Exploring How Peer and Instructor Facilitation Relates to Students’ Activity Patterns in Online Learning Communities

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Abstract: As online learning becomes more popular in recent years, many post-secondary institutions have invested heavily in online courses in hopes of reaching nontraditional students and to further expand student enrollments (Hew, 2015). Although, this investment may seem to have been successful due to the increase in popularity of online learning, some students are still wary of online courses. Saad, Busteed and Ogisi (2013) revealed that students associate online courses with a lower quality of teaching, less effective instructors, and poorer quality of materials. Other problems associated with online learning include: i) a high dropout rate, which has been attributed to feelings of isolation and alienation among students, due to the physical separation between them (Rovai, 2002); ii) lack of interaction, (Carr, 2000); iii) clash of societal beliefs with personal and cultural beliefs, and iv) miscommunication between students (Rovai & Wighting, 2005; Zembylas, 2008).

Objectives

To help students feel more comfortable online and provide a positive learning experience, many instructors are encouraged to focus on “the social nature of learning,” which stresses interactions and discussions between students (Hew, 2015, p.2). As a result, many instructors try to foster a sense of community, which refers to a sense of trust, commonality and interactivity among students. Interaction is seen as a key factor in developing a community online (Song & McNary, 2011), and is believed to lead to deeper learning (Hulon 2013) and better
student outcomes (Drouin, 2008). The belief is that fostering a sense of community will help counter feelings of wariness, isolation, and alienation that online learners may experience and build camaraderie and social reinforcement among learners (Conrad, 2005).

There is a lack of consensus as to which specific strategies (such as, instructor or peer facilitation) does a better job of creating a sense of community in an online learning environment (OLE). Some previous research encourages the instructor to adopt the role of online facilitator, which includes “keeping the discussion on track, establishing ground rules and good discussant behavior, helping students overcome technical problems, and asking questions to help participants understand a particular issue or topic, or drawing students’ attention to opposing perspectives” (Hew, 2015, p.20). In spite of this, some scholars are now questioning whether the instructor should take on this role or not (Arend, 2009; Correia & Baran, 2010), since it may be too time-consuming to facilitate discussions properly (Correia & Baran, 2010) and could unintentionally lead to discussions centered on the instructor (Light, Nesbitt, Light, & White, 2000). Whereas, some scholars prefer “the use of students as peer facilitators in an online discussion,” this includes students collaboratively controlling the discussions (Hew, 2015, p.21). These scholars suggested that students are more comfortable discussing their experiences, challenging each other’s ideas, and sharing their opinions in a peer-facilitated discussion than an instructor-led one (Poole 2000; Rourke & Anderson, 2002).

Although good arguments have been made for both peer-based methods and instructor facilitation, it is not clear which approach is more effective (Hew, 2015). Therefore, our research aimed to address this gap and further the discussion by “[measuring] the impact of peer or instructor facilitation on student outcomes such as the number of their postings” (Hew, 2015, p.36). Specifically, the following research questions are explored:

• Which facilitation method (i.e., instructor or peer) helps to develop a stronger sense of community online?

• How are students’ online activity patterns related to instructor and peer facilitation methods?

Over the past year, we conducted a study exploring students’ activity patterns in weak and strong online communities and the online facilitation approach affiliated with these communities. With this particular focus, we hope to shed light on the facilitation method that best fosters an online sense of community and how it influences students’ online behavior.

**Theoretical Framework**

This study adopted a social constructivist perspective, which emphasizes that meaningful learning happens through collaboration and interaction with others. Social constructivism encourages students to be a part of their own learning process by recognizing that new understandings are created when what
we know and believe interacts with others’ knowledge (Richardson, 2003). In relation to online learning, supporting and reinforcing such interactions among students can happen through online facilitation in the discussion forum, which is led by either the instructor (instructor facilitation) or students (peer facilitation). Many scholars have referred to online discussion forums as the place where a class-wide learning community develops (Arend, 2009). It is within the discussion forum where students interact with the content, instructor, and peers in order to further develop their knowledge (Song & McNary, 2011; Swan, 2009). Furthermore, interaction between students in the online discussion forum has been identified by students as an important factor benefiting their learning (Ertmer, Richardson, Belland, Camin, Connolly, Coulthard, Lei & Mong, 2007), and seen as, “a necessary and fundamental process for knowledge acquisition and cognitive development” (Barker as cited in Song & McNary, 2011, p.1). Therefore, understanding which facilitation method best supports student participation online will provide a clearer direction for fostering a stronger sense of community in an OLE.

Methods and Data Sources

This quantitative study used a scale that measures classroom community and logs of student interactions within an OLE were analyzed. Semi-structured interviews, previously conducted with students from each course, were used to determine whether the courses were instructor or peer facilitated. Rovai’s (2002) community scale (CCS) was distributed to graduate students in six online courses that had been conducted through the web-based platform, Pepper. Pepper logs each interaction that a student performs within the system. These logs were analyzed to determine students’ activity patterns and to determine whether differences in student activity were based on the type of facilitation that was used within their course.

