

Strategies for Implementing Social Annotation in Online Learning

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Abstract: In this best practices paper, we discuss how we have used social annotation in our asynchronous online undergraduate Educational Psychology courses for pre-service teachers. We provide tips in three different areas of implementing social annotation. First, we discuss the importance of having an explicit purpose for using social annotation and helping students get started on annotation activities. Second, we recognize the specific affordances of social annotation and how they might be used to improve student engagement. Third, we consider role of the instructor in the annotations. We close with some challenges regarding social annotation that continue to push our thinking as we refine our own pedagogical approaches to social annotation.

Introduction

While online social annotation has been around for some time, the COVID-19 pandemic caused a renewed interest in social annotation in online learning. Online social annotation refers to annotations (e.g., notes, highlights, comments, etc.) on online content (PDFs, webpages, etc.) that can be shared with others that allows for conversations to take place on top of that content. We have been using social annotation with pre-service teachers in our asynchronous online undergraduate Educational Psychology classes at Indiana University since 2018. Students in our classes have primarily used social annotation to have conversations on the course readings. Each semester we have refined our approach.

There are multiple social annotation platforms available for use, however, we only have experience using the two most popular platforms, Hypothesis and Perusall. These two platforms approach social annotation quite differently and it is worth pointing out some key differences. Perusall's design is similar to a learning management system like Canvas or Blackboard. Perusall allows you to upload documents into a "course library" for students to annotate. In contrast, Hypothesis is a very "lite" annotation platform that simply overlays on top of content that is already accessible online (e.g., blogs, PDFs).

Our personal experiences (both failures and successes), personal pedagogies, and the learning theories that we subscribe to have heavily influenced the design of our courses and how we use social annotation. While we have not always felt this way, we now approach our course design from a place of student care, trust (Stommel, 2020), and intellectual respect (Vossoughi, 2015). We choose to implement technologies that support those endeavors and avoid using technology in ways that prioritize compliance and surveillance, which we consider to be violent uses of technology. Theoretically, we are motivated by sociocultural approaches to teaching and learning, specifically we draw on productive disciplinary engagement (Engle & Conant, 2002) and expansive framing (Engle et al., 2012). We offer more in-depth explanations of these approaches and our research elsewhere (Andrews et al., 2019; Hickey et al., 2020). Next, we present some practical pedagogical strategies that we have found useful for introducing and implementing social annotation in our own online undergraduate courses.

Establish purpose for and introduce annotation activities

It is important to establish a purpose for using social annotation before making it a feature practice in your classroom (e.g., what goal am I trying to accomplish by using this technology?). Purposes and practices endure while technology and tools do not. Once you've established a purpose, then that purpose should be made clear to the students as well as the expectations for how students should participate. Otherwise, the annotation activities end up

being busywork for both you and your students. In our Educational Psychology courses, we frame the social annotations as an important learning space where students can make meaningful connections between learning theory and the content areas they will be teaching. Additionally, their annotations prepare them to participate in other assignments where they practice designing from theory (e.g., creating lesson plans) and theorizing designs (e.g., describing/evaluating real-world teaching scenarios from the perspective of a specific learning theory).

In this assignment, I want you to introduce yourselves but also to get used to annotating. For why and how we annotate, see the video presentation on social annotation in Module 1.

In this activity, I'd like you to do three things:

- 1) **Find your name and make an annotation in which you introduce yourself to us.**
 - a) Tell us what you like to be called, your subject area, year in school, and one other fact about you!
- 2) **Take a look at the questions below about learning. Pick one that is interesting to you, and post an annotation in which you wrestle with the question.**
 - a) Aim for a few sentences – something novel, interesting, considered.
- 3) **Finally, look at one of your classmate's comments on the questions and respond to it.**
 - a) Your response can agree, disagree, ask a question, offer an example. Try your best to not “force it,” which leads to discussions that make everyone yawn. Instead, read the comments and reply to ones that speak to you, or give them some thought until they do!
 - b) Some of you will comment before anyone else. If that's you, you may want to revisit this activity again after your peers have shared their thoughts.

