Learning through participation as a mass collaboration

JUSTINE LLOYD[1]
MARIA AMIGO
NANDITHA HETTITANTRI
Macquarie University, Sydney, Australia

This article highlights the central role of collaboration in higher education programs which involve students in 'learning through participation' (LTP). It reports the findings of a project that began with the intention of exploring the range and applicability of online technologies used for enhancing collaboration between the three main groups (students, partner organizations, and unit conveners) in a university-based LTP initiative. A grounded theory approach led us to open up the research focus to investigate important themes of collaboration highlighted by participants. This centrality of collaboration overshadowed our initial concern with online-based technologies, which were found not to be directly correlated with collaboration. We discuss implications of these findings and tease out important distinctions between co-ordination (of activities), communication (of information and between social actors) and collaboration. We discuss the implications of these distinct factors for teaching and learning through participation. *(Asia-Pacific Journal of Cooperative Education, 2016, 17(2), 163-174)*

Keywords: Learning through participation, collaboration, online learning technologies, communication, grounded theory

The use of media technologies within the university classroom has a long history, for example, in distance education and instructional film (Cuban, 1986). With the standardization and professionalization of higher education at the same time as the rise of information technologies in all aspects of social life, in the 1990s researchers began to reflect on the increasingly standardized uses of computer-based media to instruct students, disseminate content, enhance spoken material and otherwise engage students (Bromley & Apple, 1998; Naismith, Lonsdale, Vavoula, & Sharples, 2004). This has recently accelerated and university teachers now find themselves in the integration of media in teaching practices within the 'flexible' and 'blended' learning environments, supported by networked, digital communications technologies (Woo, Gosper, McNeill, Preston, Green, & Phillips, 2008).

This article reports findings from a study on the use of online technologies to support collaboration in a 'learning through participation' (LTP) program within an Australian university. 'Learning through participation' (LTP) is defined as a form of pedagogy that entails a practical component and which is intended for students to connect the knowledge they have acquired at university to a real life situation (Rowe, Mackaway, & Winchester-Seeto, 2012). The main goal of this study was to reflect on current practices employed by individual teachers, students and workplace supervisors within LTP that support teaching and learning as collaborative processes. The purpose of our research was to find out: a) how teachers and students supplemented face-to-face communication when students were often at a distance from their campus for an extended period, or primarily engaged in participation-type activities rather than individualized study, and b) to what extent students relied on online communication to keep in touch with their teachers, as well as other students, their workplace supervisors and colleagues. The study had three sub-aims: to find out what specific tools were used by teachers and students in different units; how effective these tools were in supporting collaboration; and to evaluate these tools' usefulness from the

---

[1] Corresponding author: Justine Lloyd, justine.lloyd@mq.edu.au

three key perspectives: students, teachers, and workplace supervisors. Interviews were conducted with these three groups.

As we went deeper into the data, our approach started to suggest that more encompassing themes were preoccupying the participants than purely technological questions. These emerging themes in turn took our research towards questions of what guides collaboration and how LTP is a fundamentally collaborative endeavor. In this article, we investigate how these issues emerged, and how these issues are recurrent and relevant to LTP overall. The first section of this article links our study with the existing debates around collaborative learning and the role of online technologies in the higher education sector. In the second section, we set out the qualitative methods and grounded-theory approach employed in our project. In the third section, 'Mapping collaboration', we present findings on collaboration from within what we term a 'three-dimensional' (educator, student and workplace partner) approach to LTP. In the fourth section, we discuss implications of these findings and tease out important distinctions between co-ordination (of activities), communication (of information and between social actors), and collaboration. We conclude by discussing the implications of these three factors for 'learning through participation'.

COMMUNICATION AND COLLABORATION IN LTP

When Russell and Flynn (2000a) describe collaboration in service learning, they point to its contradictions:

> true collaboration can, as the saying goes, achieve the almost magical outcome of the whole being greater than the sum of the parts. Where else can you add two and two together and come up with five or six or even seven? In that sense, collaboration is a paradox, and there are many more paradoxes implicit within the process of collaboration. (p. 2)

As Russell and Flynn (2000a; 2000b) point out, a central paradox of collaboration within the university sector is its emphasis at the level of mission statements and strategic planning, while it remains under-explored at the level of teaching and learning in the sector. We experienced this paradox ourselves when we began this project. Our initial intention was to explore the range and applicability of online technologies used for enhancing collaboration between the three main groups in a university-based 'learning through participation' (LTP) initiative: students, partner organizations, and unit conveners. It was our understanding that some units within our university were engaged in trialing different online tools to support the kinds of communication and collaboration that are required when students undertake LTP.

