SOCIAL ANNOTATION IN THE WRITING CLASSROOM

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ABSTRACT

Social annotation has the potential to support student language learning and encourage interaction using authentic online texts. Using the social annotation tool Hypothesis, students in two academic writing courses participated in a reading and annotation assignment over the course of one semester. This study explores the interaction students had with online texts, other students, and their instructor, as well as student perceptions of social annotation as a tool to support language learning, community building, and reading comprehension. Results indicate that student interaction and perceptions of the value of social annotation vary quite widely, but some perceived benefits are related to vocabulary and reading comprehension. Students identified challenges mostly related to using the technology and reading authentic English texts.

INTRODUCTION

Annotation has a long history that predates current technological affordances. There have been a variety of online social annotation tools developed over the last couple of decades, and their development has allowed users to engage with online content as they might engage with the pages of a book. Annotation, whether written in the margins of a book or online text through the use of an online tool, is a social process mitigated by social structures. This study explores social annotation in the language classroom through the lens of situated learning theory (Lave & Wenger, 1991). It will also draw upon a text-as-context perspective (Kalir & Perez, 2019). Through these perspectives, learning is a social activity that occurs within a specific context. In the case of this study, the online texts serve as a context for collaborative learning, community building, and understanding. Students interact with the text, other students, and their instructor through the social annotation platform.

LITERATURE REVIEW

According to Novak et al., (2012), social annotation tools are defined by what they allow users to do: "to make written annotations such as notes and comments," to "highlight any part of electronic text using either efferent colors or various types of notations and marks," and to "provide an online platform for social collaboration" (p. 40). Cohn (2019) adds that "social annotation is distinct from the individual act of annotating a document because it invites readers to comment alongside others" (p. 3). The impact of this type of annotation in an educational context has been explored in various disciplines, and the results are often related to students gaining a deeper understanding of a text (Chen & Chen, 2014; Hwang et al., 2007), the development of learning communities (Gao, 2013; Bateman et al., 2006; Kalir, 2019), and

improved metacognitive and critical thinking skills (Johnson et al., 2010; Li et al., 2015). There are also findings related to increased learner agency, motivation (Nokelainen et al., 2003) and self-reflection (Zhao et al., 2018).

Through modern tech tools, novel forms of engagement with authentic online content are available to language learners. While social annotation has been explored in various educational contexts, there is little research available related to the value social annotation might bring to the language classroom. There is even less research related to the use of social annotation in the English classroom in the Japanese university context. The specific curriculum in which this project was implemented is grounded in the values of awareness, interaction, and multiliteracies (Johnson et al., 2015). Within this context, interaction facilitated through social annotation has the potential to align with these values and reinforce the framework that students in the second-year academic writing courses experienced in their first-year courses.

This project aims to explore the use of social annotation across two writing courses within the English Language Institute (ELI) at Kanda University of International Studies (KUIS) as a means for facilitating collaborative learning, community building, and understanding of authentic English texts online.

Specific research questions for this project include:

1. What kind of engagement with the text is shown by students?
2. What kind of engagement with the teacher and students is shown by students?
3. How do students perceive their learning experience with respect to collaboration?
4. How do students perceive their learning experience with respect to community building?
5. How do students perceive their learning experience with respect to their language learning?

**METHODOLOGY**

Participants
Participants included 41 students and one instructor across two mid-tier writing courses within the ELI at KUIS. Students in the two courses did not necessarily know each other outside of this project. Students were invited to participate in the project as a regular part of their writing courses at the beginning of the semester. The students had participated in an earlier iteration of the intervention in the previous semester, so they were familiar with the annotation tool as well as the overall structure of the assignment. Data was only collected as part of this project during the fall term.

The Intervention
Participants were asked to read and annotate authentic English online articles about a variety of topics throughout the semester. There were six online documents used during the semester from various sources that include The New York Times, The Japan Times, Vox, Huffington Post, and Japan Today. The instructor chose the articles based on students' responses to a survey in the previous semester, and based on the general clarity of the author's opinion in the text.

Participants read the online texts, usually as homework, and annotated the texts using the social annotation tool Hypothesis. Hypothesis was chosen as the annotation tool for this project because it is open-source, allows instructors to create semi-private groups in which annotations are only available to members of the group, rather than being public to anyone online, and the instructor had familiarity with the tool functionality through prior experience. A course group was created for all participants to use during the semester. Participants were encouraged to annotate directly on the online text and respond to the annotations of other students and their teacher. Hypothesis allows annotations to be made on a layer on top of an online text. Figure 1 shows what the platform looks like on an iPad.

