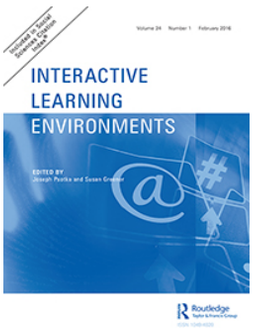

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Reconceptualizing the pedagogical value of student facilitation

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Sustained discourse is critical to the learning potential of online courses. And, while research has surfaced many factors that mediate interaction, it further suggests that sustained interaction remains elusive. In this paper, I propose that student facilitation may have an impact on the quality of facilitators' interactions following a week of moderating a course discussion. Through a survey of students in two post-secondary online courses, the results suggest that moderation fosters understanding of online learning processes and enhances interaction with others and content. I therefore suggest that moderation acts to inculcate students into the social fabric of an online course, prior to which their role and performance is ill-defined.

Keywords: student facilitation; legitimate peripheral participation; transactional distance; online learning; asynchronous threaded discussions

1. Introduction

Scholars increasingly view learning not only as a cognitive process but also as a social and cultural process (Cole, 1996). Such theories can be traced back to Vygotsky (1978) and Dewey (1963), who argued that learning is fundamentally tied to social and cultural practices and activities. According to this perspective, participation is an essential part of learning (Brown, Collins, & Duguid, 1989). Building upon such theoretical grounds, much research has demonstrated that participation in discussions productively draws students into the educational process (Cohen, 1991), motivates them (Junn, 1994), promotes better learning opportunities (Daggett, 1997), and helps them become better critical thinkers (Crone, 1997). "The more they participate, the more they engage in higher levels of thinking, including interpretation, analysis, and synthesis" (Rocca, 2010, p.188). Research suggests that participation is equally crucial in computer-mediated-communication (CMC) settings (Bento & Schuster, 2003; Swan, 2005). For instance, research has examined interactions between students and their instructors and peers, and found significant correlations between interaction and course grades (Shea, Fredericksen, Pickett, Pelz, & Swan, 2001), satisfaction (Hartman & Truman-Davis, 2001), and perceived level of learning (Dziuban & Moskal, 2001).

Online learning environments, however, have long been considered limited in their ability to support and sustain participation (Oztok & Brett, 2011). Researchers have identified a number of factors that affect interactions, including course design (Bullen, 1998),

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teachers' behaviors (Dennen, 2005), attributes of student postings (Zingaro & Oztok, 2012), and level of student autonomy (Moore & Kearsley, 1996). These examples suggest that online learning environments (OLEs) may pose challenges to the sustenance of deep and meaningful interactions. Students can experience roadblocks to their participation in spite of sufficient motivation and encouragement to participate. At play here is a phenomenon known as transactional distance: the psychological gap among learners in an educational setting. This gap is a characteristic of separation particular to and inherent in online learning courses that may lead to misunderstandings between students. The perception of such a psychological gap impinges on the effectiveness and appropriateness of pedagogical practices in distance education settings (Moore, 2007). Therefore, questions arise as how to address the psychological gap in order to promote and sustain participation and interaction in online learning.

What pedagogical practices can be employed for fostering interactions in online courses? Online learning research has suggested several strategies, such as employing the concepts of conflict and divergence to promote discussions (Dennen, 2005; Jorczak, 2009), choosing an appropriate discussion tool (Guzdial, 1997), and modifying course structure to foster participation (Hewitt, 2005; Vrasidas & McIsaac, 1999). Recently, student facilitation has gained traction as a viable means to increase interaction by distributing teacher and student roles across students (Zingaro, 2012).

