Developing teaching practice for more effective use of asynchronous discussion: A preliminary investigation

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Teachers inexperienced in the delivery of online instruction may now be expected to teach subjects with a limited understanding of how tools in a Learning Management System can be appropriately and successfully utilised to enable the learning strategies of the subject design. How best do we develop teaching practice to facilitate the increasing use of asynchronous discussion tools in flexible and distance courses? This preliminary investigation analyses practitioner perceptions of the effectiveness of asynchronous discussion tools in tertiary education and explores some of the factors that may affect the participation of students in online discussion such as activity design and student characteristics.

Keywords: asynchronous discussion, distance education, discussion forum, participation

Introduction

It has long been held that instructional-design strategies should be underpinned by well developed and appropriate educational theory (Ertmer & Newby, 1993). The instructional methods used to instruct or teach online should be carefully considered when any online subject is developed. While an understanding of educational theory and the ability to link theory with instructional strategies underpins the successful development of subjects to be delivered online (Bednar, Cunningham, Duffy, & Perry, 1995) the development of guiding principles for the teachers delivering and facilitating online subjects could be essential.

Teachers inexperienced in the delivery of online instruction may now be expected to teach subjects with limited understanding of how the tools in the Learning Management System can be appropriately and successfully utilised to enable the learning strategies of the subject design. Evidence of either limited participation in asynchronous discussion forums or a lack of depth and quality contained in the postings has been discussed in a number of literary sources. Thompson and Savenye (2007, p. 299) cited that "several studies examining computer-mediated communications in online courses have found low levels of participation…". Gerbic (2006) commented that student participation in online discussions is often sporadic and not genuinely interactive. While Dennen (2005) noted that courses with a higher quantity of discussion also displayed a higher quality of discussion. In discussing the affect of teacher presence in online discussion participation Helbers, Rossi and Hinton (2005, p. 28) observed that in some instances teachers were "unable to detect student thinking processes and to facilitate the construction of learning or extend learning".

When teachers are unable to successfully structure and facilitate student discourse in online subjects then it is worth asking the question: what *will* help teachers more effectively implement asynchronous discussion tools, to greater educational consequence? In this preliminary investigation an exploration of teachers' perceptions of the effectiveness of asynchronous discussion has been undertaken to form the basis of ongoing research into the development of teaching practice for online education.

Participation in discussion forums

Recently much has been written on participation in asynchronous discussion (Dennen, 2005; Gerbic, 2006; Helbers, Rossi, & Hinton, 2005; Mazzolini & Maddison, 2003; Thompson & Savenye, 2007) including the effects of participation levels on learning outcomes, the relationship between participation levels and student satisfaction with the online class and the factors affecting participation levels. The level of participation, or the number of students posting messages to discussion boards/forums, should be seen as a speculative measure of successful student interactions as the quantity may not be indicative of the quality of the discussion (Beuchot & Bullen, 2005). However some research suggests that, while

quantifying student participation does not make a qualitative determination, it is a beneficial starting point for further analysis (Dennen, 2005; Mazzolini & Maddison, 2003; Thompson & Savenye, 2007).

The relationship between instructor presence and participation in the online learning environment has been discussed by several educational researchers, including Mazzolini & Maddison (2003), who examined the quantity of instructor and student posts on discussion boards to ascertain if there was any correlation between the number of instructor posts and the number of student posts. They found that while students did respond favourably to the perceived 'enthusiasm' of instructors who posted more frequently there was no evidence to support the hypothesis that frequent instructor posts resulted in greater student participation. This study highlighted the need for further qualitative evaluation of the factors affecting learner participation as well as an ongoing examination of the effectiveness of asynchronous discussion forums for learning and teaching (Mazzolini & Maddison, 2003).

Thompson and Savenye (2007) have noted that most previous studies on participation were focussed on individual courses (or subjects) rather than across whole programs, therefore ascertaining whether the course itself is a factor in the level of participation is highly unlikely. Thompson and Savenye's research reported on the relationship between factors they identified as: previous experience with online courses, the course of study and the instructor. All three factors were found to have a measurable impact on the level of participation. Compared to other studies on participation with more limited scale (Mazzolini & Maddison, 2003). Thompson and Savenye, by looking at program level data, were able to produce results that indicated how instructor behaviour might affect participation above and beyond other the influential factors. Significantly for this investigation, the research of Thompson and Savenye supports the notion that developing teacher skills, in asynchronous discussion facilitation as well as discussion based task design, could have a positive effect on student participation in online dialogue.

