptions of teaching tended to present conceptions of eTeaching focused on transmission of information. In contrast, teachers who had student-focused conceptions of teaching tended to present conceptions of eTeaching focused on communication and collaboration. A third group of teachers presented some dissonant associations. Research will need to further investigate this issue, identifying what the factors are leading to 'dissonant' conceptions. It will also need to address why some of these teachers presented communication/collaboration focused conceptions of eTeaching combined with teacher-focused conceptions of teaching, a highly unexpected outcome for the conjectures established previously. Also in the introduction section, I referred to research on students' learning to claim that it would be risky to assume that teachers experienced 'blended' teaching as a seamless whole. Results showed that, rather than seeing the 'blend' as a whole, teachers perceived it with different levels of integration between face-to-face and online.

Conceptions of 'blended' teaching proposed in this study were mostly in accordance with findings from Ellis et al (2006). 'Blended teaching as a disintegrated way of supporting transmission of information' is very similar in meaning to 'providing students with information'. Besides, 'blended teaching as an embedded way of supporting students' learning' contains similar meaning as conceptions 'developing student understanding through aligning media to intended learning outcomes' and 'helping students develop and apply new concepts'. However, in Ellis et al (2006) the conception 'replacing part of a teacher's responsibilities' did not have a similar one in this study. Moreover, the 'dissonant' conception reported in this paper did not have an equivalent in the other investigation. This is not surprising as 'dissonance' emerged when exploring both sides of the 'blended' teaching experience. Further research is needed to explore whether the categories developed by these studies apply to different settings, as well as an investigation of 'blended' teaching in specific disciplinary areas.

It is important to note the limitations of this study. It included 18 teachers and was conducted in a very particular setting, two Australian universities. Therefore, there are no generalisation claims for this study. Further research will need to investigate whether findings reported in this paper apply to different contexts. Accordingly, this paper proposed researching conceptions of 'blended' teaching through detailed investigation of face-to-face and online. In this way, a richer insight on the associations between both sides may be gained.

Implications for supporting teachers in incorporating and using eLearning

Results suggested that most teachers in the study conceived of teaching and eTeaching 'consonantly'. This has an important implication for academic development programs supporting teachers to incorporate eLearning into their practice. So far, these programs have mostly focused on providing teachers with technical skills; for example, how to use the learning management system adopted by their university. While these programs are useful, outcomes of this study suggests that a complementary approach should be taken. If teachers tend to conceive of teaching and eTeaching 'consonantly', development programs

should be aimed at changing teacher-focused conceptions or deepen student-focused ones. This would prepare them to engage in using eLearning in a manner which is more likely to support quality learning experiences. This idea is coherent with Lofstrom & Nevgi's (2008) argument, which stated that appropriate conceptions (student-focused) are needed as prerequisites for novel techniques and methods adoption. Desired implementation of eLearning is likely to fail without change towards more sophisticated conceptions of teaching.

In practical terms, this type of programs may take different forms. For example, eLearning training may be used not only to provide technical skills, but also to engage teachers in reflecting and developing their pedagogical awareness (Lofstrom & Nevgi, 2008). Many universities have in place formal academic development programs of which the focus is on conceptions of teaching (Ginns, Kitay, & Prosser, 2008). These may incorporate the use of eLearning as a topic. In this way, at the same time than teachers reflect and move towards student-focused conceptions of teaching, they may be exposed to think how eLearning can be aligned with those conceptions.

Independent of specific forms these programs may adopt, they should consider the following:

- Promotion of more sophisticated conceptions of eTeaching, those in which eLearning is seen as a medium for supporting learning rather than just for providing information. These should be aligned with promoting student-focused conceptions of teaching.
- Promotion of an awareness of how eLearning can be embedded in 'conventional' face-to-face teaching, in a way that both sides of 'blended' environments are strengthened and produce synergy for creating and delivering quality learning experiences.

Conclusion

This paper has contributed to the knowledge on teaching in 'blended' learning environments by providing evidence that teachers participating in this study tended to conceive of teaching and eTeaching 'consonantly', although some held 'dissonant' associations. Methodologically, it explored both sides of the experience of teaching in 'blended' environments rather than focusing directly on 'blended' teaching. This approach was successful in understanding how these sides are associated. Further research was proposed to understand how 'dissonant' associations emerge, and to continue exploring conceptions of 'blended' teaching, as well as explore whether categories of description developed here can be applied to different settings. The outcomes of this paper can be used in eLearning related academic development. It was claimed that, for the implementation of eLearning to be successful, attention needs to be given to developing student-focused conceptions of teaching when preparing teachers for using eLearning. Programs supporting eLearning adoption should incorporate a focus on developing teachers' pedagogical awareness (including face-to-face and online teaching), not only the provision of technical skills.

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