‘Not too much facilitation going on’ - Issues in Facilitating Online Problem-Based Learning in Academic Development

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Abstract

This research examines online Problem-Based Learning (PBL) in Academic Development (AD). Research shows limited application of PBL within AD, with no evidence of online PBL in accredited provision aimed at connecting participants, and enabling collaborations from different PgCert programmes across the UK. This study investigates whether collaborative learning in AD can be enabled and practised beyond institutional, geographical and temporal boundaries, through the application of a structured PBL approach with the use of Web 2.0 technologies.

A small scale trial was carried out with academic developers and individuals who teach or support learning across UK HE institutions. During the trial, participants were asked to complete an online PBL task in groups supported by PBL facilitators.

Phenomenography was adopted as a methodology and approach for data collection and analysis to capture the different ways in which participants experienced the online PBL trial on a PgCert programme.

Findings indicate that online PBL has the potential to connect PgCert participants using Web2.0 technologies for online collaboration. This paper focused on the findings linked to facilitation. Further research is required to create a more robust framework to enhance facilitation and participants’ online experience, motivation and engagement.

Keywords
PBL, online PBL, Academic Development, online facilitation, facilitating online PBL

Background

Problem-Based Learning (PBL) has been successfully used, since the 1960s, initially in Medical Education (Barrows and Tamblyn 1980). More widespread use has followed in multiple disciplines (Savery 2006; Hung 2009) at undergraduate and postgraduate level, and PBL has become increasingly popular nationally and internationally (Gürsul et al 2009; Donnelly 2010). Limited evidence has been revealed within current AD around the use of and research on PBL in general, and in blended and online PBL (Barrett 2005, 2010; Donnelly 2002, 2010).

PBL is an active and student-centred teaching and learning approach (Hmelo-Silver et al 2009) in which collaborative learning is the main feature (Savin-Baden 2003). Authentic, real-life ill-structured problems (Baturay and Bay 2010) are used as triggers to engage students in 'meaning-making over fact-collecting' (Torp and Sage 2002, 1). Baral et al (2010, 141) confirm that 'there is no uniformity in implementing of PBL' and this investigation has revealed a plethora of models (Mills 2006; Busfield and Peijs 2003; Woods 2000; McLoughlin and Darvill 2007). What all approaches have in common is that they are goal-oriented, based on real-life problem scenarios, facilitated by academics - or 'the promoter of learning' (Baral et al 2010, 144), in which students work in groups and are actively engaged in the learning process through which they gain and co-construct knowledge. They also develop their higher order thinking skills (Oliver and Omari 1999) and techniques linked to a specific subject and have the opportunity to develop, refine more generic and transferable skills and are also introduced to research (Mills 2006).

Facilitators play an important part in PBL (Savin-Baden 2003) and their role changes depending on the group they are facilitating but also their experience, skills and understanding of online PBL. Hmelo-Silver (2002, 10) defines the facilitator role as somebody who helps 'students construct causal explanations that connect theories, data and proposed solutions.'. Students are guided to become self- and collaborative discovery learners. Despite its importance, limited research has been carried out linked to the impact facilitation has on students who engage with PBL (Savin-Baden 2003).

Web2.0 technologies and the arrival of new pedagogies such as connectivism (Siemens online) are transforming the way we learn, deliver and support learning (Oliver and Omari

1999; Kear 2011), and are already used in different disciplines, but to date less so within AD (Donnelly 2010).

McLoughlin and Lee (2008, 641) suggest that

> 'tools like blogs, wikis, media-sharing applications and social networking sites are capable of supporting and encouraging informal conversation, dialogue, collaborative content generation and the sharing of knowledge, giving learners access to a wide raft of ideas and representations.'

While these tools are key, according to Chernobilsky et al (2005, 61) facilitation 'seems to be extremely important in an online learning activity' particularly because of the special role it plays in supporting online collaborative learning (Thorpe 2002).

