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Alyson Simpson

Abstract

This paper discusses the pedagogic value of dialogic learning to strengthen pre-service primary teachers' reflective practices. It examines the instructional design of a unit of study that incorporated Social Networks as one of three different dialogic environments engaged to promote such educational interaction through blended learning. The paper uses quantitative data from unit of study evaluation surveys and qualitative data from focus group interviews to report on student perceptions of the impact of social networks on their learning. Emerging findings from the study in progress show that students value the learning/teaching process highly from four perspectives including: critical thinking, grounded learning, applied practice and embedded feedback. Through analysis of these findings the paper addresses the question: *How does our pedagogy impact on the value students perceive about their learning experience?* The approach to this question through the Computer Mediated Communication tool of Social Networks adds to the body of knowledge in Higher Education, which seeks through reflective practice to improve the pedagogic structures that underpin blended learning.

Dialogic Learning: How students value Social Networks as a learning environment

As more and more instances of blended learning are used in higher education contexts it is useful to examine how different modes of teaching contribute towards students' perceptions of their learning. It has been suggested that student success may be linked to the perceptions they have about their learning environments (Ellis and Calvo, 2004 p272) where positive perceptions lead to deeper attitudes to learning which tend to correlate with improved learning outcomes (Ginns & Ellis, 2007 p63). Therefore, a study of the relationship between unit of study (UOS) design and student evaluation could provide useful feedback on the impact of curriculum innovations as well as what students value in their learning environments. However, capturing what students value can be problematic as although student evaluations are accepted as valid, reliable and useful indicators of teaching quality (Marsh, 1987) a myriad of elements can influence student perceptions (Biggs, 1999).

The paper reports on research in progress, which examines a pedagogic design employed to support pre-service primary teachers (PSPTs) to develop critically reflective learning practices. The research took place in an urban university in Sydney, Australia with a final year cohort of Bachelor of Education Primary students. The focus of the research was a unit of study scaffolding PSPTs knowledge about professional development that ran in 2011 with two interactive learning environments, and was revised in 2012 to incorporate a third interactive learning environment, social networks. This curriculum innovation was based on Alexander's 5 principles of Dialogic Teaching (2004) to encourage students to use dialogue to build knowledge, share ideas and reflect on their learning about professional standards in an online platform. The unit ran for a semester of 10 weeks duration using combinations of three learning environments including: face-to-face (f2f) classroom tutorials and discussion in social networks (SN) during semester followed at the end of semester with a Viva Voce. A key feature of the unit was the deliberate plan to use iterative processes so that PSPTs learned about theoretical concepts, applied them in collaboration with others to discuss weekly questions, reflected on their own learning as they peer reviewed artifacts created for assessment and then participated in an interview that required them to provide evidence their professional development in a discursive context. Dialogue was involved at all stages of the

curriculum cycle to give the PSPTs an opportunity to experience a variety of ways dialogue could be used productively to set up reflective learning contexts.

The paper is structured to provide a context to address the research question through a brief overview of background literature. A rationale for a suitable methodology is then given before findings are described and then discussed leading to a speculative conclusion.

