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Blended learning in higher education: How students perceive integration of face-to-face and online learning experiences in a foreign policy course

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The paper presents research exploring university students' perceptions of the integration between face-to-face and online contexts of their experience of learning. Students from a large Australian university were interviewed (semi-structured interviews; N=20) and surveyed (through open-ended questionnaires; N= 59) about their perceptions of integration between face-to-face and online discussions in a third year foreign policy course. Their responses were analysed using both qualitative methodology, drawing on phenomenographic principles and quantitative statistical analyses. Students' descriptions reflect qualitative variation in the levels of perceived integration of blended learning, variation that can be mapped across four hierarchical categories. Statistical analyses revealed that the quality of integration of blended learning was reflected by students' academic performance. That is, students who tended to describe integrated perceptions of blended learning also tended to perform better academically compared to students who displayed less integrated perceptions of blended learning. Implications of the findings are discussed from the perspective of educational research and practice.

Keywords: integration of blended learning, face-to-face learning, online learning

Background

Blended learning has become increasingly used in higher education as representing a combination of multiple delivery media designed to complement each other and promote meaningful learning (Singh, 2003). Blended learning has been defined as integrating technology-mediated learning into other learning experiences (Bliuc *et al.*, 2007). In modern higher education, technologically-enhanced learning experiences such as online discussions, forums, simulation, interactive multimedia software that promote inquiry and reflection are often intended to complement learning in face-to-face classes (for example, Draffan & Rainger, 2006). In this paper we use the umbrella term 'online learning' to incorporate all of the experiences listed above. The issue of integration, or lack of integration, between face-to-face and online learning experiences in the student experience has recently started to attract more attention from both educational researchers and designers (Bliuc *et al.*, 2007; Draper, Brown, Henderson, & McAteer, 1996; Rushby, 1979). A key issue for educators with the

introduction of online tasks into a pre-existing, predominately face-to-face course is to determine how integrated and seamlessly the online tasks support the learning outcomes of the students. This is the key issue examined in this paper.

In terms of empirical support for the complexities of measuring the extent to which students experience the integration of learning across face-to-face and online contexts, there is a growing body of research focusing on university students' experiences of blended learning. One stream of this research includes quantitative and qualitative studies exploring face-to-face and online learning through discussions in engineering (for example, Ellis, Goodyear, Calvo, & Prosser, 2008; Ellis & Calvo, 2006), in political science (for example, Bliuc, Ellis, Goodyear, & Piggott, in press), and in social work (for example, Ellis, Goodyear, Prosser, O'Hara, 2006; Ellis, Goodyear, O'Hara, & Prosser, 2007), and blended problem-based learning (for example, Ellis, Goodyear, Brilliant, & Prosser, 2008). Findings from research on blended learning are consistent with previous relational student learning research (see Prosser & Trigwell, 1999; Ramdsen, 2002; Biggs and Tang, 2007 for a review of relevant studies). The research on blended learning shows that conceptions of, and approaches to, both face-to-face and online learning are inter-related, and further associated with learning outcomes. Although this body of research provides insights into how students' experiences of learning relate to each other across the face-to-face and online contexts, there is little direct empirical evidence about how students perceive the face-to-face and online components of learning in terms of their degree of integration, nor about the effects of these perceptions on other aspects of learning, such as learning outcomes. This study complements and adds to the existing research by investigating the students' perceptions of integration across face-to-face and online contexts.

Current research

Identifying patterns in the ways in which students make sense of their blended learning experience and in how they are able to integrate elements of face-to-face and online learning represents a crucial element in determining the quality of the overall blended learning experience. If educators do not understand how the online part is contributing to the quality of the experience, the learning of the students can be at risk. This research aims to address the key issues involved in such circumstances by focusing explicitly on understanding the variation in students' perceptions of the integration between face-to-face and online experiences in blended learning in a foreign policy course at a large Australian university.

The study, combining both qualitative and quantitative methodology is shaped by the following research questions:

- How do university students perceive blended learning experiences in terms of face-to-face and online discussions?
- Is the degree of perceived integration of the blended learning experience related to the learning outcomes?