Technologies are equally beneficial for PBL (Juwah 2002; Ge et al 2010; Donnelly 2005) and are used in blended and online programmes, but also in traditional face-to-face settings, to extend engagement outside the classroom and with larger groups (Hmelo-Silver et al 2009).

Donnelly (2002) implemented an online PBL module within a PgCert programme based on the model of Computer-Mediated Collaborative Problem-Based Learning (CMCPBL) (Savin-Baden 2003) itself based on CSILE (Scardamalia and Bereiter 1994) in which small groups worked together synchronously and asynchronously to co-construct new knowledge through the application of online PBL.

Research was carried out into whether Web2.0 technologies could be used effectively for online PBL within AD and specifically within PgCert provisions by carrying out a small-scale trial.

Method and data collection

A UK-wide online PBL trial was conducted from September 2010 to November 2010 with the aim of exploring if PBL successes in other identified subjects could be replicated within AD, and specifically within the Postgraduate Certificate (PgCert) in Academic Practice or similar programmes. It was based on the model of Computer-mediated collaborative problem-based learning (CMCPBL) (Savin-Baden 2003).

In total, eight new academics and two academic developers participated. Two multi-disciplinary, multi-institutional groups were formed each with four participants. An academic developer was assigned to each group to act as the PBL facilitator.

Freely available Web2.0 technologies, such as a Wordpress group blog, Pbworks collaborative wikis and the Skype web-based conference tool were utilised during the trial. The fully-online trial was based on Salmon's (2004) 5 stage model:

- Familiarisation with technologies
- Socialisation with tutors and peers
- Exploring PBL and sharing
- Execution of collaborative PBL task
- Peer evaluation and tutor feedback

The two PBL facilitators were given the opportunity to finalise the PBL scenario, assessment criteria and the peer evaluation template to increase ownership of the trial itself and the PBL task. Also, a variety of media-rich self-study materials were made available to help participants familiarise themselves with the technology used and with the concepts of PBL and had the opportunity to engage a discussion around these. Participants were also given access to resources specifically linked to the PBL task to enable them to focus on the collaborative activity instead of spending valuable time on information searches (Donnelly 2005; Jeong and Hmelo-Silver 2010).

Phenomenography (Marton, 1994) was chosen as a methodology and tool for data collection and analysis to 'describe qualitative variations in people's experience of phenomena' (Dortins 2002, 207). The main data collection method used was the individual interview, carried out remotely over the internet. Some interviews were replaced by email discussions due to technical difficulties. Additional data was collected through online initial and final surveys as well as a selection of reflective commentaries. All data was transcribed manually and Microsoft Excel was used for filtering, analysis and synthesis (Meyer and Avery 2009) through which the categories of descriptions emerged.

Results

The PBL task itself was carried out over a period of 5 weeks and was successfully completed by both groups. The same scenario with a theme around assessment was given

to both groups who worked together online to indentify the problems and come up with a series of effective solutions. The overall results linked to facilitation provide a rich insight into the variation of the lived experience. They indicate that facilitation had a strong impact on participants and facilitators themselves as presented in this section. Anonymised authentic quotes have been included below to demonstrate impact.

Facilitation was the theme participants commented most extensively and passionately on during the interviews, reflections, and in the final survey. One participant stated in the anonymous final survey that

> 'The chief thing that the trial highlighted for me was the importance of the facilitator to the success of the project. It is a lot more work doing things this way, and the facilitator needs to be pretty "hands on" in the absence of face-to-face meetings between group members.' (participant)

Both facilitators reflected on their role and performance and came to the conclusion that there is an imperative need to improve facilitation to offer the support and guidance required to participants during online PBL activities with the intent to enhance engagement, learning and the student experience. Both facilitators agreed that they have learnt a lot and now have a better understanding of what works and what doesn't in online collaborative PBL. One of them stated for example that

> 'There is a lot I learnt from the whole process even I was disappointed with myself how I facilitated. I don't think I did a good job. [...] I have to admit, it didn't go as well as I wanted it to.' (participant 20)

Below follow the categories of description identified linked to facilitation.

