



Evaluating an online learning community: Intellectual, social and emotional development and transformations

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Abstract

Developing online learning communities is a promising pedagogical approach in online learning contexts for adult tertiary learners, but it is no easy task. Understanding how learning communities are formed and evaluating their efficacy in supporting teaching-learning involves a complex set of issues that have a bearing on the design and facilitation of successful online learning experiences. This paper presents findings of a case study of a semester-long online graduate course designed to facilitate a learning community at a New Zealand tertiary institution. It adopts a sociocultural analytical framework and argues for a multiple developmental analytical approach to evaluating learning that considers lecturer and student intellectual, social and emotional development and transformations. Implications are presented for online lecturers, course designers and institutional administrators.

Keywords

Online teaching, online learning, learning communities, evaluation, outcomes of teaching and learning, transformations of identities, tertiary, New Zealand

Introduction

Current research and practice in successful online pedagogies support the development of a learning community in facilitating teaching-learning in online environments (Luppicini, 2007). A learning community describes a cohesive group of people with a specific focus on learning involving transformatory participation and is concerned with teaching-learning processes and outcomes (Bielaczyc & Collins, 1999). This view implies that novice learners' learning is heavily shaped by shifting roles and relationships as they become incorporated into a community (Wenger, 1998). They can assume different levels of participation or roles as they acquire the knowledge and skills to move from the periphery to the centre of the community (Lave & Wenger, 1991).



The introduction of the Internet and Web-based technologies has enabled crucial collaboration and communication to more readily occur, encouraged the development of online relationships and extended the range of possible communities. As such, the term online learning community (OLC) expresses the desired characteristics of a learning community established through the use of the Internet and Web-based technologies. An OLC is a tangible entity, formed through the mutual shaping of the community and the identities of its members as the community as a whole evolves towards shared learning goals. The advantages of developing learning communities are such that some believe their formation to be vital to the success of online learning (Harasim, 2002; Palloff & Pratt, 1999).

This paper describes socioculturally-based research aimed at understanding member development within the context of an emerging OLC. It presents case study findings of a lecturer and his masters level students, highlighting their development and transformation as they participated in course activities specifically designed to foster community growth as a way of achieving the course goals. This study makes a case for understanding and evaluating multiple aspects of lecturer and student development as evidence of a thriving OLC in facilitating successful online learning experiences.

A sociocultural approach to learning and development

The development of learning communities aligns with sociocultural perspectives regarding mental processes as situated in a broader community's valued historical, social, institutional and cultural context (Brown, Collins, & Duguid, 1989). From a sociocultural perspective, understanding how learning occurs requires a focus on how learners participate in particular activities and practices, how they appropriate the available tools, artefacts and social networks, and how they use and value the different discourses involved in a local setting (Lave & Wenger, 1991; Rogoff, 2003). Members of a learning community participate in the community's valued activities by simultaneously performing several roles, each of which imply a different sort of responsibility, a different set of role relations, and different interactive involvement (Lave & Wenger, 1991; Wenger, 1998). Learning is thus viewed as transformatory participation, instead of the production or provision of services, where learners learn through increasing active participation in the valued activities of a community. The mutual shaping of an individual member and the community's identities are implied as the community as a whole moves towards shared learning goals.

A learning community is characterised by an asymmetry of roles, a high degree of interaction and negotiation of meaning, and increasing acceptance of joint responsibility for individual and collaborative learning (Rogoff, 1994). These characteristics emphasise relationship building as key in underpinning the development of a learning community. There is evidence of members' needs for social and emotional ties, where they feel valued and supported, in order to interact with one another at intellectual, social and emotional levels (Sewell & George, 2008). These multiple levels support and nurture members' learning needs to bring about transformations of members' intellectual, social and emotional identities (Hung & Nichani, 2002).

Members' intellectual transformations are generally observed in gaining understanding in cross-disciplinary subject areas and heightening cognitive capabilities compared to learners in traditional classrooms (Bereiter & Scardamalia, 1996; Brown et al., 1993). Social transformations are demonstrated through member interaction and connectedness involving both course content and personal communication, collaborative learning evidenced by comments directed primarily between students rather than student to lecturer, sharing of resources among students, the expressions of support and encouragement exchanged between students, a willingness to critically evaluate the work of others, and a commitment to group goals (Chapman, Ramondt, & Smiley, 2005; Rovai, 2002). Finally, emotional transformations are signalled through gaining appreciation of one another's needs and improving attitudes and motivation to help and care for fellow participants, even if to do so is a

difficult option (Sherry, 2000; Watkins, 2005). Members also gain confidence by being engaged in dialogue, and become more receptive to multiple perspectives (Liu, Magjuka, Bonk, & Lee, 2007).