Research site

The study was conducted at a major cosmopolitan Australian university. The course was designed as a blended learning experience with tutorials incorporating face-to-face and online discussions. Specifically, the tutorials were structured around face-to-face discussions for a number of sessions interspersed with sessions of asynchronous online discussions. In terms of organisation, the structure of online and face-to-face seminars was similar, except that in the online discussions, one student each week led the tutorial with a 500 word presentation and e-

moderation of the other students' responses. The underlying educational purpose of the discussions was to provide students with a more integrated and coherent learning experience, by enabling them to engage in further discussion and reflection on-line in between face-to-face class discussions. This was important as the teacher wanted to hear from more students individually than was possible in a classroom-only model, and to enable the participation of students who would normally be reluctant to engage in class discussions due to personality and learning style (Bullen, 1998; Neuhauser, 2002) or language obstacles (Leki, 2001; Morita, 2004). At the beginning of the course, the lecturer explained to the students the changes from the previous fully face-to-face structure of the course to include online components and the rationale for introducing the online discussions to complement the face-to-face seminars, that is, to provide them with the opportunity of a more inclusive and holistic learning experience.

Methodology

Participants

Participants were 63 students enrolled in an undergraduate third year course of Foreign Policy (59 students responded to open-ended questionnaires and 20 students participated in semi-structured interviews exploring the same issues at a deeper level, 4 students participated in both survey and interviews). Sixty-eight percent of the participants were women.

Procedure

The research questions were explored by conducting semi-structured interviews and an open-ended survey asking students to respond to the question: "How is what you do on-line informed by the discussions you have had in class and vice-versa?" During the interviews, the researchers had the opportunity to explore this question at a deeper level by asking participants to further elaborate on particular points.

In the absence of more comprehensive instruments to capture learning outcomes, students' academic performance, as reflected by the final mark resulted from the end of the unit assessment, was used as the measure of learning outcomes.

Method of analysis

The analysis of the responses was informed by the phenomenographic framework (Marton, 1981, 1986; Marton & Säljö, 1976a, 1976b; Marton & Booth, 1997). The interviews were transcribed and the answers for our question from all participants were pooled and read by the researchers. Students' descriptions of how they integrate learning experiences in face-to-face and online contexts were analysed by two independent researchers. Emerging themes were discussed and agreed upon by the researchers, followed by independent refinement of the themes and a joint decision on the main thematic categories and their hierarchy. The final four categories, followed by illustrative quotes from participants ascribed to those particular categories, are presented in Table 1.

Next, in order to be able to conduct quantitative analyses, all student responses were assigned to one of the four hierarchical categories. Statistical methods were used to identify relationships between the ways in which students integrate learning experiences from the two contexts and the quality of their learning outcomes as captured by the final mark for the unit.

Findings

Descriptions of the ways in which students perceived the degree of inter-relatedness between face-to-face and online learning activities varied in quality and detail. If we look at these perceptions as grouped in two broad categories, one category includes descriptions of blended

learning perceiving them as two completely separate learning activities (with no connection or underlying theme informing both), while other includes descriptions of blended learning as one unitary learning experience meant to enhance meaningful learning and understanding across the two contexts. Within these, there were descriptions with varied levels of integration between the two. This categorisation can be seen as mirroring categorisations as fragmented versus cohesive conceptions (Marton, Dall’Alba, & Beaty, 1993) of the integration of face-to-face and online learning.

Table 1: Categories reflecting varying levels of integration between face-to-face and online learning experiences and illustrative quotes