Salmon (2005) has usefully divided the adoption and implementation of learning technologies into two phases. First, she characterizes the extension of the classroom and the 'broadcast' mode of lecture-based teaching into the 'electronic' environment as one where "learning and knowledge sharing remain largely unchanged". She then posits that a second phase in this 'broadcast' mode is transformed and learning becomes more collaborative, therefore advancing "beyond what was possible in the classroom… to meet new objectives and purposes of teaching and learning" (2005, p. 202). Salmon's second phase envisages new pedagogical possibilities that are particularly relevant to 'learning through participation', especially beyond the student—teacher relationship. Our contribution to research in this area is to add to Salmon's second phase by qualifying that collaboration mediated by

technology can only be realized within a broader context where meaning is shared and agreed before moving online, and particularly where explicit reflection and intentional frameworks are used to underpin collaboration as a core concept of 'learning through participation'.

In the first place there is evidence that being involved in a LTP unit, either as a convener, student or workplace supervisor, entails adopting a new role, which is fundamentally a collaborative one. In the case of students, this new role requires their activities to be coordinated with others in the workplace, not just fellow students and lecturers. A student involved in a placement is expected to undertake this new role, often without any explicit curriculum activities that address the role of collaboration (or other related aspects of communication and co-ordination in LTP). Unit conveners or teachers, on the other hand, also undertake new roles (Rowe et al., 2012; Trede, 2012), also often without training or recognition for their time and the skills involved in managing collaboration, whether in workload or other formal structures. For example, on top of other teaching, administrative responsibilities and research, they may have to discuss projects for their students with outside organizations, they will have to find ways to oversee the work their students do off-campus, and they must make sure the students' activities comply with research ethics as well as work, health and safety requirements. Workplace supervisors also undertake new responsibilities and relationships when they host a student. They become responsible for making sure the student works on an agreed project; act as mentors for the students; and finally, become external partners in relationship to the university, which also involves commitments such as reporting back to the unit convener on the student's performance.

Besides these new collaborative roles, there are also new environments. Students' learning is moved from the classroom to the workplace or field. Their peers are not present during the placement, their teacher is now less available in the classroom, and the communication between both sides is mostly remotely based. Teachers' environments are also altered, as face-to-face teaching becomes sporadic, however, their 'duty of care' remains. In relation to partners, they need to accommodate one or more students who will only be in their workplace temporarily, and sporadically. As described by one of the conveners we interviewed, this LTP program is a 'young' initiative within the institution, and these new roles and environments are still out-of-the-ordinary for all parties, and beyond the traditional university academic's job description.

All transitions and new situations require adjustments, and one of the issues that recurrently came up in interviews was the challenges and opportunities brought about by this experience. Beginning with the challenges, participants suggest that there are clearly obstacles that hinder placements. One of the most important ones is time. Students have limited time to work at their organizations. They are completing other units, and their involvement with their individual projects is in most cases fragmented. Because most undertake their placements on a part-time basis, they miss opportunities to engage more meaningfully with their workplaces. Workplace supervisors are usually very busy people who have to create new time slots to induct students into the organization, follow them up, mentor them, and complete reports for the unit convener. The unit convener, on the other hand, also sees their time being split up amongst students who are involved in different projects, have different needs, and time schedules.

Many of the interviewees mentioned failure to maintain good communication as a factor that could hinder the optimal development of a placement. All participants referred to the

importance of having a clear understanding of what a placement involves, what the expectations are, and of maintaining an ongoing flow of information between the student and the workplace supervisor, the unit convener and the workplace supervisor, and/or between the student and the unit convener. Misunderstandings, or not having a clear idea of placement expectations can be detrimental. The reverse is also true; that when the communication is consistent and ongoing, the guidelines are clear, and the placement description is specific, the outcomes are better for all involved.