In spite of the benefits of adopting OLCs as a pedagogical approach to facilitate teaching and learning, two challenges exist. Firstly, existing analytical frameworks are inadequate to evaluate the complexity and diversity within an OLC. As a learning community is developed through the reciprocal and mutual shaping of its members and the community as a whole, neither a focus on an individual learner's activity nor the class microculture can adequately be accounted for unless each one is considered with the other (Sfard, 1998). One productive approach to reconcile this individual-community dichotomy is to investigate member participation across multiple levels of development. Rogoff's (1995) sociocultural notion of multiple planes of development provides a means to do this by directing attention to the personal, interpersonal and community aspects of learning and development. An evaluation of learning and development from this perspective emphasises the *process* of individuals' participation in, and contributions to, activity rather than just the outcome or product (Rogoff, 1997). Originally proposed in the context of understanding children's learning and development, a focus on multiple aspects of lecturer and student development provides a useful analytical tool to understand and analyse teaching and learning in the context of an OLC formed with adult graduate students. For the purposes of this paper, we describe the process and outcomes as a result of using Rogoff's (1995) framework to analyse lecturer and student development and transformation of participation in terms of their intellectual, social and emotional aspects. Rogoff's (1995) overall multiple planes of development and analytical framework in investigating the development of an OLC have been reported elsewhere (see Khoo & Cowie, 2010).

Secondly, in order to understand the processes of how members of a learning community develop and transform, an examination of the nature of interactions occurring among members is warranted. Current analytical frameworks examining online interactions are limited in three aspects:

1. Current frameworks are limited to examining either the cognitive (e.g., Garrison, Anderson, & Archer, 2000) or the social (e.g., Stacey, 2002) nature of interactions. Although there have been some attempts made to understand how the social, cognitive and cultural elements collectively impinge on the quality of online interaction and participation (e.g., Hara, Bonk, & Angeli, 2000), frameworks for evaluating members' sociocultural development within the context of an OLC are still very much lacking;
2. Very few researchers (with the exception of, for example, Poole, 2000) examined both the nature of lecturer-student and student-student online interactions and participation. Examinations of both lecturer-student and student-peer interactions are needed to provide a comprehensive understanding of the reciprocal nature and mutuality of important online teaching-learning interactions and participation in an OLC; and,
3. Although analytical frameworks have been developed to understand levels of online student participation (Angeli, Bonk, & Hara, 1998) and interaction (Jonassen & Kwon, 2001), none (with the exception of Zhu, 1996) have attempted to understand the participants' roles and the fluidity of these roles adopted by different participants as a course progresses. Taking a sociocultural stance warrants an examination of how participants adopt different roles in an online class to better understand how the lecturer and his students conceptualise their responsibilities as teachers and learners, and how this influences the nature of their contribution and participation as they appropriate the resources and tools available to facilitate their learning.

Hence, in addition to adopting an analytical framework with multiple levels of development, this paper illustrates the use of an analytical framework to provide a fine-grain analysis of the nature of online lecturer-student and student-peer interactions as a basis for understanding important participation in an online class within the context of a developing OLC.

The research context

The study that forms the basis for this paper involved collaboration between the first author and an online lecturer, Adrian,ⁱ to design and implement an intervention in a semester-long, fully online asynchronous, master's Educational Research Methods course. The intervention was informed by a review of the literature triangulated against the findings of a baseline study that elicited the views of online lecturers and their students on how learning can be successfully facilitated (Khoo, 2010; Khoo, Forret, & Cowie, 2010). Successful learning experiences are denoted by experiences that engage online class participants in deep and meaningful learning processes and understandings. The intervention identified five guiding sociocultural principles that conceptualise online learning as a mediated, situated, distributed, goal-directed and participatory activity within a learning community (Khoo, Forret, & Cowie, 2009).

This study adopted a intervention strategy (Jones & Simon, 1991) to frame and translate the guiding principles into teaching strategies. This involved the researcher working collaboratively with Adrian to negotiate the design of teaching activities through an iterative process that was responsive to emerging issues. The course itself consisted of four modules that ran over 12 weeks and built upon one another in a coherent manner to provide students with a holistic view of educational research. Teaching activities, in the form of problem-based scenarios, were designed to encourage collaboration and student engagement with one another's ideas in order to foster a sense of belonging to a community and create shared knowledge. No marks were allocated for students' online contributions but they had to participate online in order to pass the course. Online participation guidelines were provided because the 14 students were from very diverse backgrounds, ages, experiences and geographical locations and only some had previously studied online. Students were randomly allocated into one of three online discussion groups. The entire course was offered via the *ClassForum*ⁱⁱ platform. Access to the online class required user authentication (i.e., student username and password).