Student facilitation (or moderation) is the combination of responsibilities for initiating, sustaining, and summarizing the weekly discourse. Therefore, it is a frequently used technique for enhancing student motivation and understanding, building sense of community, and sharing ideas (Seo, 2007). It embodies a shared responsibility among participants, transforming students into autonomous, independent, self-motivated managers of their own time and learning process (Baran & Correia, 2009). However, the online learning literature has largely conceptualized student facilitation as an alternative to instructor facilitation or non-moderation. Consequently, it has conceptualized student facilitators by the various roles they play in online discussions (Baran & Correia, 2009; Dennen, 2005; Seo, 2007; Zingaro, 2012). For example, Wang (2008) defines such roles as intellectual/pedagogical, social, managerial, and technical. As such studies exemplify, research that addresses the relationship between student facilitation and interactions tends to focus on the aggregate number of interactions at the class level. What we do not know from these studies are the ways by which an individual's facilitation may affect their own perception of transactional distance. That is, while the current body of research is useful in explaining classwide effects of student facilitation, it is limited in understanding the pedagogical value of student facilitation itself.

2. Aim and research question

If, as socio-cultural learning theories argue, participants' interactions are directly related to their learning, understanding the relationship between student facilitation and their interactions becomes important. Consequently, in this study I focus on the effects of facilitation on individuals' contributions. Current research clearly demonstrates the effect of student facilitation on a course-wide basis; for example, it is known that facilitation impacts the types of questions asked and answered in online courses, and that teaching-related activities are heightened in such situations (Zingaro, 2012). Here, I suggest that, in addition to those effects on the course at large, student facilitation may have important implications for the learning and interactions of facilitators themselves. As argued in the next section with respect to transactional distance, facilitation may impact students' interactions, their

perception of closeness to others and to the course itself, and their status as a participant in online learning. With that in mind, I ask:

(1) through its effects on interaction, how does student facilitation decrease perceived transactional distance?

3. Theoretical framework

While the study is embedded in socio-cultural learning theories at large, I particularly draw on Lave and Wenger's (1991) concept of legitimate peripheral participation (LPP) to make sense of student facilitation. LPP explains learning as a situated and contextualized process; in particular, it aims to understand how individuals become members of a community initially by participating in simple tasks. Through such tasks, an individual has opportunities to understand who is involved in everyday practices, what others are doing in similar circumstances, and how others are navigating their daily lives in a community of practice. "From a broadly peripheral perspective, apprentices gradually assemble a general idea of what constitutes the practice of the community" and "what learners need to learn to become full practitioners" (Lave & Wenger, 2002, p. 113). According to this perspective, membership in a community of practice is mediated by the intellectual and social participation through which individuals access and actively process knowledge. In this sense, LPP regards learning as an improvised social, cultural, and intellectual practice. Consequently, LPP is a particularly suitable theoretical framework for this research since it can explain how an individual's facilitation can mediate their transition from newcomer to a central member of a community.

I also draw on transactional distance (Moore & Kearsley, 1996) for understanding online learning practices. Transactional distance has been employed as a framework to identify and examine a broad range of pedagogical activities in distance learning (Kang & Gyorke, 2008). Transactional distance is "a psychological and communications gap, a space of potential misunderstanding between the inputs of instructor and those of the learner created in part by the physical distance inherent to online learning" (Moore, 1991, p. 2). In other words, it is a learner's perception of psychological and pedagogical gaps that are caused and determined by amounts of dialogue, structure, and learner autonomy in CMC environments. Dialogue refers to the interplay between teacher and learners, learners and learners, and course content and learners; and structure indicates the extent to which a course's elements can be individualized to meet the specific needs of learners. In relation to these two variables, learner autonomy refers to individuals' control over their learning activities and processes. These three variables are strongly related: increased structure decreases autonomy, which in turn decreases extent of dialogue. Consequently, transactional distance suggests that when there are higher amounts of dialogue and less structure, individuals have relatively higher amounts of autonomy; thus, they are likely to increase engagement with each other and perceive a smaller degree of transactional distance (Moore & Kearsley, 2005).

I argue that the pedagogical value of student facilitation can be explained at the intersection of LPP and transactional distance since these two concepts highlight the interplay among individuals within a specific context. For instance, considering that transactional distance is concerned with lowering the psychological gap, LPP can provide theoretical lenses through which dialog and autonomy can be studied in an activity system where participants develop understandings regarding what they are doing and what that means for them and for their communities. In other words, student facilitation provides peripheral participation through which the amount of dialog and autonomy can be increased. In particular,

examining student facilitation through LPP can demonstrate how student–student interactions contribute to individuals' processes of becoming members of a learning community. Such a conceptualization is in line with the socio-cultural learning perspective that "participation in the cultural practice in which any knowledge exists is an epistemological principle of learning" (Lave & Wenger, 2002, p. 115).