Taking into account this fluidity in roles and environments, it is easy to see why online tools might be desired to manage the complex co-ordination and synchronizing of multiple actors and tasks. Several studies have recently investigated the efficacy of web-based learning systems in educational contexts, from early uses of online tools in distance learning (Moller, 1998) to assessing the usefulness of web 2.0-based activities to support 'authentic learning' undertaken by high school students (Herrington, Specht, Brickell, & Harper, 2009). Others have reported on the efficacy of online discussion boards to student learning within in environments where 'face-to-face' teaching is not offered, such as professional masters degrees (Cox & Cox, 2008). Fewer studies have investigated the role of online technologies in LTP.

McNamara and Brown's 2009 study focused on gathering information on how online discussion could best support law students in a work-placement subject with two aims: firstly, how online technologies could be a means for students to demonstrate their learning in the workplace to the unit assessor, and secondly as a tool to facilitate collaborative learning where face-to-face classes 'were not feasible'. The reasons given for this lack of feasibility were because "students may complete their placements at different times during the semester" and "face-to-face classes would not be available to external students who are encouraged to enroll in the subject" (pp. 418-419). Although McNamara and Brown's study, like those cited above, contributes important insights into the process of collaborative learning when undertaken online, their starting point was to deploy online collaboration instrumentally: in their first aim, creating more transparent assessment tools, and in the second, as a means of replacing face-to-face teaching. Within such an instrumental approach, learning relationships within such LTP research thus far have been envisaged as two-dimensional: either a student—student or student—teacher relationship. Our study emphasizes that the LTP context is in reality three-dimensional, as it involves students, educators and partners, and therefore should be apprehended as such. To be truly effective, as our interviewees suggest, online technologies in LTP cannot replace face-to-face communication, but must supplement and enhance it. To suggest otherwise would be to invoke a 'technical fix' that is uncritical of its basic assumptions and wider context (Selwyn, Gorard, & Williams, 2001).

APPROACH AND METHODS

The study used constructivist grounded theory methods to investigate collaborative processes as they were understood by current students, unit conveners and partners in a university-wide LTP program. Grounded theory is widely recognized as useful when approaching complex social interactions because it is a rigorous qualitative technique that allows for research findings to emerge from participants' experiences. Fundamentally, this approach enables researchers to "build [successive] level[s of] abstraction directly from the data and, subsequently, gather additional data to check and refine our emerging analytic

categories" (Charmaz, 2006, p. 3). A grounded theory approach allowed for ongoing reflection on the interpretive categories that were used to develop research questions at the scoping and planning phase.

The framework adopted by grounded theory has variants that have been described as positivist and post-positivist (Annells, 1997, p. 120). While all grounded theory is inductive, rather than deductive, the latter approaches emphasize the impossibility of approaching any research problem without guiding concepts and questions, and the necessity of using professional analytic signposts to key areas of inquiry before fieldwork and other forms of empirical research begin (Clarke, 2007). This more self-reflexive approach is termed 'situational' or 'constructivist' (Strauss & Corbin, 1998). Thus our study foregrounds the interplay of participants' unique experiences with social structures that are shared across the researchers' worldview. We also reflected upon fundamental meaning-making categories in the research such as what participants meant by key terms as 'effectiveness', 'collaboration', 'experience'. This in turn enabled us to ask the respondents to describe and flesh out these abstract frameworks from their own knowledge. The primary research and data analysis phases were therefore closely related in this project, as the contents of the interviews were continuously summarized and shared in order to identify emerging key themes immediately after the interviews. These themes guided the collection of data in subsequent interviews and coding instances (Groenewald, 2008).

Our interview schedule included two central questions. After asking participants to describe the kinds of collaborations they undertook within their LTP activities, or if that was not possible, to highlight the most important ones, we first asked 'what helps these collaborations to work better?' and 'what hindered them?' and then followed up with 'is there any specific kinds of support you used for your collaborations?'. If they didn't mention any technologies used for collaboration, a final probing question was used, 'for example, did you use any software programs or web tools?' until this theme was exhausted.

Semi-structured interviews were conducted with volunteer participants (n=16) from the three main groups: students, partner organizations, and unit conveners involved with the PACE (Professional and Community Engagement) program at Macquarie University, Sydney, Australia. This study was reviewed by Macquarie University's Human Research Ethics Committee. All interviews were conducted by the third author (the Research Assistant). Participants were recruited from three groups: PACE unit conveners, students and partner organizations. Past and current unit conveners in all faculties and partner organizations and student cohorts in the Faculty of Arts were invited to participate via email (response rates and overall numbers of respondents are outlined in Table 1).