Dennen (2005) used a case study methodology to examine how the design of the discussion activities as well as the presence of the teacher impacted on several elements of student participation in asynchronous discussion forums. It could be said that although greater participation itself would not ensure a learning benefit for students, the potential for benefit can only be maximised with better design and facilitation of student discourse. Dennen (2005, p. 128) commented "while student participation is not a direct measure of learning, it is necessary for a discussion activity to be successful and result in learning". Dennen's examination highlighted several factors that did have an impact on participation and, interestingly, demonstrated how the differences in instructor facilitation styles can affect student expectations and motivation as well as participation. Differences in discussion based activities were also seen to impact both the level of participation and quality of discussion with Dennen citing examples of increased message posting clustered around assessment deadlines and courses with relevant goal-based activities attracting quality participation. This would lend support to the idea that better preparing teachers for online instruction could have an affect on both the participation level and quality of online asynchronous discussion.

Other studies have focussed on the perspectives as well as the practices of both teachers and students in online learning environments. Gerbic (2006, p. 273) used a case study approach to examine the student perspective of participation in online discussion which she described as "…an essential precursor to any learning benefits which might be obtained from this medium". Gerbic found that the main reasons for lack of participation were the curriculum design as well as the learner's own perceptions about the communication tools and their ideas about learning.

The common thread amongst this research into participation is that while participation is not a measure of learning it can be a useful indicator of online student activity and opens the door to greater analysis of the engagement of students, the quality of interaction and the role of the teacher/facilitator in asynchronous discussion in the online learning environment.

Socialisation and interaction

Asynchronous discussion tools enable learners with no face-to-face interaction to communicate with one another and thus allow for the possibility of enhanced learner knowledge building through peer negotiated meaning. For this reason interaction between learners and between teacher and learners is regarded as an essential part of the constructivist learning environment. David Jonassen (1999, p. 228), commented "learning most naturally occurs not in isolation but by teams of people working together to solve problems". Jonassen asserted that collaboration tools, such as online discussion forums, enable learners to work together to construct what he describes as socially shared knowledge.

It is widely acknowledged that there are different forms of interaction (Alderman & Fletcher, 2005; Beuchot & Bullen, 2005; Thorpe & Godwin, 2006a; Tu, 1999) for example, student–teacher, student-content and student-student. Some forms of interaction may be easier to produce in the online classroom by using activities, resources and tools to prompt responses from students. For example, a teacher may require students to read resources, answer a question and post their answer on a discussion board thus eliciting a certain level of engagement with the course content. However achieving effective interaction between students is a more complex proposition, and perhaps both students and teachers need to recognise the 'added value' of interaction in order to either facilitate or engage in any interaction. Thorpe & Godwin (2006b) commented that, although some aspects of the facilitation of student online interaction may be demanding for teachers, tutors had identified the use of interaction in as a successful feature of the online classroom in spite of the increased workload it entailed. Thorpe and Godwin's research also supported the idea that students' perceptions of computer mediated conferencing are influenced by the level of which the strategy is integrated into the course suggesting that where teachers facilitate interaction with a more integrated design students may experience more of the benefits of interaction. Further, the results of Thorpe and Godwin's study clearly showed that many students are cognisant of the benefits that interaction with other students can have. An idea supported by Albon & Pelliccione (2006) in their comparison of two different styles of asynchronous discussion tools, demonstrating that students themselves can see the value of their online interactions. Further, Beuchot and Bullen (2005) postulated that interactivity in online discussion forums may be associated with students experiencing a greater sense of involvement and belonging in the online classroom.

Socialisation has been described as the degree to which a person feels socially and emotionally connected to other learners within the online learning environment (Sato, 2007). Irwin and Berge (2006) wrote about socialisation in the online classroom as a concept with three key components; interaction, online presence and knowledge construction. Irwin and Berge stated that interaction itself does not account for the complicated construct of socialisation although the terms are often interchangeable in current literature. By Irwin and Berge's definition interaction constitutes exchanges of information that have value, not so much in the quantity of the exchanges, but in the ability of the interaction to "…establish a sense of being in the virtual environment" (Irwin & Berge, 2006, p. paragraph 7). Sato (2007) used a case study approach to analyse the relationship between the number of remarks (discussion posts), the ratio of replies and the ratio of remarks that represent social presence. The research of Sato supported the idea that an increased social presence is linked to a higher volume of student response in asynchronous discussion and, more significantly, that there is a correlation between the degree of social presence and the students' favourable perceptions of the effectiveness of the discussion. But is there anything that teachers can do to establish a beneficial 'social' atmosphere or is it very much dependent on the characteristics of the student cohort as suggested by (McPherson, Nunes, & Harris, 2002)?