Data were collected through student questionnaires, interviews and online postings to assess the extent to which the intervention was successful in facilitating meaningful learning experiences. Throughout the course, daily observations of the teaching-learning processes were conducted and weekly interviews held with Adrian. Eleven of the 14 students consented to participate in the research. At the end of the course, online questionnaires were distributed and 10 students responded. Follow-up interviews were conducted with four volunteers (Shaun, Shania, Sapphire and Melody). Descriptive statistics was used to analyse trends in the questionnaire data. Analysis of the interviews involved careful reading, coding and categorising of key ideas to identify significant emerging themes. Online transcripts were analysed using a modification of the online analytical categories developed by Zhu (1996) to identify types of interactions, purposes for interaction and participation roles taken up (see Khoo, 2010). At a deeper level, these three analyses provide evidence of the participants' intellectual, social and emotional development within a particular course activity.

The next section describes the findings from participant perspectives.

Transformations as knowers and learners in research methods

Overall participation in the course

Participation is a key element in an OLC. As all students participated in the course, Table 1 below reflects their increasingly active participation in the course.

ⁱ Pseudonyms are used in this study

ⁱⁱ The *ClassForum* platform was replaced by *Moodle* in 2008.

The particularly high postings were observed in two discussion forums. In Module 2, within the topic of Questionnaires, a problem-based scenario (Scenario) about data collection methods was used (with 55 postings) and students shared ideas for Assignment 1 [A1] via a discussion forum (with 108 postings). Due to the limits of space, we use evidence from the Scenario in Module 2 alone to illustrate the way the three aspects of development and transformation—intellectual, social and emotional—can be used to develop a comprehensive understanding of the mutual shaping of individual and collective knowledge growth as an OLC forms.

Table 1. Participation rates in online discussions

Topic	Student postings	Lecturer postings
Module 1: Nature of education research	20	11
Research Ethics	29	6
Literature Review	16	9
Module 2: Data Collection Methods	50	9
Interviews		
Questionnaires	55	8
Observations	43	14
Module 3: Approaches	42	4
What's a Case Study?		
Action Research	50	17
Module 4: Summary	20	5
Sharing of Ideas for Assignment 1 (A1)*	108	3
Total	433	86

Note. *This was a separate online discussion set up as a side discussion over a period of three weeks (as part of the first assignment) at the commencement of Module 2.

Participation as grounded in a valued course activity

The Scenario, used across the three weeks of Module 2 discussions, afforded an authentic context for the application of various research data collection methods. Students had to discuss and determine their group's position in relation to a dilemma. This encouraged accountability, delegation, negotiation and group decision making as students learnt about the different data collection methods. Each weekly sub-activity built upon the knowledge from the previous week. Students' consideration of the issues in the Scenario was intended to assist them in developing their ideas for the upcoming individual course assignment (Assignment 1). The scenario activity fostered student collaboration within the context of an emerging learning community focused on developing a critical understanding of course content. All students thought the Scenario was 'somewhat' or 'very' useful in depicting a real-life educational research issue and provided an authentic context to discuss the course readings. Nine of the 10 students found it helpful in supporting them to relate their personal experiences to the course readings. Melody affirmed the Scenario's practical and realistic value for learning. For her, the link to the assignment added to the relevance of group discussions.

Most valuable module is Module 2. That was really, really valuable ... it was not only very practical and sort of realistic because there was a lot to read around that stuff. It was really good, but also it related to the assignment. It helped us with it.

Sapphire, another student, thought the Scenario helped her group bond more closely and to develop a sense of responsibility for one another's learning:

I would say the weekly group scenarios in class [were the most useful] because you felt—not the pressure—but you felt like you had to perform—like you couldn't have just let the group do it all—you all had to.

Adrian considered the Scenario effective in encouraging student participation because it required them to negotiate and come to a group consensus. This had fostered student interaction and accountability:

It gave them [students] a better sense of group accountability, a better sense of interacting with others ... and it made them look at each other's ideas. That was crucial. It made them acknowledge each other as well. So I think there are some powerful lessons to be learnt here.