Fig. 1
Hypothesis layered over website on iPad
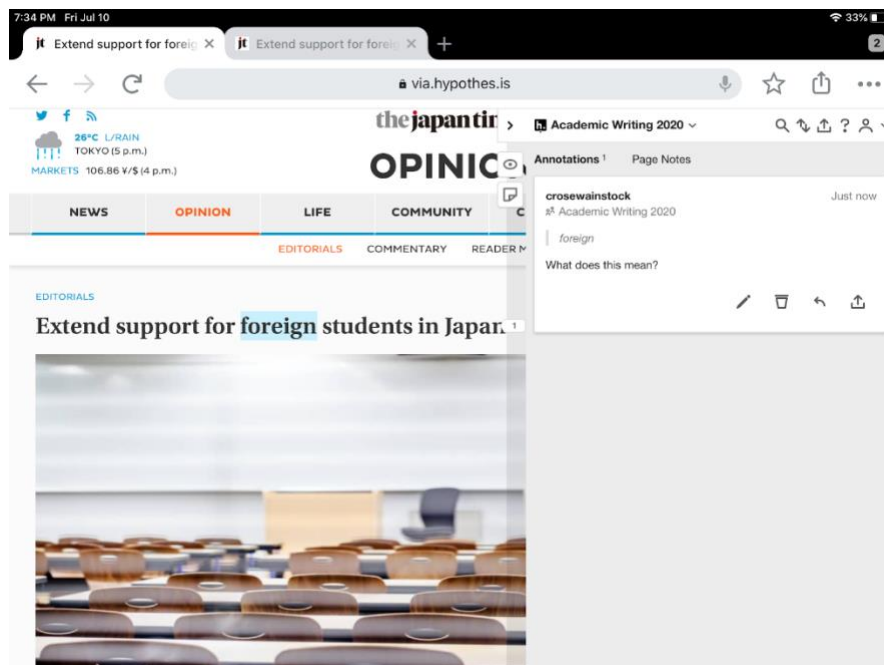
Participants received training on how to use Hypothesis to annotate online texts at the beginning of the academic year, and they participated in a practice annotation activity in class at the beginning of the semester in which this research was conducted. In this training, participants were encouraged to use tags to organize their annotations. Suggested tags included "vocabulary" if they were defining words or commenting on vocabulary use, "interesting" if they were commenting on an interesting point in the content of the online text, and "question" if they were asking questions or unsure about something in the online text. Participants were also welcome to use other tags as they saw fit.

After reading and annotating two online texts, participants participated in small group discussions in class in which they were asked to discuss the following prompts:

1. What was each article about? Skim/Scan each article and the annotations. Discuss the main ideas of each one. What are the big ideas?
2. What questions do you have about article 1? What questions do you have about article 2?
3. Which article was more interesting to you? Why?

During this activity, the teacher monitored discussions and helped the groups understand the main ideas of the online texts they read. Because the online texts were quite challenging for most students to read and understand on their own, this discussion activity was meant to encourage collaboration and understanding-building within the group. No one student needed to understand all of the content on their own. Participants were encouraged to review the online texts as well as annotations during their discussions. At the end of the discussions, participants were asked to choose one of the two texts to use as a source in a summary response writing assignment. The two-paragraph summary response essay was evaluated by the instructor using a single-point rubric that focused on giving feedback about specific aspects of the students' writing. Students also participated in peer and self-evaluation of their writing. After the first round of reading, annotation, discussion, and writing, the writing portion of the project was adjusted to require only a summary paragraph with an optional response paragraph in order to lighten the workload for participants.

DATA COLLECTION AND ANALYSIS

Data was collected in the form of annotations made through Hypothesis on the online texts as well as surveys administered at the end of the semester. The surveys included 4-point Likert items that asked participants about their perceptions of reading online texts, the value of interacting with classmates and their teachers, and online social annotation. The survey also included open-ended items that asked participants to comment on what was most challenging and most useful about the social annotation reading for writing assignment as well as what they thought about the specific social annotation tool we used for this project. The survey was in English and Japanese. Responses from the open-ended items were assigned descriptive codes (Saldaña, 2015) in relation to themes that emerged.

Limitations of this study include the relatively small number of participants (41) and the existing relationship between the participants (students) and the researcher (teacher). Participants completed consent forms prior to data being collected, and they were reminded of the option to deny consent at any time for any reason. They were also reminded that whether they gave consent for their data to be used in the study or not would not impact the grade they received in the writing course in which the study was conducted.

Annotation Data
Forty-one participants across two writing courses annotated six online documents between September and December 2019. There were 419 annotations made during this time. Level 0 annotations are those made directly onto a document, and there were 338 annotations at this level. Level 1 annotations are those in response to Level 0 annotations, and there were 63

annotations at this level. Level 2 annotations are those in response to Level 1 annotations, and there were 15 at this level. Finally, Level 3 annotations are in response to Level 2 annotations, and there were three at this level.