While there are other factors that influence the effectiveness of asynchronous discussion tools in online education, the role of participation and interaction has formed the basis of this preliminary investigation.

Research design

Examining how teachers view the effectiveness of asynchronous discussion tools and their perceptions of the factors affecting participation can inform future developments in preparing teachers for online education. The design of this investigation is exploratory in nature, with no 'definitive answer' to the question of why teachers may experience difficulties with the effective implementation of asynchronous discussion tools. However, this investigation is an essential first research phase enabling a clearer picture of how practitioners perceive the strengths and weaknesses of asynchronous discussion. The analysis can be used in conjunction with existing research and theoretical principles of educational practice to develop inceptive instructional solutions. These solutions would then be tested in naturalistic learning situations with the resulting qualitative data used to evolve the original solutions into principles for educational practice applicable in other settings.

This approach is modelled on Design-Based Research (Reeves, 2006). Importantly Reeves (2006, p. 59) noted "Design Research is not an activity that an individual researcher can conduct in isolation from practice…" emphasizing the need for researchers to engage not just with the theoretical models but with the current practices and experiences of the teachers. The Design-Based Research Collective (Baumgartner et al., 2003) have argued that a design-based research approach, by grounding educational problems in practice, will lend greater understanding to how theoretical assertions can be applied in real educational settings. In this preliminary investigation Phase 1 of the design-based research process has been commenced.

Interviews

To develop an understanding of the problems faced by practitioners in online education, as well as appreciate the successes, a series of interviews with teachers was carried out. Interviews were conducted face-to-face, ranged between 20 minutes and 45 minutes and they were audio recorded. In order to collect rich detailed information from the teachers, without overly limiting and directing their responses, an informal interview approach was adopted. To facilitate the discussion, and ensure the key topical areas were discussed, a set of prompts was developed (see Table 1.). This method used a semi-structured interview schedule (Wilkinson & Birmingham, 2003), delivered flexibly, allowing the teacher an opportunity to shape the conversation and the researcher the chance to pursue key topics and expand on emergent themes. The following table describes the broader topics of discussion, the prompts that were used, as well as the key points noted in the conversation. The researcher also asked additional questions throughout the conversations to explore a topic in more depth.

Table 1. Outline for conversations with teachers

Topics	Questions	Key points
Instructional utilisation of online discussion	Describe some of your experiences in teaching online. How did the level of participation in online discussions meet or not meet your expectations?	▪ Online teaching experience of teacher ▪ Instructional strategies used ▪ Satisfaction with asynchronous discussion participation
Factors affecting the success of asynchronous discussion tools	Describe some factors you've seen as having an effect on the success of asynchronous discussion? How do you think applying structure to asynchronous discussion may affect participation? What are your thoughts on assessment of asynchronous discussion contributions?	Factors affecting online discussion: ▪ Online 'presence' of the teacher ▪ Clarity of teacher's expectations ▪ Task/activity structure ▪ The characteristics of the student cohort ▪ Assessment of student contributions
Developing principles for practice	What do you think teachers should know in order to utilise asynchronous discussion as an instructional strategy?	▪ Suggestions for solutions

Participants

The participants were teachers from four faculties in one Australian university. The participants were from a range of disciplines and represented different levels of experience in teaching online. For the purpose of this preliminary investigation and to ensure confidentiality, the participants have been identified as Teacher A, Teacher B, Teacher C and Teacher D.

Analysis

The purpose of this analysis was to derive the thematic connections in the experiences and problems cited by the teachers so they could then be examined in the context of the existing literature. The a priori themes, which are related to the key points listed above (see Table 1.), are firstly, that the teachers' level of experience and their expectations will affect their perceptions of asynchronous discussion, and secondly, that multiple factors will affect student participation in online asynchronous discussion.

Interviews

The interviews were transcribed and comments that speak to the key points were summarised and collated. The transcription was coded by the following categories:

- Experiences – holistic description of what their online teaching experiences have been
- Comments – opinions about aspects of their online teaching experiences
- Strategies – specific instructional strategies using asynchronous discussion boards
- Factors – what factors may have impacted on the success of the strategies or the outcomes
- Suggestions – any recommendations for teaching online based on their experiences

From these categories the a priori themes were refined and emergent themes were noted and have been expanded upon to identify some of the issues teachers may have with successfully implementing

asynchronous discussion in the online learning environment. Included (see Table 2) is a summary of the teachers' experience of teaching online, examples of the strategies they have implemented and their comments on the outcomes.