Although the Scenario was a highly valued activity within the learning community in fostering elements of participant intellectual, social and emotional development, a focus on the nature of the activity itself does not provide an understanding of the nature and quality of the interactions that contributed to learning. An examination of how participants in the course came together to interact and mutually support and develop one another as a learning community is thus warranted.

Participatory processes illustrating intellectual, social and emotional development and transformations

The online analytical framework adopted in this study considers the nature of participants' interactions, the purpose served by an interaction and the participatory role being adopted. The distinction here between interaction and participation is critical. Participation emphasises the development of relationships and how people relate to each other through the kinds of roles they adopt, while a focus on interactions emphasises the way dialogue serves particular purposes such as supporting students' intellectual, social or emotional needs (see Khoo, 2010 for details of this analysis). Adrian's interactions and participatory roles in the Scenario activity are examined next, followed by those of his students.

Table 2 shows Adrian's number of online postings, his ways of interacting, purposes of interacting and participatory roles adopted.

Table 2. Nature of the lecturer's key interactions and roles in the Scenario

Number of Postings	Ways of Interacting	Themes (Purposes) of Interaction	Participatory Roles
7	Name addressing.	Social	Social
6	Sharing experience with student.	Intellectual	Pedagogical
5	Acknowledge ideas/highlight important ideas from students' discussion (pick up important points).	Intellectual	Pedagogical
5	Suggest new idea (based on concrete examples from research experience/refer to literature/other students' contributions).	Intellectual	Pedagogical
5	Thanking and encouraging students' contributions.	Social	Social

Throughout this activity Adrian used the practice of *Name Addressing* (7 postings) to personalise his interactions with students. Adrian continued his established practice of *Thanking and Encouraging* (5 postings) students to contribute to the discussions. These two interactions reflect a *social* purpose and were associated with his adopting a *Social* role. Adrian acted to encourage students to engage with the ideas of the course by *Sharing his own experiences* (6 postings) and *Suggesting new ideas* (5 postings). At the same time, he *Acknowledged* students' ideas (5 postings). These three categories of interactions reflect an *intellectual* purpose and were associated with his *Pedagogical* role.

Table 3 shows an excerpt of discussion between Adrian and a student, Reba, who had a question about sample size when conducting research (Posting #18). Adrian's response to Reba clearly demonstrated the importance of his *Social* and *Pedagogical* roles. Further, his response to Reba (Posting #19) reflects a combination of important interactions and roles. He began by adopting a *Social* role (*Name Addressing*), followed by a number of *Pedagogical* roles (including *Acknowledging* Reba's ideas and *Sharing his experiences* with her) and concluded by adopting a *Social* role in *Encouraging* her to contribute an important idea to the group.

Through this combination of interactions and roles, Adrian contributed to the distributed expertise within a group/the class, which in turn supported his students' social, emotional and intellectual development.

Table 3. Lecturer interactions and participation in the Scenario

Student/Adrian	Online Posting	Ways of Interacting (Participatory Roles)
Reba (Posting #18)	<p>Hi all.</p> <p>I was a little confused about the sample size.</p> <p>I really put that number out there for discussion so feel free to oppose it and any other ideas I have. That's what this discussion is all about.</p> <p>I was wondering what you all think about a 5% interview sample, 10% survey sample and 5% observation sample. Although Adrian seems to think 100 schools were too big a sample to interview. Maybe 2.5% for the interview and observation. They would need to be randomly selected using statistical means. Within this 2.5% or 5% there would need to be even representation of primary, secondary, private, Maori, special needs?? It would depend on the percentage of these schools in our education system.</p> <p>What do you think about interviewing and surveying the same schools or using different ones? Hopefully hear from some of you soon.</p>	<p>Greeting (Socialite)</p> <p>Share Feelings (Encourager)</p> <p>Give opinion (Resource contributor)</p> <p>Ask question (Seeker)</p> <p>Ask for other's opinions (Seeker)</p>
Adrian (Posting #19)	<p>Reba, you have raised some interesting points about sampling for both interviews and questionnaires. Personally I would look to do fewer more in-depth interviews and then use the findings from the interviews to then move to a 5–10% sample in your questionnaires. I like the idea of piloting (pre-testing) your questionnaire—this is an essential part of the process, in fact in the National School Sampling Study we had 2–3 pilot stages eg local schools, union groups, <i>kura</i> groups and MoE officials. Your idea of stratified (representative) sampling is crucial to this process.</p>	<p>Name addressing (Social)</p> <p>Acknowledge ideas (Pedagogical)</p> <p>Feedback (Pedagogical)</p> <p>Share experiences (Pedagogical)</p> <p>Encouraging (Social)</p>

The nature of students' online postings is detailed in Table 4.