Background literature

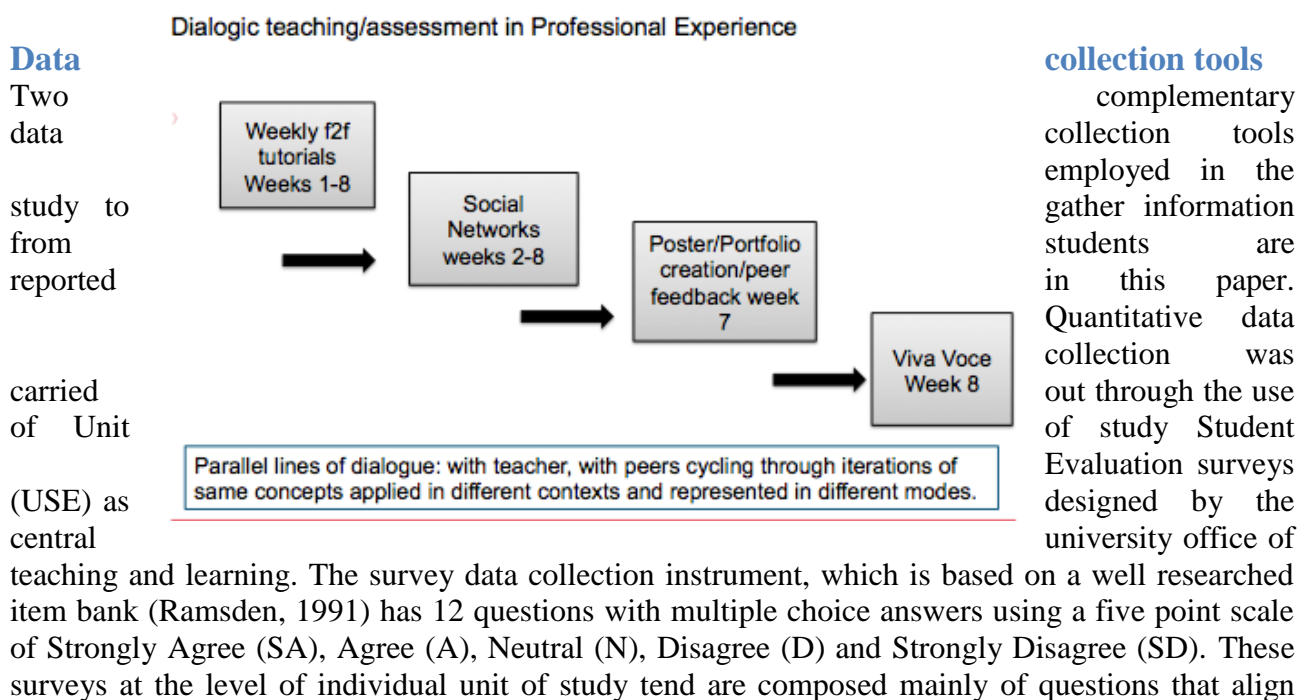
The two keys concepts which come together in this study of learning design in the higher education context are Dialogic learning and Social Networking. The term Dialogic learning as promoted by Alexander relates to the systematic use of talk to ‘engage’, ‘stimulate and extend thinking’ and ‘advance learning and understanding’ (2004 p37). His research in primary schools resulted in a set of dialogic principles that apply to learning in general where dialogue is: Collective, Reciprocal, Cumulative, Supportive and Purposeful (Alexander, 2004 p38). Higher education has long recognized dialogue as a core pedagogic strategy that encourages successful learning outcomes when properly structured (Ramsden, 1992). So the dialogic learning activities included in the professional development unit were designed to prompt guided discussion in what Ravenscroft and McAlister call an “ecosystem of related digital practices and various forms of media and representation” (2008 p331). This study breaks new ground as it has extended the application of Alexander’s dialogic principles to online interactions in higher education through SN in an attempt to harness the potential of personalized communication within multimodal education platforms.

Research into Computer Mediated Communication (CMC) such as social networks suggests that the platforms that combine social with communication could be adopted by education systems to enhance students’ social and academic pursuits through inclusive pedagogic design (Hung & Yuen, 2010; Roblyer, McDaniel, Webb, Herman, & Witty, 2010). Critics have suggested that the emphasis on the social detracts from academic use (Friesen & Lowe, 2012) however, the use of SN in higher education has been shown to enrich learning in some contexts and provides students with additional channels of communication to compliment their f2f classroom interactions, which benefits the students by “creating systems of information, contacts and support (Yan Yu, A., Wen Tian, S. Vogel, D. & Chi-Wai Kwok, R., 2010 p1496). The rationale behind adopting SN in the program of study reported in this paper was based on student feedback at the end of 2011. Students from the 2011 cohort reported that discussion groups set up on the learning management system Blackboard were rendered meaningless by the existence of their own social networks where they were already discussing tutorial topics. In short, the students told tutors the ‘official’ groups were “*a waste of time*”. The researcher discovered there was a “disconnect between tools preferred by students and those used by teachers” (Roblyer et al, 2010 p134). So student run SN were trialed in 2012 as an alternative platform through which PSPTs would reflect on their learning in discussion with their peers who would provide multiple lenses through which assumptions, beliefs and constructions of knowledge could be critiqued (Larivee, 2000).