NAMES:

[LIST STUDENT NAMES HERE]

Questions:

1. What is the relationship between teaching and learning? Is it possible for someone to teach well but have students learning nothing? Is it possible for someone to learn well when being taught poorly?
2. Should learning be fun? What are the benefits and drawbacks **for students' learning** of a learning environment that students find fun?
3. Should learning be hard? What are the benefits and drawbacks **for students' learning** of a learning environment that students find hard?
4. Learning is fundamentally about **change**. What do you think has to change for us to say something has been learned?
5. What do you think is similar about classroom learning and out-of-school/everyday learning, like learning at home or at the gym or on twitter? Is there a difference? Should there be?

Table 1: Example of a simple, low-stakes, introductory activity to social annotation

As with any new tool or practice, it is important to help students get started. Here are some tips for helping students get started and continue engaging in social annotation activities based on our own experiences:

- Create a simple and low-stakes introductory activity to have students practice using social annotation where they introduce themselves and annotate core questions or objectives of the course (Tab. 1).
- Post specific expectations for how students should annotate on the document itself instead of in the learning management system (LMS) so students can see the instructions without having to leave the document (Fig. 1).
- Design your course in a way that makes engaging in the annotations meaningful.
 - Ask students to define a personally relevant context (e.g., students' own prior experiences, current interests, and future goals) to frame their engagement in the annotations (Tab. 2).
 - Point students towards future assignments in the course and encourage them to think of their annotations as “first-draft thinking” towards those future assignments (Kalir, 2020).

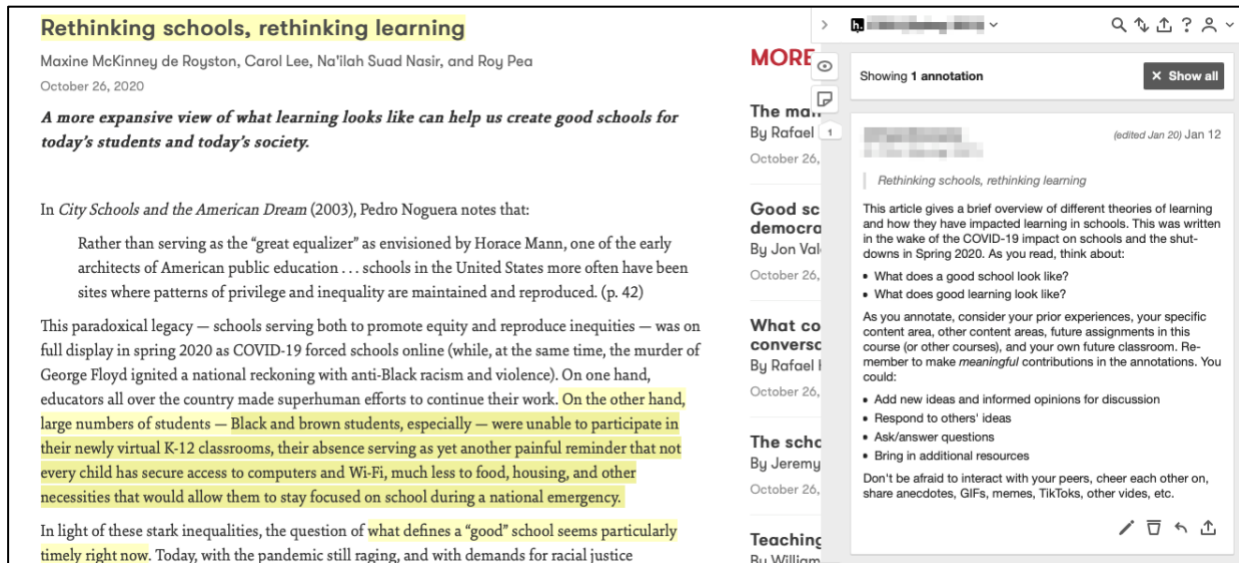


Figure 1: Example of annotation instructions posted as an annotation on the document in the Hypothesis platform

Pick a context:

Before you start reading, you should think about a specific context for your engagement in the reading and annotations. It's probably a good idea to stick with one context for at least a week, but whatever contexts you want to consider while you engage is ok. Regardless, you should:

1. Pick a developmental level (e.g., Elementary, Middle School, High School, etc.) that you are interested in teaching.
2. Pick one or two content-area standard(s) from the Indiana State Academic Standards that you are interested in focusing on.