Table 2: Summary of teachers, experience, strategies and comments

Teachers	Example of online teaching experience	Example of a discussion board strategy	Comments about strategies and outcomes
Dr A	Has taught two subjects previously using a similar structure with a blend of face to face and online students including an international cohort"	Students are required to make an online contribution (post) of a 'proposal' for a major assessable work they are also required to make in depth comments and suggestions on the contribution of another student.	"I wanted the students to meet in a virtual sense." "Students don't seem to like doing it and this forced them to do it." "…and that worked very well because it forced them to meet each other and consider each others postings." "…I felt it was very successful."
A/Prof B	Has taught a subject over a number of years to a large mixed cohort of undergraduate and postgraduate students. Some students were wholly online while others, including international students, were primarily face-to-face.	Students are required to put a posting next to one of the online revision questions or activity questions and the postgraduate groups are also required to respond to one of the other students' posts. They do that on three occasions during the session. The students are broken up into discussion groups so that they could only see the submissions from the students in their group.	"I started out being optional but it didn't work." "I had the most interaction between the students who are purely by distance…" "…the older students are more able to contextualise the material from the course and hence discuss it with real world relevance. The distance and postgraduate students are more likely to reflect that in their online discussions." "…the undergrads are still [saying] this is an assessment task [so] I'll do what's required for the assessment task …and if you don't make it assessable then they wont do it. So it has to be an assessment task with mark attached." "You know it will enhance their learning to a certain extent and complement the other things that you're doing …unless they can see the tangible return on that investment of time they're not going to partake."
Mr C	Used to teach a subject utilising asynchronous communication and now teaches subjects where he utilises Blogs rather than threaded discussion forums.	"They were broken into small groups, selected randomly, they had to post about once a week …they had to do a certain number of posts both posts they'd initiated and reply posts." "The second year we used more a debate format where we set a question and they had to be on for and against and they had to go backwards and forwards in the discussion forum."	"the first year we used them (discussion boards) it was really used as way of getting students to reflect on the readings." "I actually found them (discussion boards) fairly frustrating… "During some informal evaluations students actually said that as they got to know one another in class that they found the online discussion easier." "I didn't really find it very useful tool when it came to generating engagement or discussion… it should actually, theoretically generate engagement, but I've actually never seen it do that."
Dr D	Has extensive experience in teaching wholly online and blended (online and face to face combined) courses	Encourages student interaction through teacher presence in the online environment. For example, provides weekly updates in the Learning Management System's 'announcements' forum including an introduction about the lecturer and what their expectations are. Makes clear when the online discussion will be monitored and when students can expect feedback. Encourages students to discuss the assessment tasks by being available in the online environment. Sets up an online debate about a relevant topic so students could explore the content as well as give students some exposure to an instructional strategy of how you can use an online forum.	"My general philosophy in terms of online learning is to …maintain a lecturers presence … I like to show students that I'm there and that I'm available." "I wasn't sure whether that would just be a waste of time …but I did receive some emails from students saying that they really valued that." "I found that my maintaining the providing feedback on say twice a week at a certain time like a Tuesday and a Thursday, that was enough to provide me feedback and to get them to sort of provide feedback to each other as well and that's what I use the online discussion forums for." " …it's linking the online participation to something that they have to do for a mark which is an assessable piece of work but it's not a forced extrinsic motivation to participate." "I use online communication tools as a means to an end not an end in themselves."

In general the teachers interviewed in this preliminary investigation spoke to the two broader a priori themes including: teacher perceptions of the effectiveness of asynchronous discussion, and factors affecting participation in online asynchronous discussion. However, after the completion of the interview transcription and coding some more specific issues were brought into focus including how:

- the characteristics of the cohort affect the students' motivation and the quality of participation and
- the role of asynchronous discussion in the socialisation of the students