4. Data source

The two courses studied here are fully online graduate education courses offered at a large Canadian research university. The first, Educational Applications of Computer-Mediated Communication (ECMC), took place in fall 2011; the second, Constructivism and the Design of Online Learning Environments (COLE), took place in Winter 2012. Both courses were taught by the same instructor, and used the same institutional OLE. ECMC concerned various topics related to the educational use of asynchronous and synchronous CMC, including its history, the role of the teacher, student factors, and Web 2.0 technologies. COLE, a more theoretical course, discussed such topics as constructivism, distributed cognition, knowledge-building, and other theories of learning. A total of 29 students (14 in the first course and 15 in the second) were enrolled, but with some overlap: the total number of distinct students was 24.

Both courses comprised eleven modules, each corresponding to one week, in which students discussed instructor-assigned readings. This discussion occurred asynchronously; the environment does allow synchronous communication through chat, but such activity was not required in these courses. At the beginning of each course, students were required to select one week in which they would like to moderate the course. Each week, one or two students acted as moderators. The moderators carried out roles in accord with those specified by the literature (Griffith, 2009): they collaborated in advance to develop guiding questions for the week, facilitated discussion throughout the week, and finally offered a summary of the week's issues. The instructor provided moderators with literature and best-practice strategies for focusing, maintaining, and extending discussions. Besides this, students were free to use facilitation techniques of their choosing. Each student acted as moderator once during the course, and such moderation accounted for 20% of their course grade. Students' contributions to the weekly discussions (not including the moderator roles just described) were worth 30% of their grade.

For the first two weeks of each course, the instructor served as moderator, modeling the role that students would shortly assume. For example, the instructor posted starter questions, kept discussions on track, helped with technical concerns, encouraged participation, and brought threads of discussion together. Starting in week 3, all remaining weeks were moderated by students, with the instructor endeavoring to act as a participant, not a teacher, in the course. That is, the instructor participated in discussions, but was careful not to give "the answer" or assume teaching-related responsibilities from the student moderators.

5. Method

Mixed methods research design was employed to obtain data for this inquiry since it allows the in-depth exploration of a phenomenon (Tashakkori & Teddlie, 2003). I chose a triangulation study where the purpose is convergence of both modes of data (Creswell & Clark, 2007). Specifically, this design requires collection of qualitative and quantitative data, and attention to their similarities and differences in the interpretation phase. Thus, while

the pedagogical implications of student facilitation are examined qualitatively, the ways that student facilitation is related to perceived learning are further investigated quantitatively.

In this work, I use the multiple case study approach (Creswell, 2006), which allows for the analysis of an issue explored through several cases within a bounded system. Specifically, I investigate two related cases (ECMC and COLE), within the bounded system of the department and OLE. The analytic strategy involves looking for common themes across these cases from students' answers to a questionnaire.

I believe that a promising means by which pedagogical implications of student facilitation can be investigated is through reflective questioning. Therefore, students were asked to complete an open-ended questionnaire focused on their experiences related to their weekly facilitation. The first question asked students to reflect on their experience with moderating a weekly discussion: "What would you say are some benefits and cautions involved in moderating a weekly online discussion?" I expected students to rely primarily on their own moderation experience here, but kept the question open so that they could base parts of their responses on what they learned from observing or communicating with other student moderators in this or other courses. Then, to tap course-specific experiences, I followed up by asking for insights specifically related to the effect of their own moderation on the remainder of the course: "In this course specifically, please discuss your moderation experience. How did your moderation impact on the rest of the course (e.g. your learning, interaction with others, comfort, etc.)." I used an online survey tool to administer the questionnaire, and received eight responses (a response rate of 33%). I began by assigning numerical codes to each respondent: the codes reflect random numbers and are not related to the course in which the participant enrolled. The responses to the questionnaire were analyzed through a process described by Creswell (2006) as the describing–classifying–interpreting loop. My colleagues and I began by reading and re-reading the responses, in order to obtain an overall picture of the data. We continued by classifying statements into themes, and interpreted these themes by appealing to the two literatures (LPP and transactional distance) in which the study is grounded. The themes emerged from thematic analysis, which is a search for common threads that extend throughout the transcript (van Mannen, 1997). Thematic analysis includes iterative cycles of identification, combination, and building of themes, until a logical chain of evidence is created. Such an approach is also consistent with Creswell's (2006) describing–classifying–interpreting loop.