As you read and make web annotations, consider the relevance of the reading and annotations as applied to your context. At the end of most units, you will be designing a lesson plan that you could actually use in a current or future classroom as part of our Theory/Practice Workshops. Picking a developmental level and content-area standard(s) should help you think about how what you are learning applies to the Theory/Practice Workshops as well as other potential future contexts (e.g., classroom, student teaching, other classes, etc.).

Table 2: Example of instructions for students to select a personally relevant context

Take advantage of the affordances of social annotation

To use the annotations effectively, we found it important to consider the specific affordances of the social annotation platform. Here are some examples of affordances of social annotation that we have drawn on to encourage continued engagement:

- Mention specific students (using the @ symbol) to invite them into a conversation or to publicly point out their meaningful contributions in the annotations. Perusall will send users a notification when they have been mentioned in an annotation.
- Ask students to use the "Question" and "Upvote" features in Perusall (Fig. 2) or the tags feature in Hypothesis to indicate annotations that need answers (e.g., "Question") or were particularly useful (e.g., "Upvote") to promote further engagement.
- Encourage students to add multimodal annotations, such as images, GIFs, videos, etc.

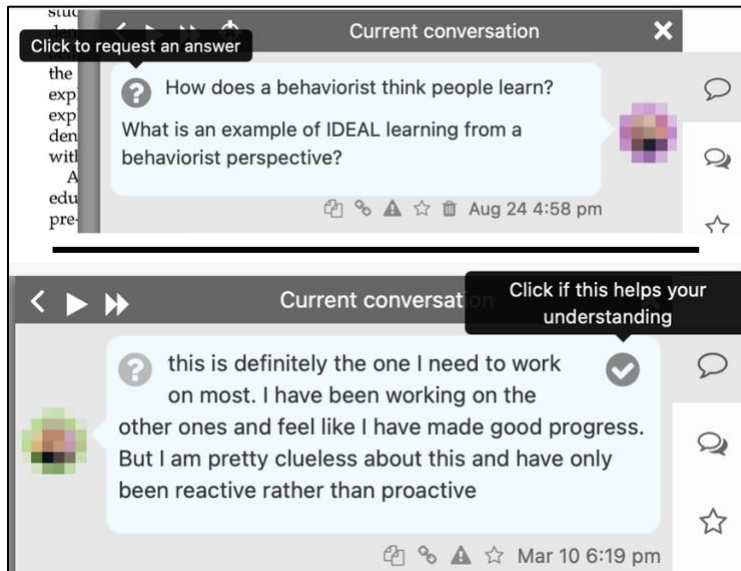


Figure 2: This picture shows the “Question” and “Upvote” buttons on annotations in Perusall

Instructor engagement in the annotations

How instructors interact with students in the annotation space will affect how/whether they continue to engage in the annotations. We have tried to strike a balance between annotating or replying too much and not annotating or replying at all, both of which can lead to a decrease in student participation. Here are some tips that encourage students to engage in the annotations:

- “Seed” the document with questions or tasks that students should complete or respond to as they read and annotate (Fig. 3).
- When responding to students, help frame their engagement in terms of their own experiences and how this new knowledge might apply in future contexts. Position students as authors who bring unique perspectives and not just consumers of knowledge.
- Post regular course announcements that publicly recognize student examples of good engagement in the annotations. The announcement could also ask other students to extend the conversations (Fig. 4).