The instructor made the most annotations (22) across the texts. The average number of total annotations across the two classes during the semester was 8.38 per participant, and the average number of annotations made per text was 59. The first text had the highest number of annotations (128), but the subsequent texts stayed relatively level ranging from 48 to 73 annotations per text.

Types of Annotations

Participants used various tags to organize their annotations. One hundred and twenty-three (29%) annotations were organized with at least one tag while 296 (71%) annotations did not have a tag. Of the annotations with tags, they were organized as follows: 95 tags related to "vocabulary" (misspellings and abbreviations included); 26 tags related to "question" (misspellings and abbreviations included); two "info" tags; two "interesting" tags; and one "answer," "instructions," and "opinion" tags.

Because the majority of annotations made by participants did not include a tag, the annotations were first analyzed according to the suggested tags (vocabulary, interesting, question). Through this analysis, 362 annotations (86% of all annotations) were actually related to vocabulary, mostly defining terms or clarifying definitions of terms. Of the other annotations without tags, two annotations were asking for clarification or more information, 13 were comments related to the content of the text, seven were about the personal experiences of participants related to the topic of the text, 19 were expressing an opinion related to the topic of the text, three were displays of emotion in response to either the content of the text or other annotations, and two annotations included responses with media (i.e., a gif file and a link to a YouTube video).

Post-Intervention Survey

Thirty-eight participants completed 4-point Likert scale survey items near the end of the semester. The items on the survey were related to student perceptions of learning and working with classmates and their teacher within face-to-face and online contexts. There were also items about social annotation specifically in relation to the role it might play in facilitating communication, collaboration, and language learning and student perceptions of Hypothesis (Appendix A).

The prompt "Working closely with teachers helps me learn. / 教師との緊密なやり取りは学習に役立つ." had the highest average rating (3.76) while the prompts "I enjoy annotating online articles. / オンライン記事に注釈を付けるのは楽しい." and "Social annotation helped students form a community of learners. / ソーシャルアノテーションは、学生が学習者コミュニティを作るのに役立った." had the lowest average ratings (2.51).

Open-Ended Survey Items

As part of the post-intervention survey, students were asked to respond to four open-ended questions:

1. What do you think about the Reading Practice Assignment and social annotation? / リーディング演習課題とソーシャルアノテーションについてどう思いますか.
2. What was most useful about social annotation? / ソーシャルアノテーションに関して最も有益だったことは何ですか.
3. What was most challenging about social annotation? / ソーシャルアノテーションに関して最も難しかったことは何ですか.
4. What do you think about the annotation tool that we used in the reading practice assignment? (Hypothesis) / リーディング演習課題で使用したアノテーションツールについてどう思いますか. (Hypothesis)

DISCUSSION

The data from the post-intervention survey seem to suggest that participants do not have a favorable perception of the role social annotation can play with regard to their ability to form a community of learners. In fact, some of the open-ended responses indicate that being asked to interact with classmates online was stressful:

> I don't think this tool was useful for me. I wanted to do this by myself not with other classmates. It was a little stressful for me.

While some participants expressed dissatisfaction with the requirement to interact with their classmates, others commented on enjoying seeing what their classmates thought about the topics in the articles:

> It's much more enjoyable than real paper. It's interesting to see other opinions about any topic. I really prefer the hypothesis to real paper on reading.

While students indicated that working closely with teachers and classmates helps them learn, the survey data suggests that social annotation, as it was used in this intervention, perhaps did not allow students to work closely with their teacher or peers in the way they value. Perhaps students expect a different type of interaction or means of working closely with their teacher and classmates. Social annotation did not meet their expectations.

A qualitative analysis of the open-ended responses coupled with the types of annotations students made throughout the semester and the responses to the item about building vocabulary through social annotation suggests that social annotation was perceived as useful with regard to vocabulary comprehension while reading. The average response for the survey item "Social annotation helped me build vocabulary. / ソーシャルアノテーションは語彙を増やすのに役立った." was the second-highest (3.37).

Responses to the open-ended question about what was most useful were overwhelmingly related to vocabulary. The example responses below are related to social annotation and vocabulary:

> I do not need to spend much time to look up unknown words.

> It was most useful to get the meaning of words that I didn't know. Someone wrote the meaning of word so I could understand it with reading it.

> I could find one word sometimes has many meanings and I usually didn't think it had many meanings, so I was surprised.

Some students commented on being able to look up new words from the texts, and others commented on how it was useful that other students had already looked up the meaning and made annotations about the new words in the texts. It seems like students were effectively making a collaborative glossary of new terms in the texts as they read and made annotations.