We only report on the system activities where differences were observed. These activities are defined below:

- Notes: a single posting in the discussion forum
- Private Shared Notes: a posting that is shared with a subset of people who are selected by the creator of the note. People who have access to the note can edit it.
- Messages to Instructors: these are private messages that resemble email
- Revisions: modifications made to notes
- Links Created by Note: the number of links to other notes as a proportion of the number of notes created. This is similar to tagging in social media.
- Note Rereading: the number of additional views of a note following the user's first reading of that note.
- Replies: responses to individual notes. This is similar to indented responses in a threaded discussion forum.

Results

Scale
The questionnaire response rate for courses was 53.29 percent on average ($SD = 15.56$). Both the CCS ($\alpha = .907$) and its subscales for connectedness ($\alpha = .886$) and learning ($\alpha = .813$) were highly reliable.

**Table 1** shows students felt that they were more connected ($t(53) = 2.92$, $p < .01$), learned more ($U = 146.00$, $p < .001$), and had a better sense of community ($t(53) = 3.84$, $p < .01$) in instructor-facilitated courses.

<table>
<thead>
<tr>
<th>Facilitator</th>
<th>Connectedness</th>
<th>Learning</th>
<th>CCS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instructor</td>
<td>28</td>
<td>23.18</td>
<td>32.57</td>
</tr>
<tr>
<td>Peer</td>
<td>29</td>
<td>18.37</td>
<td>27.11</td>
</tr>
</tbody>
</table>

**Usage:**

Students in peer-facilitated courses spent an average of 27.16 ($SD = 21.01$) hours online across an average of 104.23 sessions ($SD = 77.79$). Students in instructor-facilitated courses spent an average of 33.62 ($SD = 21.95$) hours online, which was spread across an average of 100.38 sessions ($SD = 62.65$). These basic system use statistics show that student usage levels did not differ significantly based on facilitation method ($p > .05$). In both types of courses, students were logging in regularly and their activities were spread across the entire term. This was verified by looking at the weekly usage statistics.

We then compared specific student activities to see if there were differences based on the type of facilitation that was used in each course (Table 2). The non-parametric version of a t-test, the Mann-Whitney test, was used because student activities were not normally distributed ($p < .01$) for all variables.

Of note, is the higher use of private forms of communication (Private Shared Notes and Messages to Instructors) in peer-facilitated courses, with students in peer-facilitated courses using almost twice as many private communiqués. Students in the instructor-facilitated courses, posted more notes (by a factor of 1.45), replied to more notes, and reread notes more. They also spent more time revising the notes that they posted. Most interestingly, students in the instructor-facilitated courses were more likely to link to their classmates’ postings, with 4 percent of their notes containing references to another’s note.

**Table 2** Descriptive and inferential statistics of learner use of the Pepper asynchronous OLE

<table>
<thead>
<tr>
<th>Student Activity</th>
<th>Instructor Facilitated</th>
<th>Peer Facilitated</th>
<th>Mann-Whitney Test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$M$</td>
<td>$SD$</td>
<td>$M$</td>
</tr>
<tr>
<td>Notes</td>
<td>55.28</td>
<td>37.01</td>
<td>37.91</td>
</tr>
<tr>
<td>------------------------</td>
<td>-------</td>
<td>-------</td>
<td>-------</td>
</tr>
<tr>
<td>Private Shared Notes</td>
<td>0.36</td>
<td>1.29</td>
<td>0.79</td>
</tr>
<tr>
<td>Messages to Instructor</td>
<td>6.55</td>
<td>11.55</td>
<td>11.74</td>
</tr>
<tr>
<td>Revisions</td>
<td>78.47</td>
<td>54.20</td>
<td>54.12</td>
</tr>
<tr>
<td>Links Created by Note</td>
<td>0.04</td>
<td>0.08</td>
<td>0.01</td>
</tr>
<tr>
<td>Note Rereading</td>
<td>198.21</td>
<td>151.51</td>
<td>123.56</td>
</tr>
<tr>
<td>Replies</td>
<td>44.17</td>
<td>34.53</td>
<td>28.46</td>
</tr>
</tbody>
</table>

**Scholarly Significance**

Our research suggests that higher community scores, as measured by Rovai’s (2002) community scale were associated with courses in which the instructor-led and facilitated the discourse. Courses that were heavy in peer-facilitated discourse had lower community scores. Although, students from both types of courses exhibited similar system usage levels (i.e. hours spent online), specific student activities revealed that behavior was significantly different in peer and instructional courses. In peer facilitated courses students were privately communicating with each other more often. Students in the instructor-facilitated courses had higher participation levels in the class-wide discussion, with more notes, replies, revisions, rereads and links created to other notes. Therefore, based on our research findings an online course is more likely to stimulate student participation and develop a stronger sense of community in instruction-facilitated courses. These findings build on Hew’s (2015) research by “measure[ing] the impact of peer or instructor facilitation on student outcomes such as the number of their postings” (p.36). Furthermore, it provides a clear suggestion as to which online facilitation strategy instructors should adopt, when designing a course, to foster a sense of community in an OLE. Moreover, “if the purpose of the discussion is to achieve some specific learning... it would be better to get an instructor to facilitate the discussion...because the instructor is still viewed as a more trusted source of knowledge than peers” (Hew, 2015, p.15). Therefore, we argue that when instructors access their “powerful strategies, technologies, and skillsets,” they not only support their online engagement but their students too, thus creating more democratic discussions and “new forms of engagement” which can only improve the educational experience for all learners (Oakes, Welner & Renee, 2015, para 7).
Reference