Methodology

This research examines how students developed a critical perspective of their own experience of meaning construction in a variety of media- and artifact- rich spaces viewed over time (Lemke, 2005 p18). The study is guided by a hermeneutic methodology that allows the researcher to interpret texts gathered from dynamic learning contexts including Social Networks. The elements of the learning teaching context can be described diagrammatically as follows:

In the discursive space of the SN students needed to create weekly postings prompted by SN tasks which required them to develop their own opinions of how theoretical readings and artefacts from everyday life related to the graduate standards. The multimodal SN postings allowed researchers to evaluate the conditions for learning created through the pedagogic design according to the results achieved through dialogue. The participants were 100 final year students studying in a pre-service teacher education program in an urban university. The group is not taken as representative of all undergraduate programs so the results are not transferable however the findings have useful implications for future unit design. The study employed mixed methods of quantitative and qualitative data collection.



well with Student Course Experience Questionnaire (SCEQ), which was designed with the goal of enhancing the student experience (Barrie, Ginns, & Prosser, 2005). However, researchers acknowledge that these surveys are not fine grained enough to closely examine student perceptions (Ginns & Ellis, 2007). Therefore, a more student centred approach to data collection was also taken and focus group interviews were used to gather comparative qualitative data on student perceptions. To meet ethical requirements the interviews were held after the official assessment period was over and results had been released. Twenty students made themselves available for the focus group interviews = 20% of the total cohort. Rather than provide a separate section reporting the focus groups interviews, findings from this data will be interpolated with the findings from the survey to provide a rich narrative illustrated with representative opinions. Quotes reported from the Focus Groups will be marked with the code [FG:Sx] where SX identifies the student who spoke.

Findings and Discussion

As the paper reports on USE surveys run in 2011 and 2012, two sets of survey data are presented. It is noted that the results compare figures across two years and not within a year but as experimental testing can not be used in an education context this is the closest comparison of student experience it is possible to create. Use of the consecutive sets of survey data enables the researcher to compare results across two iterations of the same unit of study, one before the systematic intervention of dialogic learning through SN was added and one after. These findings are presented using descriptive statistics. In 2011 80 students responded to the survey, which equaled 83% of the cohort. In 2012 88 students responded to the survey, which equaled 88% of the cohort. The survey results in 2011 reported reasonably high levels of student satisfaction with the unit. Therefore any gains in 2012 can only build on fairly narrow margins of improvement. For example, the lowest mean in 2011 was 3.71 compared with 3.95 in 2012 and the highest mean in 2011 was 4.57 compared with 4.66 in 2012¹.

It is particularly important to the dialogic learning focus of the study to note the results for items in the survey that related to the design of the learning environment. For instance, Item 2 from the survey aligns with SCEQ factor of Teaching Quality, item 4 aligns with Appropriate Workloads and item 5 aligns with Appropriate Assessment. The findings are reported by clustering responses from 2011 and 2012 according to the factors from the SCEQ to which they have been aligned by the central university institute for learning and teaching and the local faculty. To support ease of comparison across the years the first line of figures in the table will show the result for 2011, the second line of figures will show the results for 2012.

Table 1

Descriptive statistics for items related to Teaching Quality, 2011 and 2012

No.	Item	Mean	S.D	Likert scale response (%)		
				Disagree	Neutral	Agree
2	The teaching in this unit of study helped me to learn effectively	4.19	0.74	3	9	89
2	The teaching in this unit of study helped	4.26	0.72	1	13	86

¹ As is standard in statistical reporting, the mean and standard deviation are given, as well as the percentage of students who responded with "Disagree" "Strongly Disagree" (% Disagree); the percentage who responded using the "Neutral" category (% Neutral); and the percentage of students who responded with "Agree" "Strongly Agree" (% Agree).

 me to learn effectively

Responses to this item show that there was a drop in the perceived teaching quality of the unit from 2011 to 2012 of 3%. Despite the small percentage drop overall there was a rise of 7.4% in the SA category. Students reported that they were engaged with the tutorials and learning activities because they were considered meaningful. [FG:S1] *It was really valuable in learning the seven professional standards because every week we focus on a different standard and we reflect, collaborate with peers in our SN, and then discuss them again with our tutor in f2f tutorials.* It is interesting to note that perceptions of Teaching Quality were not impacted by the SN overall. One interpretation of the finding could be that students perceived the SN as a peer based collaborative working space where they worked on their own ideas without the intervention of the teacher. That is, despite the clear underpinnings of Reciprocity, Supportive and Purposeful dialogue, students did not perceive the change in learning design as part of teaching quality. A more negative reading could be that students possibly felt they were taught less and took on more responsibility for their own learning as teachers were ‘invisible’ in the SN space. However, as there was a rise in SA, the shift of perceptions does show positive improvement for some students.