Teacher perceptions of the effectiveness of asynchronous discussion

Practitioners were asked to reflect on their experiences of asynchronous discussion in their teaching and encouraged to make comment on their satisfaction relative to their expectations. Comments addressed several areas including the discussion tools themselves, their strategies and the outcomes achieved. Dr A, A/Prof B and Mr C all had a similar level of experience in their use of asynchronous discussion tools however their satisfaction and perceptions of the effectiveness were varied. For Dr A the desire to "have students meet in a virtual sense" was achieved with students having posted to the discussion board as per the assessable requirements of the subject and to this end Dr A was happy with the outcomes and described the whole experience as "very successful". Mr C however expressed frustration with several elements of asynchronous discussion including the 'perfunctory' student use, the lack of student-student interaction and the limitations for 'creative expression'. However, Mr C did acknowledge that the students had performed the requirements of the activity and commented that:

> I think there were some outcomes …that at a very simple level it forced them to read the readings …and they had to at least find an initial way of expressing their viewpoint on the readings …so in a purely pragmatic sense it had some outcomes but I didn't find it a very good tool for encouraging creativity or engagement.

The experiences of the Dr A and Mr C and their perception of the success of asynchronous discussion highlights the difference between what outcomes may be expected and those that are desired. Mr C's desire to have students engaged with one another and to be producing 'creative expressions' online may be reasonable but could the strategy used actually facilitate such outcomes?

Dr D has a very different level of experience from the other participants as she has an extensive knowledge online teaching practices and an understanding of the pedagogical underpinnings of this practice. Dr D's activity structures incorporate the use of asynchronous discussion, however she does not require that students make a predetermined number of posts, rather the structuring of the activity suggests that asynchronous discussion would help the student to successfully complete assessable activities. Dr D commented "I use online communication tools as a means to an end not an end in themselves."

Generally speaking all of the teachers were able to see benefits to the use of asynchronous discussion activities/tools however their expectations had a notable affect on their perception of their effectiveness. The experience or practical and theoretical background of teachers also affected their perceptions of the usefulness of asynchronous discussion. Helping teachers to clearly define their expectations of the students as well as conveying to the students what can be expected of the teacher (when feedback will be provided, when emails will be responded to and when they are 'available' online) may alleviate some of the frustration teachers feel. In addition, we may also assist teachers to develop online teaching strategies that *do* facilitate their desired outcomes and meet their expectations.

Factors affecting participation in online asynchronous discussion

Of the factors discussed as having an impact on student participation the following were mentioned by the practitioners but mostly in response to prompting by the researcher:

- Clarity of teacher's expectations
- Task/activity structure
- Assessment of student contributions
- Online 'presence' of the teacher
- The characteristics of the student cohort

While all teachers expected students to use the discussion boards in their subjects their expectations were usually tied to the assessable requirements. Teachers expected the students to do the tasks so they could pass the subject. Therefore it was more the allocating of marks that engaged the students' participation

rather than the clarity of the teachers' expectations. An alternative approach may be for teachers to model communication in the discussion area (Dennen, 2005) to encourage the desired participation.

A/Prof B placed a significant emphasis on the role of assessment to ensure participation and described the rationale for her approach in this way:

> Unless they can see the tangible return on that investment of time they're not going to partake. Then there is the educational question of, is this important enough to require students to partake or is it an optional extra? If it is important enough then you set some percentage of marks next to it. …what's the reason (for the participation)? If that reason is important [enough] that all the students should be engaged with it then there should be some system for ensuring that they do.

However, while the meeting of assessable requirements did encourage A/Prof B's students to engage with the course content it did not encourage them to engage with each other. The same could be said of the participation of Dr A's and Mr C's students, in Mr C's words "They were meeting the requirements."

The structuring of the tasks or activities to facilitate participation was only really addressed by Dr D. The strategies used by Dr A, A/Prof B and Mr C were oriented towards encouraging interaction with the content rather than other learners. Examples of these similar strategies are described above (see Table 2.). Dr D described several activities that did not rely solely on the 'assessable value' of the task to promote student-student interaction in their online participation, for example:

> Over the course of a week, just to get participants involved, I'd set up an online debate about a relevant topic, about Web 2.0 technology, so the purpose of that was twofold, one, they could talk about Web 2.0 which was a part of the course content but, two, they could reflect and see the process of participating in (an online) debate.

Dr D's assessable tasks were usually outside of the discussion forum with participation in discussion being encouraged using other strategies often facilitated by the teacher in some way.

The affect of teacher presence or teacher facilitated discussion was not commented upon by most of the teachers except for in the most general terms. Most teachers felt they were available to the students via email and that they would read the posts of the students. There was no real connection between participation and teacher presence made by Dr A, A/Prof B and Mr C. However Dr D described 'presence of the teacher' as a key element of her online teaching practice. Dr D said:

> My overall philosophy in online learning is maintain the lecture presence and to help students. Although the students may not necessarily have to come to the site (LMS) regularly at least they know that I'm there. I try to make that very clear.