We undertook data analysis both individually and as a team. Initial reviews of selected transcripts were conducted by individual team members with preliminary note-taking and memos. The research team then participated in further data analysis by coding and developing themes and divergent responses from each cohort into conceptual categories. The collaboration focus of the project was discussed by members of the team and used as a lens to refine the subsequent collection of data. The iterative process that characterizes a grounded theory approach opened up the research focus to a whole array of issues that we believe overshadow a singular concern with online-based technologies, technologies we in turn characterize as 'invisible'.

TABLE 1: Staff, student, and hosting supervisor response rates

Cohort	Faculty	Invited (96+)	Projected cohort	Recruited (16)	Response rates
Group A: *Unit conveners*	Across all faculties	22	Up to 6	6	6/22= .27
Group B: *Hosting supervisors*	Arts	27	Up to 6	5	5/27= .19
Group C: *Students*	Science	Number n/a* (invited by an invitation letter in Moodle sites by respective unit conveners- at least 2 unit conveners)	Up to 12	1	Unknown
Group C: *Students*	Arts	46 (individual invitations)	Up to 12	4	4/46= .09

FINDINGS: MAPPING 'MASS COLLABORATION' IN LTP

The university's LTP program was portrayed as "mass collaboration" (Unit Convener 4), because it entails collaboration between three groups: firstly, unit conveners and support staff (within the university); secondly, students; and thirdly, partner organizations, and as well as within these groups, that is, between students, between partners and students, and between the university and partners.

Collaboration within the university entails establishing partnerships and developing LTP programs and units. Different faculties collaborate "in terms of sharing contacts, sharing information, establishing partnerships, and even groups of students from different units going to one partner to complete different components of the same activity" (Unit Convener 4). Within the program, unit conveners collaborate to develop "learning and teaching resources… [as well as] frameworks and institutional change" (Unit Convener 4).

Dimensions of collaboration for partner organizations are similarly diverse. Partners collaborate with the university's project team supporting these units, unit conveners and students within the units. Collaboration begins well before the teaching period, as it is integral to building partnerships. Individual partner organizations also collaborate with other partner organizations, and identified this aspect as a valued outcome of their involvement in the program (Hosting Supervisor 2). Campus-based workshops were seen by partners as a good opportunity for networking with other partner organizations, and discovering common ground.

Specific needs for collaboration emerged within such units when compared with traditional ways of teaching. Units are not delivered on a weekly cycle where students regularly see

their lecturer. Most of the students are engaged in their learning off campus, as they are interning or working on projects within outside organizations.

The unique nature of LTP-type units creates the need for students to collaborate with a variety of individuals including their unit convener, other students, the hosting supervisor(s), and other staff members of the hosting organization. Depending on context, organization and project, students in such units may also need to collaborate with people from outside the hosting organization such as subject experts, professionals or other community members. Students may work with other academics within the university who can provide specific expertise and support staff who are managing administrative requirements such as risk management and legal agreements.

As a unit convener in Sociology explains, students' collaborations in LTP units are very diverse:

> the [students], they're collaborating with each other. They have to run it as a team. They can't both do the same thing and nobody does the other thing [the one] that nobody wanted to do! They have to allocate the tasks and decide which tasks they're going to do, and they are involved in talking to their supervisor in the placement about the timelines and the resources that they need. … Then, they're speaking to other people, experts in that particular country and that particular political situation. They have to talk to the cinema where they're going to present [a screening], they have to talk to the caterers…! So they're [really] collaborating with a wide range of people inside and outside the organization. (Unit Convener 1)

As part of a project team in a LTP experience, students need to collaborate with other project team members. Host supervisors are aware of this need when setting up projects to ensure the continuity of the project itself as students come and go from the organization: "it's really important that they [students] feel part of the project, and that they [students] have a real role to play" (Hosting Supervisor 5).

Students placed in overseas organizations reported the intensity of the collaborations in an immersive context: "We were very, like, close-knit. Probably every day that I saw them, we had a little mini-meeting, or sat down and talked about what was going on" (Student 4). Students based in international projects also have to collaborate with other professionals such as translators.

Even in local settings, host supervisors explain some students have to collaborate with people outside the organization: "Working on our programs – [for example] educational or outreach (like the dementia program) involves interaction with the general public including care facility staff [and so on]." (Hosting Supervisor 6).