Clarity of role

Generally there was confusion, even among the facilitators themselves, about the role the facilitators were playing and participants would have liked more clarity from the outset, and what they could expect from the facilitators during the trial. This is illustrated well in participant 12's words:

> 'I personally think I would have found it useful at least to have clarification what the facilitator would do. [...] If I had been told, that the facilitator is there basically to mop

> up any really serious issues, somebody who is really ill, completely unable to participate before the facilitator steps in, fair enough, I am not going to have kind of support and then I would have to step up to the plate and be a leader. And it may well be, that the facilitator did do that and I just missed it, I have to admit. So, I guess in future, it would have been nice for the facilitator to be a bit more hands-on, or is this something that is not done, then the facilitator should tell us that he/she is really going to be hands-off here. If you really, really need me then you can find me here, but to be honest, just get on with it. That would have been quite helpful.'

The confusion some participants felt about the facilitators' role in combination with the limited time they had available, led some to blame themselves which was documented through many participants' responses.

Engagement and support

Overall, participants agreed that they expected facilitators to be more engaged in the trial and the PBL task, and that they would bring the group together and offer guidance and support. This result was confirmed through the interviews and the final survey. Participant 23 states

> 'at the beginning there was very little support from our facilitator. Very little communication between the instructor and the team members',

while participant 13 mentioned

> 'I felt a bit like, I was not knowing which direction I was taking and a bit sort of always in a doubtful sort of perspective, whether I'm actually reading the right material, whether I'm going to the right things, whether I'm following all the right stuff that I'm needing. a little bit in the dark [...] [The facilitator] was very, very insightful and knew lots of little things which was very reassuring and knew the scenario very well, and helped us a lot at the end. But in between it was a bit sort of lacking.'

The above observation is echoed in a number of participants' responses who also felt disorientated and unsure about what they were supposed to be doing and were looking for informed support.

Also, many participants commented that they missed ‘the human contact’ (participant 13) and ‘would have liked to come away feeling it was more of a community being created.’ (participant 11).

Structure and scaffolding

Participants and facilitators felt that more structure and scaffolding was needed. Facilitators also realised the need to set a timetable for specific activities and meetings from the very beginning to organise online collaborative tasks more effectively. One facilitator stated:

> ‘I really should have had perhaps more structure in arranging meetings with the group although they actually worked together very well, and they divided the jobs and wrote the report, so that was really, really good.’ (participant 10)

Looking back, facilitators recognised that structuring and scaffolding the online tasks with their PBL groups was their responsibility and participants agreed that more structure would have been beneficial during the online PBL task itself, and their online learning experience in general.

Preparation

Facilitators stated that they didn’t feel prepared enough for their involvement in the trial and this made them feel less confident to carry out their role effectively.

None of the facilitators had previously engaged in any fully online activities as a learner or facilitators, nor did they have extensive experience or knowledge of PBL in general.

Resources and support were both available before and during the trial, as confirmed by participant 10 ‘Everytime, I had a question it was responded to very very quickly, [...] I could just email you and you responded really quickly. I felt very supported.’

However, since the facilitators made limited use of these, they subsequently recognised that more preparation was required from their side than they had initially anticipated. One of them mentioned

> ‘I think because it is an online trial, I didn’t realise how I wasn’t prepared, if you see what I mean. Had I known, perhaps I would have had more preparation [...] had I done sort of more research myself it would have helped’. (participant 10)

Both facilitators suggested that it would have been helpful to engage in pre-trial activities so that they fully understood what the trial was about and what was expected of them. One of them suggested this might have been conducted face-to-face or online using synchronous communication tools, while the other facilitator shared their idea of a

> 'dry run for facilitators. Just to get the idea of the mechanics of it all. [...] It is hard to imagine how it would look like if you haven't done it before and I struggled to see the big picture. To see the end and where we were going because I hadn't done both bits (delivering a programme online and online PBL) together before.' (participant 20)