Category labels	Quotes	
Integrated perceptions of blended learning	A. Focus on the complementing nature of the two learning activities which share the same underlying educational goal (i.e., to support deep learning)	<p>“I found that because the online discussions had a lot more depth and provided more thoughtful responses, that I often use what I learnt in online discussions to inform the face-to-face tutorials.”</p> <p>“Demonstrates how topics are very inter-related so there is a follow on effect each week of the conclusions from before. Still like to have a criticism of my own ideas whatever format that comes on.”</p>
	B. Focus on the unity of learning as topics in both face-to-face and online contexts which share a common conceptual thread	<p>“Not really linked in practical terms but the context of the topics studied linked the face-to-face and online tutes. (...)”</p> <p>“In this course the tutorials (face-to-face) elaborated upon some broad themes which have been subsequently been used to inform the discussions online. (...)”</p>
Fragmented perceptions of blended learning	C. Focus on comparing face-to-face and online learning	<p>“And so (in online) you didn’t get that same personality coming out of each person. Like their ideology, their background or whatever. You miss that – you lose that. Which I found difficult then to relate to myself in online discussions because I didn’t feel like I was relating to a person necessarily.”</p> <p>“[Face-to-face] doesn’t really affect what I do online. More likely to make better contribution online than in face-to-face because I have more time to gather my thoughts and form a good argument.”</p>
	D. Focus on individual topics (translated in perceptions of disconnection between the learning experiences)	<p>“I don’t see a link. Discussion varies week to week depending on the topics covered.”</p> <p>“There doesn’t seem to be much of a relationship between the two as the topics are different.”</p>

Students who perceived blended learning as an integrated learning experience displayed a more holistic perspective in their approach to learning in general. Responses from these students reflected an awareness of the complementary nature of face-to-face and online learning activities and of the shared educational purpose of activities in both contexts, that is, to improve the quality of learning (category A). In terms of content of learning, these responses also reflected a tendency to perceive the learning experience as a whole rather than topic by topic (category B).

The distribution of responses across categories (frequencies) is presented in Table 2.

Table 2: Frequency of categories of integration across the sample

Experience of learning	n	% of responses
Integration of face-to-face and online		
A	7	11.1
B	14	22.2
Lack of integration of face-to-face and online		
C	19	30.2
D	23	36.5
Total	63	100

Responses that can be categorised as fragmented or lacking in integration reflect perceptions of the blended learning experience as disconnected and with no obvious underlying educational purpose. Responses of this type can be seen as falling into two main categories: category C, including responses which suggest a tendency to focus on the subject matter topic by topic (so as the topics of discussion varied from online to face-to-face, they did not see a connection between them), and category D, including responses that show a tendency to compare face-to-face and online activities in terms of their advantages and disadvantages (implicitly reflecting perceptions of blended learning as a fragmented learning experience). There are differences in terms of the ways in which the experience is interpreted by students. For example, responses in category C suggest that these students had seen the experience as an opportunity to compare the two contexts, or to express dissatisfaction in regard to one of them. Students whose responses can be classified in category D, tended to interpret the experience in a narrower sense, as being intended to explore links strictly between topics, in terms of re-occurrence of the same issues in discussions in both class and online rather than in terms of a higher order conceptualisation of the whole learning experience.

Next, in order to identify whether students' academic performance was related to their perceptions of the level of integration between face-to-face and online learning experiences, we compared the academic performance of students who perceived blended learning experiences as integrated (categories A and B) with students who perceived the blended learning experience as less integrated (categories C and D). Students' academic performance was indicated by the final mark which was computed by considering the performance at a written examination (60%), participation in face -to-face discussions (20%), and in online discussions (20%).

Table 3 illustrates the findings of t-tests performed to investigate the differences in academic performance. The results suggest that the difference in academic performance between groups of students categorised related to the level of perceived integration of blended learning was statistically significant. That is, students who described their experiences of blended learning as integrated (that is, face-to-face and online learning activities perceived as one holistic learning experience meant to improve the quality of their learning for the course) tended to perform academically better than students who did not perceive a connection or a common educational purpose in their face-to-face and online learning experiences ($t = 3.09, p < .005$).