Table 4. Nature of the students' key interactions and roles in the Scenario

Number of Postings	Ways of Interacting	Themes (Purposes) of Interaction	Participatory Roles
33	Greetings or salutations	Emotional	Socialite
26	Name addressing	Emotional	Socialite
26	Thanking and encouraging one another	Emotional	Encourager
21	Delegates/manages/organises group to increase group efficiency in achieving task	Social	Coordinator
20	Agreement/Disagreement with fellow members' idea	Intellectual	Mentor
18	Feedback on questions	Intellectual	Mentor
17	Promises to contribute later	Social	Team Supporter
16	Asks for others' opinions	Intellectual	Seeker
15	Sharing of information/resources	Intellectual	Resource Contributor
13	Gives opinion	Intellectual	Resource Contributor
12	Refocuses fellow group members' ideas when side tracked	Intellectual	Mentor
12	Apologises for late online contributions	Social	Team Supporter

Within the Scenario activity, the majority of student interactions (*Greetings, Name Addressing, Thanking and Encouraging*) focused on providing social and emotional support and on relationship building within the group in a manner congruent with an *emotional* purpose for interacting. Students sought to *coordinate* or *delegate tasks* amongst group members (21 postings), they made *promises* of a pending contribution (17 postings) and *apologised* for delayed contributions (12 postings). This set of postings evidenced communication and teamwork and was indicative of a developing sense of accountability and responsibility amongst students about their own and group learning. They were congruent with a *social* purpose for interaction. Consistent with an academic focus and the need for negotiation of ideas among the group members, an *agreement/disagreement* way of interacting (20 postings) was evident. Students provided *feedback* on questions (18 postings), sought out *others' opinions* (16 postings), *shared information and resources* (15 postings), *contributed an opinion* (13 postings) and acted to *refocus* the discussion (12 postings). These postings provide compelling evidence of the way students shared and negotiated ideas within a group in support of an *intellectual* purpose for interacting. These actions were associated with students adopting a variety of roles in support of individual and group intellectual development, as indicated in Table 4.

The *Greetings* and *Name Addressing* interactions were categorised as students undertaking a *Socialite* role concerned with easing the initial awkwardness of working together in a group. *Thanking and Encouraging* is demonstrative of interactions in an *Encourager* role when concern for the encouragement of others is apparent. These roles are supportive of the *emotional* nature of interaction. Student reliance on *delegation* interactions supports a *Coordinator* role, while *promises* and *apologies*

for contributions are demonstrative of a *Team Supporter* role. These roles are associated with the *social* nature of interaction. A *Mentoring* role is exemplified when students *agree/disagree* with one another, give *feedback* and assist in *refocusing* their group discussions. Students adopt the role of a *Seeker* when they *ask* for peer opinions on an issue. When *sharing information* and *giving opinions* on an issue, students undertake a *Resource Contributor's* role. The mentoring, seeker and resource contributor roles illustrate the scope of the *intellectual* focus of interaction.

Table 5 and 6 below are demonstrative of the nature of online contributions described earlier and richly portrayed the nature of interactions that were *Supportive or Emotional* (*Socialite* and *Encourager* roles), *Teamwork or Social* (*Coordinator* role), and *Content or Intellectual* (*Mentor* role) related and roles that took place for students to accomplish their weekly online activity on time. For example, a student, Vance, initiated the discussion in his group by undertaking the *Coordinator* role to compile the final proposal for his group (see Table 5, Posting #34). Throughout the discussion, he remained a key figure in *coordinating*, delegating and organising and even *mentored* (Posting #38) his peers where needed to keep his group on track with their shared task and goals. He also played a *Socialite* role when he greeted and personally addressed his group members by name. This was an important role, complementing his *Coordinator* role in order to facilitate the accomplishment of the group's task and goals. Two other group members, Shaun and Sapphire, worked closely with Vance by adopting the roles of *Socialite*, *Encourager* and *Mentor* (Postings #34.1 and #38.1) as well to indicate their cooperation and support of the group's shared task and goals.