Enhancing Collaboration - Overshadowing Technology

Specific dimensions of collaboration emerged, which in this section are grouped into three components: capacities, hindrances and supports.

Key Capacities

Four key capacities of students were mentioned by all three cohorts as enhancing collaboration: communication skills; ability to work in a team; analytical and research skills and discipline-specific education. Other factors mentioned were student motivation

enhanced by a supportive, intentional environment, and awareness of the need for flexibility from all cohorts.

For example, a student placed in a busy international context suggested that it was her communication skills that helped her collaborate successfully during her project: "What helped it was my communication skills. To ask exactly what I needed"(Student 4). Students also drew on their disciplinary background and skills gained in other contexts to translate themselves into new collaborations:

> What has helped me is certainly my studies at university, so the knowledge, and then also developing skills of effective communication and leadership through various units. I'm also involved in [a] leadership program at university, and also my working experience, working in a bank for two years, has certainly made me able to approach the situation very professionally. So it's been quite… I've felt quite comfortable in the role. (Student 3)

Hosting supervisors emphasized that good communication was the basis of successful collaboration. A hosting supervisor explains how this takes place in practice:

> I think communication. We've done a lot of emailing, and I've been meeting with [the student] weekly, and then every couple of weeks we meet with the other academics, so she [the student] is part of the research team at that point, so she does some work on her own, some communication with me – face-to-face meeting – but a lot of our communication is through email. (Hosting Supervisor 4)

Furthermore, both hosting supervisors and unit conveners mentioned quality of communication, and its transparency.

All three cohorts identified meetings and face-to-face interactions as the most effective form of communication for successful collaboration. The kinds of meetings mentioned included on-campus workshops for students, meetings with partner organizations, meetings between students, hosting supervisors and the rest of the team, meetings within the hosting organization, and meetings with other experts and the community, depending on the nature of the project. Partner organizations and unit conveners also indicated this aspect of students' orientation to the placement was critical, and took explicit responsibility for facilitating collaboration, whether inside the organization by host supervisors, or as an advisor or mentor in the case of unit conveners:

> It's really important to prepare quite a lot of ground work with the partners, so partners who are very specific about what they want and very specific about what the project will be, make things a lot easier for me as the convener and for the students to really come in and hit the ground running. So, the more specific the partners are, then when the students come along and see the projects, they can really identify with the ones they care about, are passionate about, and that makes everything kind of flow more smoothly. (Unit Convener 1)

Partner organizations support collaboration by being actively engaged in the whole process and continuously communicating with the student as "they've got the best chance to get involved with something that is relatively new to them" (Host Supervisor 1). Hosting supervisors also emphasized to students the importance of their work:

we've tried to make her feel that her work's important in the team, that we're not just finding a little job for her to do because she's an intern. I think she feels that her role is important, because the literature base is really important for the project. So I think that's helped. (Hosting Supervisor 4)

Ultimately, the process of managing collaboration lies "with the onsite supervisor… in conjunction with the student" (Unit Convener 7), and this is underpinned by a supportive team and face-to-face meetings and discussions (Unit Convener 6).

What Hinders Collaboration in LTP?

Time was mentioned by both students and hosting supervisors as a major constraint to effective collaboration, particularly a lack of time from the partners to engage with students: "the [organization's] time, really. My time. We could possibly do a lot more, but we just don't have the internal resources to support that" (Hosting Supervisor 6). This time constraint impacted on students, who often felt that they were not able to ask as many questions as they wanted. Several students reported a perception that they were not part of the workplace due to these time pressures: "Occasionally I get the sense from particular individuals in the organization that they may not have time for me." (Student 6) Other students indicated that it was not the quantity of time dedicated to their supervision that was important, but the quality of supervision that gave them a sense of involvement:

 [I]t was a time constraint on their part, I would say they didn't do much, because they were all very busy all the time! All very busy. So I didn't get much time, but the little time that I got was really good. (Student 5)

Other hindrances were language barriers, students' lack of motivation, mismatches between students' skills and the organizations requirements, for example, a hosting supervisor reported that "I think we might have made a few little mistakes along the way, because we didn't understand enough about what the project was and wasn't, and what we could expect from the student, and not expect. " (Hosting Supervisor 4). Miscommunication was also a recurring theme, with a lack of transparency around expectations and advice from students' academic and workplace supervisors proving problematic:

Information getting lost! So, one person says something and somebody else not knowing that they've said it. So that's tricky, especially if a student's getting different advice from two different people. There's the academic supervisor, the workplace supervisor… if we're saying very different things… we don't know that they're saying really different things. That's really problematic for the student. (Unit Convener 5)

What Kinds of Tools and Technologies Help Support Collaboration?