The characteristics of the student cohort was talked about as having a significant impact on not just student participation in discussion, but also on the students' motivations for posting as well as the quality of their contributions. Student characteristics were frequently suggested by the teachers as impacting on participation and was possibly the only factor teachers cited without being prompted by the researcher. Only one teacher, Mr C, felt that in his experience there was not much difference between the levels of engagement and participation in the years he used asynchronous discussion. Student characteristics noted by the other three teachers included: international, undergraduate, postgraduate, ESL, mature, distance, high achieving and working.

It seemed that teachers did recognise that there is the need to adjust their expectations of the students in relation to their characteristics. Some teachers made comments on how they did this using specific strategies, such as A/Prof B who was assessing the contributions of discussion groups in a subject with both undergraduate and postgraduate students. Though using largely the same task structure A/Prof B changed the specific requirements to suit different students' abilities as well as her own expectations of the students. A/Prof commented that:

> The older students are more able to contextualise the material from the course and hence discuss it with real world relevance. The distance and postgraduate students are more likely to reflect that in their online discussions

A/Prof B also discussed her belief that different disciplines could be more conducive to student-student interaction suggesting that some high achieving students who study in a very specialised area may be more task focussed than students who need to debate the issues surrounding a more intangible or philosophical topic. Further, in commenting on student interaction outside of the prescribed post requirements A/Prof B said:

> I had most interaction with the students who are purely by distance …they don't have other interactions on campus either informally or during the lectures …again the nature of the student is different they tend to be in the work force, they tend to be doing this programme out of interest, they are electing to do it, the distance students are in the main Australian students …and they tend to be more mature.

On the whole practitioners seem to understand the need for interaction between Distance education students who, in the experience of the teachers, were predominantly postgraduates balancing work, family and study. Can we also assist teachers to develop a better understanding of how online interaction may facilitate socialisation and peer mediated learning for students with other characteristics that may be affecting their ability to interact in the face-to-face environment?

Socialisation and community amongst learners

One of the most interesting observations from the interviews was how limited the some of the strategies described by practitioners were for the development of student-student interaction and socialisation. Overall very little comment was made about the need for, or facilitation of, student-student dialogue using asynchronous discussion tools with the exception of Dr D. Where, for example, A/Prof B was primarily concerned with promoting student interaction with the course content, Dr D expressed the need for the development of community between students especially those who did not have any face to face learning opportunities.

Although Dr A did want students to meet each other and engage in discussion the strategy employed did not really facilitate more than the required assessable postings. However, Dr A did make an interesting comment about the online environment being more equitable:

> A few of the students are quite shy and they don't want to be in that classroom context where they are constantly confronted so instead you're dealing with their text rather than all the other body language. In some ways it's a lot fairer.

It's possible that students may well perceive the online environment this way. You only have to look at Face Book and there's an example of the online environment promoting an unreservedness that facilitates socialisation. But how do we assist teachers to 'tap into' the modern students' online networking skills and use them to educational effect?

Dr D, with her extensive background in online education, placed some emphasis on the need to develop 'community':

> I'm not assessing the online post I'm just using [online discussions] as a vehicle where they can share ideas with each other and they can interact and create some form of community. Because a lot of our postgrads are interstate they're not physically, geographically located next to each other and that just gives them the opportunity to get to know one another.

This leads us to the question of whether teachers can not only recognise a need for students to experience a sense of community, but also implement the tools and strategies that will facilitate the development of social and communal learning.

Conclusion

While teachers appeared to place some value, ranging from minimal to significant, on the use and potential uses of discussion forums, they were also aware of the limitations of both the tools and the strategies employed, as illustrated in the analysis of the interviews. It is important to note that all teachers accepted that there would be an ongoing need to provide flexible online alternatives in their teaching including asynchronous discussion.

This preliminary investigation, as first phase of what is an ongoing project, has provided a clearer picture of the problems that have been discussed in the current literature such as low participation, a lack of socialisation and community and the limitations for student-student interaction and hence dialogue. The experiences and perceptions of the practitioners have evolved the researcher's understanding of both the issues presented here as well as where an in depth analysis will be focussed. While there has been some refining of the teachers' problems with the effectiveness of asynchronous discussion tools, a comprehensive investigation would further clarify the challenges practitioners face, especially those new to online teaching, and inform the development of solutions.

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