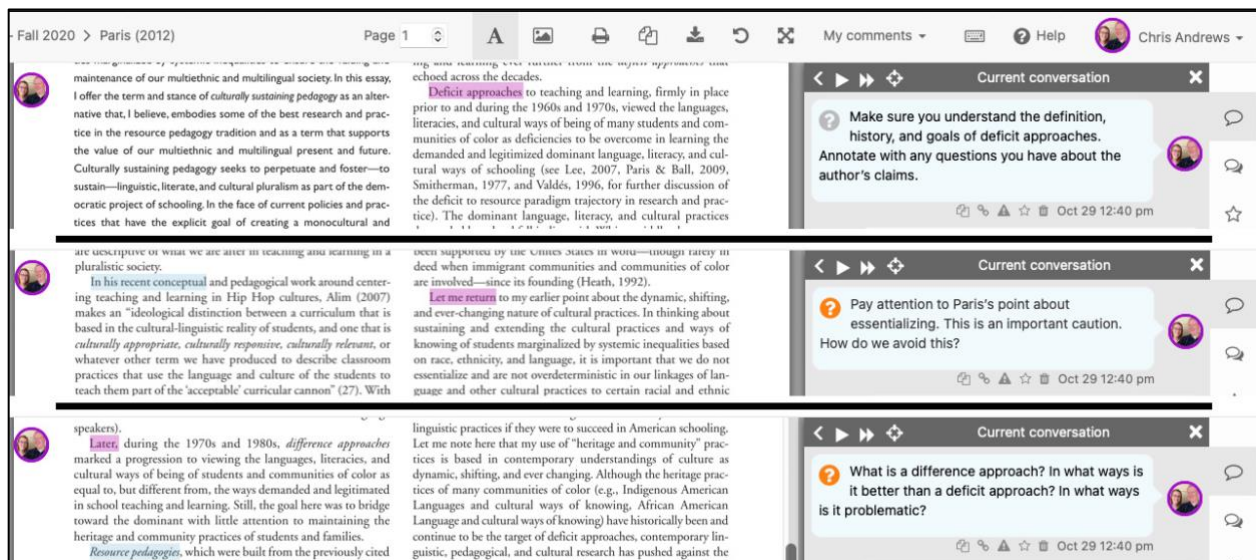



Figure 3: Example of “seeding” the text (e.g., annotations posted throughout the document) using Perusall



P254 - Key Conversations (Elaboration and Generation)
Chris Andrews

Alright, here are some of the key conversations that I saw in the annotations this week. Please go back into the annotations and add some more comments, questions, and connections.

E is for Elaboration:

- [redacted] had a good conversation about the relationship between memorization and learning[Ⓔ]. What implications does this have for our teaching and assessment practices?
- [redacted] brought up an important point about the limitations of elaboration[Ⓔ] (and, TBH, generation). What does this mean for how you use elaboration as a student or how you might use it in your future teaching?

G is for Generation:

- [redacted] commented[Ⓔ] about the importance of being *strategic* with homework. I think this is a really good point that should be discussed more. Please go in and answer the question(s) I posed to help us think about what does "good" homework look like from a cognitive perspective.

Figure 4: Example of a course announcement recognizing student examples of good engagement

Continuing challenges and considerations for using social annotation

As we continue to refine and revise how we are using social annotation in our courses, there are two challenges with social annotation that we are grappling with in our teaching. The first is whether it is important to sustain conversations in the annotations, and if so, how to do that effectively. Owing to the linear nature of courses, we tend to view conversations that have already taken place as “complete.” Is the learning gained from those initial conversations enough? Would it be beneficial to design reflections where students review past annotations or revisit earlier readings later in the course? Second, while our courses have been entirely asynchronous, many instructors and courses are using both synchronous meetings and asynchronous activities. Using the synchronous meeting to discuss conversations that occurred in the annotations will likely be redundant. So, what are effective ways to bring the annotations into the synchronous space? How can we add value to what has already taken place in the annotations? These challenges and questions push us to continue thinking about the important relationship between pedagogy and technology use.

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