Many units utilized course management software, such as *Moodle*, to support students' collaboration in LTP. Some units used project management software such as *At Task, Base Camp* or social media such as *Facebook* to collaborate:

they have to post updates of how they're progressing, and that then starts to operate – like, social media, like a *Facebook* page or something, because they are starting to engage with each other in dialogue about their particular internships. (Unit Convenor 7)

Within the program, unit conveners use online surveys, as well as in-house client relationship management packages to share information and resources and to place students with the assistance of the University's professional staff. Within partner organizations, host supervisors also mentioned *Skype, Dropbox, Google Docs, Wikispace, Sharepoint, Clouds* and internal networking systems for maintaining collaborations within projects.

However, the most widely mentioned method for collaboration was email. Partner organizations mostly used emails to maintain their collaboration with the student and the unit conveners.

DISCUSSION AND CONCLUSION

The findings presented above suggest that there are several aspects of collaboration that are central to LTP. As mentioned at the beginning of this article, while the initial concern of this study was how online technologies assist LTP, the responses of the participants themselves led to various themes that actually underpin the use of these technologies and need to be understood before the usefulness of technologies can be assessed.

Undertaking LTP is certainly exciting and promising for all involved, however the challenges of providing these opportunities are significant. Because LTP entails mass collaboration, in order for these opportunities to flourish and for the challenges to be managed, a multifaceted effort is required. The term 'collaboration', which was originally intended as a term to grasp how online communication technologies supported LTP units, ended up becoming a key concept that made participants think about the 'magical outcomes' involved beyond technologies. Terming this process 'mass collaboration' captures the complexity of the relationships that develop in order to facilitate experiential opportunities for students. For example, the sharing of information, experiences, contacts, and reflections between those involved is remarkable. This mass collaboration happens within and outside the university, with and without people directly involved in PACE. Students, for example, may have to collaborate with various individuals during their placements, including other students who can even come from other universities. Equally, unit conveners may have to work collaboratively with other academics to create a team of interdisciplinary students for a particular project.

So where should we situate the mediating technology that sparked this project? Not surprisingly, perhaps, participants did not seem very inspired to discuss the issue of collaboration in relation to the technology used in LTP units. When prompted, participants did mention the various tools that were either available or required for their LTP placement, however a combination of strategies, both online and not, seemed to make collaboration happen. When discussing tools to collaborate, almost everyone referred to email as the easiest way to communicate and collaborate. Several other programs were seen as facilitating the collection (*Qualtrics*), management (*Tracker*), or exchange of information (*AtTask, Basecamp, Dropbox, Moodle*) between different stakeholders. Most tellingly, face-to-face encounters were repeatedly mentioned as having a central role. Here the useful distinction between co-ordination (of activities), communication (of information, or between social actors) and collaboration (leveraging resources between different cohorts to facilitate both projects in the 'outside world' and learning from each other) may help explain what is also 'left out' of the accounts of these various social actors. The emphasis of interviewees on interpersonal communication for collaboration may have been the result of convenience sampling in this project. Participants who were available and interested in being interviewed

may have been particularly skewed towards a group who were allied to the interests and purposes of the department (Sociology) and faculty (Arts) within which this research took place. Yet, the emphasis by hosting supervisors from partner organizations on communication as a precondition for collaboration but not the other way around indicates something quite unique about the particular historical moment in which LTP has emerged as a phenomenon in higher education. The activities described by students, partners and unit conveners could simply not take place entirely online, as this would preclude the sharing of meanings, beyond sharing of information. The online technologies mentioned by the participants were used for *co-ordination* of activities and a sense of temporal community, rather than this more nuanced and dialogic communicative process. As emerged in discussion with one of our respondents in a summative evaluation of our research project, there can be "no collaboration without communication but one can have communication without collaboration" (Michaela Baker, personal communication, 3 December 2014). The emphasis of participants on communication within collaboration, rather than communication in and of itself demonstrates the 'invisibility' of technology within the LTP context, consistent with the primacy of the participatory nature of the learning that is taking place. In this aspect, processes of co-ordination sit alongside processes of communication but both are dwarfed by the deep engagements provoked by collaboration that students are embedded within during their placements.