Table 5. Student interactions and participation in the Scenario

Student	Online Posting	Ways of Interacting (Participatory Roles)
Vance (Posting # 34)	<i>Kia ora. He ra tino pai mo katoa.</i> [Māori greeting] ^a	Greetings (Socialite)
	I volunteer to 'do surveys' proposal this coming week: Sapphire must be exhausted by now. Eh.	Delegation (Coordinator)
	I think much of our preamble be retained and we look at suitability of surveys as data- gathering method re: Internet Usage.	Refocus ideas (Mentor)
	I think we all agreed that surveying would be the preliminary data-gathering approach i.e., prior to interviewing of any type—and you all know my kaupapa: I ad nauseum know from experience that many learners especially have no access to internet at school and at home. And yes—all too often they are my cousins. And my kids too actually!	Summary of Ideas (Reviewer) Share personal experiences (Resource Contributor)
	So maybe our first nationwide survey—over a sample range of diverse schools—should pose the initial question: do you have Internet access at all; before we even decide how to go on from there.	Give opinion (Resource Contributor)

Sapphire (Posting # 34.1)	<p>Hi Vance</p> <p>My first contribution to the survey section is, can we send a survey to all principals establishing</p> <p>School size; Decile rating; Number of computers; Number of computers connected to the internet; Number of staff that have access to the internet; Ethnic makeup of students at the school; and If students have access to internet at the school.</p> <p>All this data will enable us to sort out some coherence to the geographic locations and groups we would like to interview etc. Thanks. Sapphire.</p>	<p>Name addressing (Socialite)</p> <p>Elaboration of ideas (Mentor)</p> <p>Thanking (Encourager)</p>
[Postings # 35–37 omitted]		
Vance (Posting # 38)	<p><i>Kia ora ano.</i></p> <p>Sapphire—I am not sure that we would survey all principals—remember we are to be cost effective here. Let alone the time practicalities involved. I know that you have read the chapter entitled “Sampling” in Cohen et al., 2000. Seems to me that this would be the way to go.</p> <p>More, may I make the suggestion that our survey be of the cross-sectional variety (Cohen et al, 2000, p. 179), i.e., one-off quick to conduct, etc.</p>	<p>Greeting (Socialite)</p> <p>Name addressing (Socialite)</p> <p>Disagreement (Mentor)</p> <p>Share resources (Resource Contributor)</p> <p>Elaboration of ideas (Mentor)</p>
Shaun (Posting # 38.1)	<p>I agree with you Vance.</p> <p>The cross-sectional variety of survey is what I feel is appropriate. Also more cost-effective. Surveying all principals I think would again clash with funding. Sampling them with teachers and students would be better.</p> <p>So now, I am away to start writing questions</p>	<p>Agreement (Mentor)</p> <p>Name addressing (Socialite)</p> <p>Elaboration of ideas (Mentor)</p> <p>Promise to contribute (Team supporter)</p>

Note. ^aIn New Zealand, both the English and Maori languages are recognised and acceptable forms of communication.

Table 6 shows a continuation of the discussions between Vance and Shaun with Vance adopting strong *mentoring* and *coordinating* roles to guide Shaun’s contribution to the group (Posting # 42). Shaun continued adopting the roles of a *Socialite* and *Encourager* in support of Vance’s role and the group’s shared task and goals (Posting # 40).

Table 6. Student interactions and participation in the scenarios (continued from Table 5)

Student	Online Posting	Ways of Interacting (Participatory Roles)
Shaun (Posting # 40)	<p>Vance—I want to help you as much as possible.</p> <p>I will look at the questionnaire and write up a set of questions. I do have a question for you all—How many surveys do we need to create? If we are doing one for principals, we will need to do one for teachers and students as well, right? Or should we look at creating 1 survey to cover all participants.</p> <p>Sapphire—Thanks for the good work. I just hope I can help Vance do just a good a job as you did. I will be online again, the same time tomorrow or later on tonight.</p> <p>If all goes well, I should have a set of questions that can be picked over and recreated.</p>	<p>Name addressing (Socialite)</p> <p>Promise to contribute (Team supporter)</p> <p>Ask questions (Seeker)</p> <p>Name addressing (Socialite)</p> <p>Thanking (Encourager)</p> <p>Promise to contribute (Team supporter)</p>
[Posting #41 omitted]		
Vance (Posting # 42)	<p><i>Kia ora tatou katoa.</i></p> <p>I reckon a probability sample of the stratified type is all we need (Cohen et al, p 101): a sample covering a range of schools qua teachers and learners and beginning with formal questions about Internet capabilities and then moving on to less formal questions about usage. Maybe only 382 questionnaires are required, given Krejcie and Morgan, 1970, cited in Cohen.</p> <p>Also forget about the principals—they aren't part of the quota.</p> <p>Shaun—<i>kia ora e hoa.</i> Any questionnaire questions would be fine.</p>	<p>Greeting (Socialite)</p> <p>Share resources (Resource Contributor)</p> <p>Refocus Ideas (Mentor)</p> <p>Name addressing (Socialite)</p> <p>Greeting (Socialite)</p> <p>Delegation (Coordinator)</p>

As can be seen from the analysis of the Scenario activity, there exists a range of interactions (evident through different kinds of dialogue) and ways of participation (evident through the different roles adopted) that occur when participants are involved in a collaborative activity designed to foster community and develop understandings. The richness of the participation patterns observed, along with the intellectual, social and emotional aspects (Sewell & George, 2008) evident in these, corroborate the existence of a learning community within the class.

