Examining the Qualities of Liked Notes vs. Non-Liked Notes in a Collaborative Online Learning Environment

Alexandra Makos, Daniel Zingaro, Murat Oztok* and Jim Hewitt
Ontario Institute for Studies in Education at the University of Toronto, *University of Pennsylvania

abstract
This study explores students’ use of a “Like” button feature on community discussion boards in three graduate-level distance education courses. Three analyses were conducted. First, students were surveyed about their use of the “Like” feature. Second, the contents of Liked and non-Liked notes were rated on a cognitive complexity scale. Third, a quantitative analysis of note averages *see table (RQ #3, n=117).

rationale
To understand the academic value of the Like button in online courses where online discussions are central to learning course material.

methodology
- Questionnaire developed to understand why students use the Like button (RQ #1, n=31).
  - Anonymous, self-administered survey
  - Coding notes from one graduate course for cognitive complexity (using scheme generated by researchers through grounding in student produced content).
  - Inter-rater reliability calculated for two coders;
  - H-test used to compare cognitive complexity of notes that received Likes and cognitive complexity of non-Liked notes (RQ #2, n=60).
- Extraction of log file data from 3 graduate courses using various metrics for Liked and non-Liked cases; pair wise H-test to compare averages *see table (RQ #3, n=117)

the environment
- PeppR is a collaborative online learning environment developed at the Ontario Institute for Studies in Education (OISE), University of Toronto.
- Is primarily used in graduate courses where instructors design courses that are discussion-based
- Swan (2005) suggests: “learning is essentially a social activity, [and] that meaning is constructed through communication, collaborative activity, and interactions with others. It highlights the role of social interactions in meaning making...[and] knowledge construction” (p. 5).
- Environment provides many opportunities for learners to scaffold and promote knowledge construction using the facilities integrated into the system, including the Like button.

comparing quantifiable features of a note
- Liked notes are on average: longer, contain lengthier sentences, are slightly more difficult to read, and have fewer informal words.

<table>
<thead>
<tr>
<th>Metric</th>
<th>Liked Notes</th>
<th>Non-Liked Notes</th>
<th>t-value</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean Note Length (words)</td>
<td>183.45</td>
<td>135.54</td>
<td>2.158</td>
<td>0.052</td>
</tr>
<tr>
<td>Mean Sentence Length (words)</td>
<td>18.98</td>
<td>17.28</td>
<td>3.797</td>
<td>0.003</td>
</tr>
<tr>
<td>Mean Note Revisions</td>
<td>1.31</td>
<td>1.28</td>
<td>0.061</td>
<td></td>
</tr>
<tr>
<td>Reading Ease</td>
<td>53.51</td>
<td>54.87</td>
<td>2.787</td>
<td>0.033</td>
</tr>
<tr>
<td>Informal Word Ratio</td>
<td>0.17%</td>
<td>0.19%</td>
<td>2.153</td>
<td>0.033</td>
</tr>
<tr>
<td>Academic Word Ratio</td>
<td>7.05%</td>
<td>7.13%</td>
<td>0.378</td>
<td></td>
</tr>
<tr>
<td>Social Word Ratio</td>
<td>8.40%</td>
<td>8.31%</td>
<td>0.856</td>
<td>0.434</td>
</tr>
</tbody>
</table>

why the Like button is used
- Students “feel good” when someone Likes their note.
- Students thought Like should be used to highlight good quality work.
- Students Liked notes that personally taught them something new or provoked deeper thinking.
- Students used Like to indicate agreement with a person’s ideas.
- Some students claim they are more likely to read Liked notes.
- Some students reported using Like as a quick way to show approval.

the quality of Liked notes
- Cognitive level rated using 5-point scale:
  - 1 – notes that contained little substance (e.g., simple agreement or statement of opinion without rationale);
  - 3 – notes that provided new information, shared anecdotes or offered opinion supported with rationale;
  - 5 – notes that contrasted opposing ideas, synthesized or summarized perspectives, or involved other critical analysis.
- Inter-rater reliability α = 0.805.
- Liked notes had a higher average cognitive level with marginal statistical significance, p = 0.052.

discussion
- Appears that Like serves a social function – causes students to feel more positively toward their classmates and reassures them that others appreciate their ideas.
- Possible benefits for community-building.
- Possible academic value – suggestion of Liked notes being written at a higher cognitive level may impact how students interact and reply to notes in a discussion.

future work: Liking and discussion dynamics
- Problem 1: How does the use of the Like button impact community-building in discussion-based courses?
- Problem 2: How do instructors make use of the Like button? What pedagogical value does this have in discussion-based courses?

contact information
Email alexandra.makos@mail.utoronto.ca
daniel.zingaro@utoronto.ca
gordkm@gmail.com
jim.hewitt@utoronto.ca

This research was supported by the Social Sciences and Humanities Research Council of Canada.