Table 3: Differences in students' level of integration of blended learning by academic performance

Experience of blended learning	Final mark		
	n	mean	SD
Level of integration of face-to-face and online learning			
Categories A and B (Integration)	21	71.48	4.89
Categories C and D (Lack of integration)	42	66.00	7.33
t	3.09*		

* N=63; *p<.005

Discussion

We know from previous research that the quality of the student experience is closely associated to students' perceptions of the learning context (Ramsden, 2002). Our analysis of students' responses in this study suggests that there is considerable qualitative variation in the way in which students perceive the integration of face-to-face and online learning. This variation was reflected in four hierarchically structured categories of responses. Specifically, students whose responses were classified in categories A and B tended to perceive face-to-face and online learning as one meaningful learning experience aimed to support their understanding of the subject as a whole. These students seemed to perceive the online discussions as a way to complement learning through discussions in class and their responses suggests a certain level of meta-awareness in relation to the content of learning (a tendency to focus on the underlying message of the whole course rather than to focus on individual topics or differences between face-to-face and online learning). In contrast, students whose responses were classified in categories C and D tended to perceive learning in face-to-face and online contexts as being completely separate, seemingly unaware of the underlying purpose of activities linking the students' experience across both contexts. These students tended to show a fragmented perception of their learning either by topic or by context of learning (that is, focusing on advantages and disadvantages, or differences between the two mediums of learning). The differences in the ways students perceived the integration between face-to-face and online learning is reflected in differences in their learning outcomes. That is, students who expressed a more elaborated understanding of relationships between face-to-face and online discussions were performing academically at a higher level than students who expressed an unintegrated view of how the two components of the learning experience were associated. These findings complement previous research that relates other aspects of learning such as conceptions and approaches to learning outcomes in face-to-face learning (for example, Biggs, 1978; van Rossum & Schenk, 1984; Prosser & Millar, 1989; Meyer, Parsons, & Dunne, 1990) and also more recent research focusing on the relationships between these aspects of students learning in blended learning environments (for example, Ellis *et al.*, 2006; 2007; 2008; Ellis & Calvo, 2006).

In terms of limitations of current research, this study is based on students' self-reports describing how they perceived integration between face-to-face and online learning in a very specific context (that is, foreign policy). Although the study shows that students who tend to perceive blended learning in a more integrated, holistic way also tend to perform better academically, further research is needed in order to enhance the generalisability of our findings and to be able to understand at a deeper level how the quality of learning experience

varied between the two contexts, and how different approaches to learning such as deep, surface or achieving/instrumentalist approaches might be related to students' perceptions of integration.

Conclusion

The implications of our findings can be seen at two levels: a) implications for understanding student learning that enable further research; and b) implications in terms of applicability, that is, integrating these findings and the understanding of student learning into teaching and designing more effective blended learning programs.

In relation to the implications for research, these findings are significant because they are consistent with previous work on the inter-related nature of student learning. In addition to providing further empirical support for the relational perspective of student learning, our research highlights the importance of the role played by students' perceptions of integration of blended learning in relation to learning outcomes such as academic performance. To our knowledge, this research represents a first attempt to directly address the issue of integration perceived by students between face-to-face and online learning experiences. Furthermore, our research opens new pathways to obtaining a more comprehensive understanding of the ways in which students make sense of their blended learning experiences at university (for example, on how these perceptions of integration of blended learning fit into the broader picture including conceptions of blended learning and approaches to face-to-face and online learning).

Our findings in relation to students' perception of the integration of face-to-face and online discussions open new questions to address in future research. It is important to understand why students may have difficulties in integrating the two contexts of learning. How can they be helped to identify overarching themes and principles in the two different context of learning? This question leads to the implications of our research for teaching and designing blended learning programs that support quality in student learning. In order to establish and maintain a high standard of quality in implementing blended learning in higher education programs, it is essential for academics to focus on understanding how their students are able to integrate and make sense of learning experiences in different contexts as a whole, and to shape and re-model their teaching practice based accordingly. The issue of integration of learning experiences is crucial for the quality of student learning. Perhaps one way to address this is for teachers to set clear expectations for students by explaining the purpose, particularities and advantages of each context of learning. For example, students should understand that online discussions are not set to replace or precisely reproduce face-to-face discussions. Rather they are complementary activities aimed to approach the subject in a slightly different manner (and enabling different qualities of the learning experience to come to the fore, such as reflection) with the end result of providing the student with a learning experience offering many opportunities to promote understanding.

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