Other themes that came out in these responses were related to collaboration and being able to see what other students think about different topics we read about:

> Learning new vocabulary and knowing the classmates' opinion. It was interesting for me to know their opinion as there are a few opportunity to discuss with them.

> When I had question about article and annotated it, other classmate answered my question and I can understood the question. So, it is good for us to communicate with classmates.

When looking at the perceived challenges of using social annotation, themes that emerged were largely related to the technical difficulties students faced while completing the assignment:

> To manage to use the annotation cite.

> Sometimes, a web-page for annotations did not work and I had trouble in annotating.

> Sometimes the network is week and hypothesis site didn't work well. So I couldn't annotate sometime.

Quite a few students also commented on how it was difficult to understand the authentic texts due to vocabulary and complex grammar, or that they found it challenging to find things to comment on in the texts:

> Finding the words or sentences to annotate because if I annotate the article later than other people, there will be few words or sentences to annotate so it was hard for me to annotate.

> I think it is difficult to tell my opinion clearly and deeply and specifically. The articles are a little bit difficult for me to understand so, it is hard for me to tell my opinion.

While some students commented on the challenge of reading authentic texts, the survey item about social annotation helping students understand online texts, "Social annotation helped me understand the online articles we read. / ソーシャルアノテーションは、授業で読んだオンライン記事を理解するのに役立った." received one of the highest average ratings (3.35). This might suggest that while the content and vocabulary of the authentic texts was difficult for students to work through, they perhaps felt that social annotation made reading comprehension somewhat easier than if they were reading the texts independently.

One student commented on how they found the content of the articles to be too challenging and the use of technology unfavorable:

> I don't like social annotation because it is good for me to read on paper, I want annotate on paper. And the assignments is little difficult for me especially last two reading article, those two is too long or too difficult.

Some students commented on how the strategies they used through this activity could be useful for them in other contexts:

> We can learn how to annotate the readings with some strategies. These strategies can be helpful for another assignment like research paper.

> It is very good for me because it can see others opinion. It makes my critical thinking skill improving.

This perhaps aligns with findings related to increased awareness and self-reflection found in some of the literature. It is possible that students were able to monitor their own opinions and understanding as they observed the comments of their classmates. It seems like there is value in fostering this sort of self-awareness and reflection among language learners.

Other students commented on how it was interesting to learn about what others think about topics and what is going on around the world:

> Articles that a teacher gave us was related to social issues, so they were helpful to learn what is happening in the world.

CONCLUSION

It seems that the greatest perceived benefit of social annotation in the writing classroom is related to vocabulary acquisition and reading comprehension. While perceived drawbacks to this type of intervention include challenges related to using authentic English texts and the requirement to interact with classmates online, participants also had some positive perceptions of this activity as it relates to their language learning. As with any intervention, some students

will undoubtedly have more or less favorable perceptions, and it is very difficult to please everyone equally. That being said, it would be useful to explore the impact social annotation might have on vocabulary acquisition specifically considering how students naturally tended to use it in this project. It may also be worthwhile to replicate this research with more accessible online texts. Perhaps with a lower barrier to accessing the language in the online texts, students may be more likely to interact with the ideas and the ideas of their peers and teacher. Finally, it might be interesting to explore the relationship between social annotation and learner autonomy.

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APPENDIX Survey Prompts

	Average Rating (4-point scale)
Working closely with classmates helps me learn. / クラスメートとの緊密なやり取りは学習に役立つ。	3.43
Working closely with teachers helps me learn. / 教師との緊密なやり取りは学習に役立つ。	3.76
I enjoy reading authentic English articles. / 実際の英文記事を読むのは楽しい。	2.73
I enjoy reading online. / オンラインの文章を読むのは楽しい。	2.76
I enjoy annotating online articles. / オンライン記事に注釈を付けるのは楽しい。	2.51
Social annotation was useful for my learning. / ソーシャルアノテーションは学習に役立った。	2.95
Social annotation helped me work closely with my classmates. / ソーシャルアノテーションはクラスメートとの緊密なやり取りに役立った。	2.56
Social annotation helped me work closely with my teacher. / ソーシャルアノテーションは教師との緊密なやり取りに役立った。	2.75
Social annotation helped students form a community of learners. / ソーシャルアノテーションは、学生が学習者コミュニティを作るのに役立った。	2.51
Social annotation helped me understand the online articles we read. / ソーシャルアノテーションは、授業で読んだオンライン記事を理解するのに役立った。	3.35
Social annotation helped me build vocabulary. / ソーシャルアノテーションは語彙を増やすのに役立った。	3.37
Social annotation helped me write my summary paragraphs. / ソーシャルアノテーションは要約段落を書くのに役立った。	3
Social annotation helped me improve my English skills. / ソーシャルアノテーションは英語のスキル向上に役立った。	3.05