This small study has suggested that before concentrating on the use of online technologies within LTP it is important to understand first the broad shifts occurring at individual and institutional levels. Collaboration is an important frame within which these shifts take place and the technological tools are but a mere aid to assist with the challenges described here.

REFERENCES

Annells, M. (1997). Grounded theory method, part I: Within the five moments of qualitative research. *Nursing Inquiry, 4*(2), 120-129.

Bromley, M. & Apple M. W. (Eds.). (1998). *Education/technology/power: Educational computing as social practice*. Albany, NY: State University of New York.

Charmaz, K. (2006). *Constructing grounded theory: A practical guide through qualitative analysis*. London, UK: Sage.

Clarke, A. E. (2007). Grounded theory: Critiques, debates, and situational analysis. In W. Outhwaite & S. P. Turner (Eds.), *The SAGE handbook of social science methodology*. (pp. 423-442) Thousand Oaks, CA: Sage.

Cox, B., & Cox, B. (2008). Developing interpersonal and group dynamics through asynchronous threaded discussion: The use of discussion board in collaborative learning. *Education, 128*(4), 553-565.

Cuban, L. (1986). *Teachers and machines: The classroom use of technology since 1920*. New York, NY: Teachers College, Columbia University.

Glaser, B. G. & A. L. Strauss (1967). *The discovery of grounded theory: Strategies for qualitative research*. Chicago, IL.: Aldine.

Groenewald, T. (2008). Memos and memoing. In L. M. Given (Ed.), *The Sage encyclopedia of qualitative research methods*. (pp. 506-507). Thousand Oaks, CA: Sage.

Herrington, J., Specht, M., Brickell, G., & Harper, B. (2009). Supporting authentic learning contexts beyond classroom walls. In R. Koper (Ed.), *Learning network services for professional development* (pp. 273-288). Berlin, Germany: Springer-Verlag.

McNamara, J., & Brown, C. (2009). Assessment of online discussion in work-integrated learning. *Campus-Wide Information Systems, 26*(5), 413-423.

Moller, L. (1998). Designing communities of learners for asynchronous distance education. *Educational Technology Research and Development, 46*(4), 115-122.

Naismith, L., Lonsdale, P., Vavoula, G., & Sharples, M. (2004). *Literature review in mobile technologies and learning* (Futurelab Series Report No. 11). Birmingham, UK: University of Birmingham. Retrieved from http://www.nfer.ac.uk/publications/FUTL15

National Health and Medical Research Council (NHMRC) (2007). *Australian code for the responsible conduct of research (The Code)*, Canberra, ACT, Australia. Retrieved from http://www.nhmrc.gov.au/guidelines/publications/r39.

Rowe, A., Mackaway, J., & Winchester-Seeto, T. (2012). 'But I thought you were doing that' – Clarifying the role of the host supervisor in experience based learning. *Asia-Pacific Journal of Cooperative Education, 13*(2), 115-134.

Russell, J. F. & R. B. Flynn (2000a). Setting the scene for collaboration. *Peabody Journal of Education*, 75(3), 1-5.

Russell, J. F. & R. B. Flynn (2000b). Commonalities across effective collaboratives. *Peabody Journal of Education*, 75(3), 196-204.

Salmon, G. (2005). Flying not flapping: A strategic framework for e-learning and pedagogical innovation in higher education institutions. *ALT-J, Research in Learning Technology, 13*, 201–218.

Selwyn, N., Gorard, S., & Williams, S. (2001). The role of the 'technical fix' in UK lifelong education policy. *International Journal of Lifelong Education, 20*(4), 255-271.

Strauss, A. L. and J. Corbin (1998). *Basics of qualitative research techniques and procedures for developing grounded theory* (2nd ed.). London, UK: Sage.

Trede, F. (2012). Role of work-integrated learning in developing professionalism and professional identity. *Asia-Pacific Journal of Cooperative Education, 13*(3), 159-167.

Woo, K., Gosper, M., McNeill, M., Preston, G., Green, D., & Phillips, R. (2008). Web based lecture technologies: Blurring the boundaries between face-to-face and distance learning. *ALT-J, Research in Learning Technology, 16*(2), 81-93.