Discussion

Communication is at the heart of online learning and it is more challenging to make it work online than it is face-to-face (Savin-Baden 2003). It should be continuous (Levy 2011), facilitated and enable dialogue between the facilitator and the participants (Laurillard 2002). Task setting, timelines and the application of the PBL model and process provide structure for online collaborative learning. These were not fully utilised during this trial, which led to feelings of disorientation and frustration. Both participants and PBL facilitators new to their role need more support to get started, especially if they are new to the environment and the process of PBL. This applies to face-to-face and online settings.

The findings of this study indicate that both facilitators who were relatively new to PBL and completely new to teaching and learning online as well as online PBL adopted a rather hands-off approach. This is in line with Savin-Baden's (2003, 50) observations that 'facilitators new to problem-based learning often feel that it is better to say less – or even nothing – so that the students feel that they are taking the lead in the learning.'. Participants in the trial, who were all new to online PBL and most of them to PBL in general, expressed that they would prefer a more directed approach which also corresponds with Savin-Baden's (2003) findings.

A more directive facilitation approach in the context of this trial is suggested to maximise active participation in the online PBL activities. This can be achieved if facilitators' engagement, especially at the initial stages, focuses more on:

- opening up the dialogue between facilitator and participants
- learning about learning online
- familiarising with the structured PBL process and model used

- establishing a learning community
- modelling good practice for online collaborate learning and online PBL.

This would result in a more structured and systematic facilitation 'guiding students on the learning process, pushing them to think deeply and modelling the kinds of questions that students need to be asking themselves.' (Hmelo-Silver 2002, 1). Facilitators should also help participants with more practical aspects, such as setting tasks (Leinonen et al 2009) and organising synchronous meetings, moving the asynchronous conversations forward and boosting their confidence so that they engage actively in the online collaborative activities to become self-directed and empowered online learners (Smyth 2007). The more experienced students become in online PBL, the less facilitation is required (Neville 1999; Savin-Baden 2003).

The TESEP 3E (Enhance, Extend, Empower) approach therefore presents a useful online learning framework to consider for PBL to enable progressively active, extended participation leading to learner autonomy (Smyth 2007) through the use of suitable technologies. Heron's (1989, 1993) facilitation modes, if used progressively, have the potential to become the enabler of the TESEP 3E model. The initial facilitation mode would be hierarchical (a more directive approach during familiarisation with the process to enable engagement), becoming co-operative (transforming learning into a partnership to enable and enhance collaborative learning) and finally autonomous (leading to learner and group autonomy) corresponding in harmony with the 3 stages of the TESEP approach to transform the student online experience.

It is recommended to model online PBL facilitation. This would provide the opportunity to new PBL facilitators to experience online learning as a learner first, understand how online communication can work effectively and develop strategies to overcome limitations and extend opportunities for online synchronous and asynchronous communication and collaboration. Ongoing support (Savin-Baden 2003), peer-to-peer and mentor will also be vital to discuss on-the-job issues and resolve these collaboratively.

Conclusions

The trial proved that the application of online PBL is challenging (Savin-Baden 2003) due to the nature of online learning in combination with PBL. The trial enabled facilitators and participants to engage with PBL through online collaborative learning in multidisciplinary and

multi-institutional teams, which was found by all to be beneficial. It helped them to experience first-hand, benefits and challenges in working fully online.

Findings indicate that online collaborative PBL activities could have a place within PgCert programmes, and can connect PgCert participants from different institutions. There is, however, an imperative need to refine the facilitation approach used to enhance the online learning experience and provide a robust online PBL framework based on supportive facilitation. Online PBL may then become a more fruitful and enjoyable experience for everybody involved and lead progressively to more autonomy.

Further exploration and analysis of findings of this trial are required, as well as a larger scale collaborative study to establish possible wider impact and options for application within AD.

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