Table 2

Descriptive statistics related to Appropriate Workload, 2011 and 2012

No.	Item	Mean	S.D	Likert scale response (%)		
				Disagree	Neutral	Agree
4	I was motivated to engage with the learning activities in this unit of study	3.71	0.82	10	19	71
4	I was motivated to engage with the learning activities in this unit of study	3.98	0.78	5	18	78

Responses to this item show that there was a gain in perceptions of appropriate workload of 7%. In the SA category the gain in this category was 13.5% with a corresponding drop of 5.3% in the SD/D. Most students reported that they were motivated to work on the different tasks and their participation in class because of the authentic nature of the tasks. [FG:S2] *Because our SN supported ongoing discussion and my peers and I were on the same level of learning, I felt that my understanding was able to go up and up and the professional standards all become more personal, relevant and meaningful to me.* [FG:S1] *I learnt a lot about what they (peers) have done and I was able to incorporate some of the things that they have done and also from their feedback into my portfolio before the conversation with my tutor, so from that dialogue my understanding built up.* These findings show that the use of SN impacted positively on student perceptions of workload as they felt they had already achieved part of the learning outcomes as the unit progressed. The key words from the quote including *ongoing, peers, feedback and conversation* indicate that the students recognised it was the SN that had made the connections possible. The students’ language indicates the principles of Cumulative, Collective, Reciprocal, Purposeful and Supportive dialogue were clear to them as they played out in this learning design. As it was not a direct comparison of groups, it is not possible to tell whether the 2012 cohort felt a lessening of workload but it is clear that they felt the workload was appropriate.

Table 3

Descriptive statistics related to Appropriate Assessment, 2011 and 2012

No.	Item	Mean	S.D	Likert scale response (%)		
				Disagree	Neutral	Agree
5	The assessment in this unit of study allowed me to demonstrate what I had understood	4.18	0.74	3	9	89
5	The assessment in this unit of study allowed me to demonstrate what I had understood	4.35	0.78	2	12	86

Responses to this item show that there was a drop of 3% in perceptions of appropriate assessment from 2011 to 2012. Despite the small percentage drop overall there was a rise of 19.3% in the SA category. This approval is supported by numerous comments on how assessment was viewed as a strength of the unit because it allowed students to show their understanding of knowledge creatively and to have more freedom to express their ideas through individual learning paths. For example, [FG:S3] *The peer feedback helped me to be really reflective, it made me think more.* The large improvement in the SA category could be read as positive student perception of flexibility of use and ease of access to multimodal communication in the SN. It is interesting to note that overall perceptions of Appropriate Assessment were not impacted positively by the incorporation of SN in the learning design. This could be interpreted as an indication of student perception that the cycle of learning required them to be busy completing tasks all semester, which were not viewed as part of the assessment process. However, as the focus group wording shows, it was the *iterative* nature of the learning through peer feedback, which students perceived added to the learning power of the unit. Importantly for the purpose of the study, this demonstrates how the dialogic principles have impacted on student perception.

Conclusion

Studies of blended learning recognize that, given the complexity of working in ever evolving digital ecosystems, designs for learning need to be flexible to acknowledge the importance of the personal and the academic and the lived context in which students interact (Ravenscroft & McAlister, 2008). This need works against setting rigid forms of interaction to encourage “pedagogical approaches which recognize that learning in the digital domain is becoming more personalized, informal, social and emergent – rather than the outcome of highly structured institutional practices” (Ravenscroft & Cook 2007). Past research has also suggested that to accommodate social and cognitive development the pedagogic design of SN (as with all CMC) must be carefully structured and transparently communicated so that dialogic environments do not become mere tools for supporting information exchange. This paper has begun to address this issue in a small way by examining learning design from a holistic perspective. It does not pretend to capture all that is relevant to the ongoing development of pedagogy for blended learning using digital platforms. Yet the paper has provided a window into what occurred with one group of students to show the benefits of changed pedagogic design on their learning and proposed the adoption of the principles of dialogic learning as a useful analytical tool.

The paper has addressed the complex issue of designing effective blended learning with the goal of examining how pedagogy impacts on the value students perceive about their learning experience. The investigation has analysed how the integration of social networks into a pre-service teacher education program affected student perceptions of dialogic learning in terms of their own reflective

practices. The quantitative findings show how an increase in the use of dialogic learning has correlated statistically with an increase in student satisfaction with their learning contexts. Qualitatively our students speak in terms of improved confidence not just as students who passed an assessment but as professionals who can explain their understanding of key standards in the context of their future development. As a consequence, we believe the study has shown that dialogic learning through SN provides opportunities for “learning in which the learners engage with the subject matter in a way that will shape how they retain and use what they have learnt” (Barnes, 2010 p9). By examining the results through the lens of Alexander’s principles it appears that, even though they did not necessarily recognize the explicit features of the design for learning, this group of high achieving students perceived that learning was well supported in the unit.

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