The quantitative data were gathered through a Likert-type questionnaire. These five questions each contained five response choices, from strongly disagree to strongly agree. Twenty of the 24 students responded to this part of the survey.

Note that I did not analyze the contents of students' asynchronous discussions, as it can be difficult to move from quantitative or qualitative coding of messages to the internal processes that they ostensibly represent (Rourke & Anderson, 2002). Instead, as described above, I used a questionnaire containing qualitative and quantitative questions in order to directly ask students to reflect on their moderation experiences.

6. Findings

6.1. *Qualitative findings*

The analysis of data suggests that student facilitation can support pedagogical outcomes by (a) providing means for students to make sense of the learning environment and (b) enhancing interaction with their peers and the learning material.

6.2. *LPP: making sense of the online environment*

Student facilitation provides an opportunity for students to participate in weekly discussions through which they can come to understand how learning occurs in OLEs. Typically, students articulate that their roles and responsibilities as facilitators contribute to their understanding of how discussions play a role in learning, who their peers are, and who they are as a learner. Thus, student facilitators, as legitimate peripheral participants, "can develop a view of what the whole enterprise is about, and what there is to be learned" (Lave & Wenger, 2002, p. 112). For instance, Student 1 articulated how the facilitation process allowed her to better understand the learning process:

> [facilitation] helps with understanding how yourself and others learn. … you have to prepare more in anticipation of the discussion questions and flow of the discussion, [since] there is not a predetermined type of discussion that must take place – be flexible.

These notions – that online learning requires and supports flexible discussions and the appreciation of diverse perspectives – are core to many treatments of online learning literature (Oztok, 2013). Therefore, Student 1 demonstrates that she has an understanding of how learning occurs in OLEs. Similar results can be found in others' answers as they articulated the need to be flexible since there is no single correct way to engage with the discussion (Student 5), that one can follow the dialogue in a way that is more detailed than by participation alone (Student 7), that one can develop a deeper understanding of that particular weeks' topics (Student 3), and that one can better get to know everyone in the environment (Student 6). Indeed, it is this situated understanding of the context with which LPP is concerned: the form in which LPP occurs for apprentices "depends on the characteristics of the social milieu in which the community of practice is located" (Lave & Wenger, 2002, p. 112).

Some students explained how the facilitation process supports their understanding of discussions and of their peers: "you take many perspectives into consideration … because you need to anticipate what type of discussion questions to create", which helps one to become "more aware of your own and others' ideas and perspectives on issues/topics/theories" (Student 5). This legitimate peripherality provides individuals with more than mere observation of a learning environment: "it crucially involves participation as a way of learning – of both absorbing and being absorbed in – the culture of practice" (Lave & Wenger, 2002, p.113). Thus, student facilitators "better capture the weekly discussions as [they] relate topics to their and others' experiences through moderation" (Student 3). Providing similar results, the literature (Hara, Bonk, & Angeli, 2000; Seo, 2007) indicates that student facilitators can lead discussions more effectively since they can better understand their peers' way of thinking. This provides one possible explanation of why students perceive the facilitation as more effective compared to instruction. Indeed, students' perspectives highlight a view that:

> [since] moderators stay on top of the group's discourse, [they have] a bird's eye view of the group's symmetric knowledge development and parse out the emergent common themes or unique perspectives. Subsequently, [moderators] make connections between different postings and the readings to spur further discourse within the online discussion. [Thus] it forces [individuals] to make a greater effort to connect ideas between different people and with the articles. (Student 8)