Having tracked the reciprocal nature and mutuality of an emerging learning community's member development and transformation that is grounded in a specific valued activity (Scenario), the next section investigates the outcomes of members' overall development and transformation as a result of participating in the course.

Participatory outcomes illustrating overall intellectual, social and emotional development and transformations in the OLC

Adrian's development was demonstrated through his increasing expertise in effective teaching approaches (intellectual), increasing appreciation of the impact of social aspects on the learning process (social), and developing confidence in responding to students (emotional). Adrian's growing expertise as an online lecturer was reflected, for example, in his shift from providing specific feedback to each discussion group to compiling a feedback summary based around the main threads from each of the three groups. This proved to be an effective pedagogical strategy because it allowed him to highlight a wider range of ideas and decreased students' feelings of being personally criticised. Adrian's reflection was

It's easiest to do it that way to give them a better background, a better understanding ... rather than doing it individually [replying to each of the 3 groups] ... gives you more flexibility in what you can add because it may be that they might think that you're criticising the other group and they don't take it as personally.

With regard to social aspects, Adrian came to appreciate the value of calling on the learning community's resources and dynamics to facilitate student learning as opposed to him disseminating information all the time. He used this approach to effect when he clarified the assignment requirements for one student and then encouraged her to share this information with her group members. He thought this strategy was more efficient than him replying to other similar queries individually and that it supported group discussion:

So given that it was something that she asked, I thought it would be something that would be worthwhile [her] passing on to the group rather than coming from me.... I just thought it was important in terms of the group dynamics that she take that back. It worked all right.... It's about efficiency and about her and about group dynamics.

Adrian's developing confidence in teaching was reflected in his view that the course had been successful:

I think as a course and just from people's comments and so forth, I think it has gone really well.... So I would rate it reasonably highly.

The students' transformations were indicated through their increased expertise as learners of research methods (intellectual), increased appreciation for the social nature of learning (social), and developing confidence regarding educational research (emotional). Intellectually, all students reported that participation in the course had enhanced their understanding of educational research ethics, of the range of research data collection methods that could be used, and of educational research as a whole. Melody, when interviewed, highlighted her intellectual development as demonstrated through the development of her knowledge of the vocabulary of research methods:

I have just never had a huge vocabulary and so it grows as you study, you learn new words ... it got better.

Her social transformation included an appreciation and accommodation of the variety of perspectives raised in her group:

Most of the time, I find it [other students' online contributions] really valuable because they would often bring up points that I didn't think of. It's affirming ... sometimes I disagreed with their thinking but it was okay because there was no right or wrong about what we were saying. It's just that we were thinking of it differently. I just incorporated what everyone said. It's good to disagree.

Melody's experience of an emotional transformation was evident in her feeling confident about being involved in discussion on research:

The first sort of week or so online, one of the very early contributions [from another student] about "What is education?" was very technical. I couldn't even understand what he was saying and I was thinking "Oh God, how am I going to do this course?" Then luckily somebody online said basically that she couldn't even understand what he was saying ... that really helped me.

Shaun, another student, made comments that indicated he had experienced the interplay between the intellectual, social and emotional over the course of his development:

It was good to be able to interact with people again, and hear people's response to my comments and see my reactions to that as well. It was very constructive and interactive for me.

These findings highlight the lecturer's and his students' intellectual, social and emotional development and transformations as shaped by the intellectual, social and emotional interactions and participation described earlier. A focus on either the intellectual, social or emotional aspects of interacting and participating alone is inadequate to understand how each type of interaction and participation mutually supports the other to bring about members' overall transformation and development, both during and at the end of the course. Overall, a comprehensive understanding of development would not be possible without the use of an analytical framework that allows discernment of learning and development at the intellectual, social and emotional levels.