Taken together, students indicate that the facilitation process yields positive outcomes for participation and interaction since it provides opportunities for students to better understand the OLE, their peers, and their discussions with others. This understanding, then,

positively contributes to their process of becoming a member of a community: "perhaps being a moderator allowed me to feel more comfortable and confident in my subsequent interactions" (Student 2). Thus, the results can further explain how and why student facilitation enables students to take practical and meaningful roles (Tagg, 1994), promotes sense of community (Correia & Davis, 2007; Poole, 2000), and fosters student participation (Leh, 2002). Overall, I argue that when student facilitation is considered as LPP, it can be seen as providing meaningful and valuable learning opportunities for members of a learning community.

7. Autonomy and dialogue: enhanced quality of interactions

Student facilitation can decrease transactional distance by increasing autonomy through the development of learner–content and learner–learner interactions. It is evident in students' answers that they enjoy the autonomy that inheres in moderation as they choose topics with which they are either comfortable or unfamiliar. For instance, while Student 2 posited that he prefers "challenging readings, on a topic with which [he] was least familiar, in order to advance [his own] understanding", Student 1 articulated that she chooses "topics of interest to [herself] because [she] feels like [she] learns a lot more and understands ideas at a deeper level". Overall, students prefer to follow their enthusiasm to explore and facilitate topics of their choosing (Student 5). If this enthusiasm further motivates them in their participation, this finding can further explain how student facilitation provides an atmosphere for involvement and commitment (Baran & Correia, 2009).

When learner–content interactions are considered, being a facilitator can motivate students to deeply engage with learning materials. According to *the* results, a moderator should be "well prepared for the discussions [and] read the papers more than once" (Student 5) to "take charge of material" (Student 6) since a moderator "would like to be prepared to direct the flow of conversation and answer questions" (Student 7). "The added benefit to this is [that] you become more deeply connected to the reading than you would otherwise" (Student 2).

Student facilitation also appears to be related to aspects of learner–learner interaction. The findings indicate that students tend to perceive facilitation as a positive experience that connects them to their facilitator partners in particular and to their peers at large. Typically, students articulated that they "like working with a peer to lead discussions" (Student 1). It was "a great opportunity to work with another member of the class" (Student 7) and indeed "a very positive experience" (Student 6). This finding corroborates the idea that peripheral participation occurs mostly in relation with other participants (Lave & Wenger, 1991). Furthermore, this close relationship can provide further pedagogical or psychological benefits in individuals' future engagements: "I felt more connected to my moderating partner. So, I paid more attention to her responses in subsequent weeks, and probably responded to those more than I might have otherwise" (Student 2). Such a finding supports the current literature (Baran & Correia, 2009; Seo, 2007) in arguing that student facilitation can provide opportunities for students to explore new ways to engage with their peers in online discussions. Yet another impact that student facilitation has on individuals' future engagement can be found in its effects on the community. Specifically, knowing the others in the community, students can "jump in [the conversation] right away and get the discussion started" since they "were all able to understand the ideas brought up in the discussion" (Student 5). Taken together, *the* findings suggest that "moderation contribute[s] positively to [their] overall learning experience because [they] had to read everything more carefully to stay on top of the group's discourse" (Student 8).

Table 1. Students' perceptions of pedagogical benefits.

$n = 20$	Being a weekly facilitator helped me to better understand the context	Being a weekly facilitator helped me to better understand my peers	Being a weekly facilitator helped me to better understand learning practices	Being a weekly facilitator helped me to create better social connections	Being a weekly facilitator helped me to become a better learner
Means (max 5)	4.75	4.1	4	4.05	4.45

8. Quantitative findings

Table 1 gives the means for each Likert question asked on the survey. It is evident that the quantitative data replicate the qualitative findings. Specifically, question 3 ("Being a weekly facilitator helped me to better understand how learning practices happens in the course") corroborates the finding that facilitation supports student understanding of the processes inherent in successful online learning communities. This finding further indicates that students indeed perceive the process of facilitation as an opportunity for peripheral participation. Similarly, the favourable responses to question 1 and question 4 suggest that students' interaction with course material and their peers is helped by their prior facilitation responsibilities. Taken together, this finding triangulates the qualitative findings that the process of facilitation increases both dialogue (question 4) and student autonomy (question 1). Finally, question 5 gives a tentative indication that facilitation may be directly related to improved learning: by agreeing with the question, students are suggesting that their capacity to learn in an online environment increased after having had the opportunity to facilitate.