Discussion

This study reported on data generated within an intervention to promote student learning within a master's level online Educational Research Methods course, to illustrate the way that a multiple developmental analytical approach (underpinned by sociocultural theorising) can be used to provide a rich and comprehensive understanding of how a group of students come together to support each others' learning. On the whole, the learning processes and outcomes observed conform with Rogoff's (1994) notion of the characteristics of a thriving learning community—active and diverse interaction and participation patterns contribute distributed expertise to the group to develop collective and shared understandings. Evidence of interactions with intellectual, social and emotional foci also supported the existence of a learning community within the class (Sewell & George, 2008). Intellectual development and transformations are indicated through the lecturer gaining online pedagogical expertise in the teaching of the course and students' developing understandings and expertise of research methods. Social development and transformations are exemplified through the lecturer's and students' increased appreciation for the positive relationships, interactions and sense of responsibility for the group's learning. Finally, lecturer and student development of positive attitudes towards the teaching and learning of the subject matter denote their emotional transformations. A multiple developmental analysis emphasising the process and product of development and transformations is thus required to capture and evaluate the complexity that is learning when it is viewed as a sociocultural activity in the context of an OLC formed with adult graduate students. The use of a multiple developmental analytical approach in the evaluation of an OLC has a number of implications for online lecturers and course designers.

First, there is a need to consider the intellectual, social and emotional processes of student development when designing course assessment and activities and when monitoring the way students are participating in the course and to what effect. Current course learning and assessment strategies and regulations in tertiary institutions tend to focus solely on the individual and on the end products of learning. The adoption of an OLC as a pedagogical strategy importantly suggests the need to expand

current online course assessment practices to recognise intellectual, social and emotional aspects of learning and to acknowledge the value of the processes involved in shaping individual and group knowledge. It is important that lecturers in their interactions with students attend to these aspects.

Second, understanding that lecturers and students participate in an OLC through the adoption of a variety of different roles has the potential to enhance teaching and learning. Current literature in design and evaluation of OLCs fails to distinguish between the terms *participation* and *interaction*, using them interchangeably. Adopting a sociocultural orientation importantly accords different meanings to these terms. *Participation* emphasises the development of relationships and identities—how people relate to others through the kinds of roles they adopt when involved in collaborative activities to achieve shared goals. *Interaction*, on the other hand, emphasises the mutual reciprocity between people via the type of dialogue occurring to serve particular purposes (e.g., in support of one another's intellectual, social or emotional needs) when they are involved in collaborative activities to achieve shared goals. The online analytical framework adopted in the study illustrates how the analysis of the lecturer and student interactions forms the basis for the analysis of the purposes (themes) that can be seen to emerge from those interactions. The analysis of the interactions also underpins the analysis and development of categories of lecturer and student participation in the course. At a deeper level, these three analyses provide evidence of the lecturer's and the students' intellectual, social and emotional development within the context of the course. If lecturers are aware of the diversity of interactions and participative roles that they can utilise within the teaching-learning process, they can plan for these, and in this way better organise online discussions and activities to foster student participation in support of learning. Lecturers would be advised to support and encourage students to adopt a range of roles to meet the intellectual, social or emotional needs of their peers. Students would benefit from knowing, for instance, that intellectual development can be promoted through the adoption of roles such as seeker, mentor and resource contributor. Each role implies a different responsibility, relationship and interactive involvement, thereby providing for a range of options for action and increasing the likelihood of addressing the diversity of needs and interests within a class.

Finally, the use of the multiple development and evaluation framework can inform the practice of other online educators who work to meaningfully engage students who, although are possibly very adept and experienced in working within a face-to-face academic culture, may have very little or no experience with learning in online environments. As such it has the potential to support other researchers, educators, policymakers and tertiary providers to make more informed decisions regarding pedagogical design and evaluation in their own contexts of interest. The promotion of successful online learning as espoused through developing an OLC requires support and initiatives at the institutional level to ensure that sufficient time, structures and incentives are in place for lecturers to develop and maintain OLCs. This importantly implies that administrators, course designers and online lecturers should work together to plan and implement the structures and to foster the relationships needed to build a learning communities culture.

Conclusion

The description of a semester-long online master's Research Methods course in this paper represents a microcosm of online distance learning. By providing a detailed description of the research context and a critical analysis of participant experiences, we make the case for a more holistic, multiple developmental analytical approach to evaluating successful learning evinced through intellectual, social and emotional development and transformations, and to acknowledge the value of the processes involved in shaping individual and group knowledge. This approach is not only productive but also relevant in addressing concerns about ways to effectively evaluate the complexity and diversity that is learning as espoused from a sociocultural stance in the context of developing OLCs with adult graduate students.

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