9. Limitations

The findings should be considered in relation to the limitations of the study. *I have* conceptualized the pedagogical value of student facilitation in terms of students' perceptions. Future research should consider other conceptualizations and employ different methods to measure the link between facilitation and learning outcomes. For example, while the participants offered many benefits related to facilitation, to what extent these benefits are borne out in the ensuing public discourse is still unknown. Does the legitimateness of facilitation lead to qualitatively different types of contributions from students as they seek community membership? Are such changes gradual, or is facilitation a "portal" coincident with the change from outsider to insider?

Another important issue to note is that by employing transactional distance and LPP, I am constrained by these well-structured frameworks in explaining what student facilitation means and how it works in online learning. I encourage researchers and scholars to employ other conceptual frameworks in exploring the pedagogical value of student facilitation. Yet another consideration for future studies is to test these findings within different learning contexts. In particular, it would be interesting to examine the effects of student facilitation in undergraduate level courses and compare results to what I have found here. In online learning settings, we must keep student characteristics in mind, as findings are not guaranteed across student populations or levels of education (Zingaro, 2012). Similarly, the effects

of student facilitation might vary depending on the number of students within the online course, as course size is known to be an important moderator of interaction patterns (Hewitt & Brett, 2007).

Although I have not addressed the concept of power, I acknowledge that power structures inevitably exist in any given community and that they can radically affect learning practices and outcomes. Addressing how power can affect learning practices and discourse, Lave and Wenger (1991) argued that "hegemony over resources for learning and alienation from full participation are inherent in the shaping of the legitimacy and peripherality of participation on its historical realizations" (p. 42). Therefore, further studies should explore how power structures may play a role and affect the process or pedagogical outcomes of student facilitation.

10. Conclusion

The findings highlight that student facilitation can be conceptualized as LPP through which transactional distance can be lowered, since such practices can provide opportunities for individuals to gradually understand the learning context in which they are situated along with their peers. Specifically, student facilitation increases autonomy and dialogue, and thus it can reduce the amount of perceived transactional distance. However, it is important to note that learning is not merely a condition for peripheral practices (Lave & Wenger, 1991); rather, situated learning practices evolve from LPP itself. Therefore, I do not argue that students can or do only learn through student facilitation. I do argue, however, that student facilitation can provide more situated learning opportunities for individuals. Consequently, I suggest that student facilitation has pedagogical value for students themselves, in addition to previously noted effects on the course as a whole.

As I have indicated above, this study is consistent with existing literature suggesting that student facilitation contributes to class discourse (Seo, 2007), fosters sense of community (Poole, 2000), and promotes overall student participation (Leh, 2002). In addition, the study further expands this current understanding as it offers an explanation of how student facilitation contributes to individuals' learning practices. Indeed, existing research has been calling for further exploration of how and why student facilitation can play a pedagogical role in students' experiences (Anderson, Rourke, Garrison, & Archer, 2001; Oztok, Zingaro, Brett, & Hewitt, 2013).

I affirm that one's interactions are important in OLEs, where individuals' experiences are subject to psychological and pedagogical gaps and conclude that student facilitation is a promising technique for minimizing these gaps. Acting as a facilitator can provide better and more meaningful learning opportunities for individuals in their process of becoming members of a learning community.

Notes an contributor

Murat Oztok is a PhD student at OISE – University of Toronto. As a learning scientist, his research interests include socio-cultural learning theories, critical pedagogy, curriculum studies, and computer supported collaborative learning – along with peer facilitation in online learning. On an another note, he has now completed the computer game Supaplex.

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