

Ashlie Sarsgard, MFA, MA  
Isabell C. May, PhD

# How to Use the Hypothesis Social Annotation Tool to Improve Engagement and Outcomes



UNIVERSITY *of* MARYLAND  
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# What's Hypothesis?

- Web browser add-on that allows for commenting on (annotating) anything on the web, in public groups or private
- Can also be used in Blackboard (via LTI)
- Integrates with the grade center so that Hypothesis assignments can be graded
- ***Meets students where they are***

# How Might You Use Hypothesis in a Class?

- Deepening group discussion on a reading, video, or other resource delivered online
  - Encouraging students to learn from one another's readings/interpretations of and thinking around resources in a more concrete way
  - Gain information about student comprehension, analysis, and synthesis of resources to better inform your teaching
- Engaging the class in group critiques and analyses of case studies, example assignments, etc.
- Encouraging peer review of student drafts
- Other ideas from pp. 3-5 of the [UMSSW IDEA Team NTAGI Issue on Hypothesis](#)

# What Other Uses Might There Be?

- Study tool for individuals or groups (promotes better retention for exams as well as for bringing thoughts and analysis to class discussion)
- Aid for keeping track of quotes, paraphrasing, citations, and such for projects, papers, lit reviews, etc.
- Annotating/asking questions about a syllabus or other activity/assignment
- Work tool for giving feedback on anything undergoing development

# What Does it Look Like? Example 1

Fall 2022 MHS 603 Science Communication Principles 01-A    Module 2: Determine the best genre for science communication    Annotation 2.2: Encountering Science in America

Annotation 2.2: Encountering Science in America  
Fall 2022 MHS 603 Science Communication Principles 01-A

6 Students    All Students    Grade (Out of 10)    Submit Grade

5 (15 of 48)    70%

Fall 2022 MHS 603 Scienc...

Sep 1

Attitudes toward science are not uniformly associated with one particular demographic group but instead vary based on the specific science issue.

This is an interesting point. Maybe I'm misreading it, but I feel like this is essentially saying that, although levels of trust, etc. might coincide with education level and similar factors (according to the graphic on page 1), there are wide fluctuations in one's broader attitudes toward science, depending on the issue itself... and, maybe, how it aligns with one's values/experiences?

Hide replies (3)

Sep 2

Yes, I'm having a little trouble with this one too. I feel like it contradicts the first point. If the attitude is more influenced by the subject matter and not the demographics, then are the demographics relevant? I mean, obviously there are gradients to every piece, so both variables can have an impact, but it is still a little confusing.

Isabell May    Sep 6

I think the issue here is the difference between "confidence in" and "attitudes towards" science. These categories overlap

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core elements of science communication: 1) the diverse categories of motivations that lead to participation; and 3) the resulting outcomes of participation. The following are the motivations, and outcomes for participants from the public and scientific communities. Despite the heterogeneity within these groups (particularly the public; see next page), there are nevertheless common themes regarding the nuances of their motivations and outcomes. It is necessary to understand these considerations in order to develop effective approaches to science communication and engagement and to evaluate their outcomes.

**MOTIVATIONS**    **OUTCOMES**

**the Participants**

communication and engagement efforts may be designed to reach particular categories of the public, for example:

below is not an exhaustive list, and not all of these participant groups are involved in every type of activity. For example, translating science into evidence-based policy may involve additional groups, such as policy-makers and/or advocacy organizations, and engagement on social media does not necessarily require institutional support mechanisms.

to critical resources, from financial and logistical support to the personnel or infrastructure, communication and engagement possible. These participants have a significant role in **HAVING A POSITIVE AND POTENTIAL IMPACT**. Supporting institutions include but are not limited to:

**GOVERNMENTS**    **PRIVATE SECTOR**    **UNIVERSITIES**    **INFORMAL SCIENCE ORGANIZATIONS**

pedagogy, or, in the case of scientists, a specific subject matter. Moreover, scientists who gain experience and training in science communication and engagement techniques may assume dual roles, becoming facilitators, writers, or producers in addition to content experts. Professional practitioners can include:

**SCIENCE WRITERS/CONTENT PRODUCERS**    **FACILITATORS**    **TRAINERS**    **EDUCATORS**    **SCIENTISTS**

**"The Public"**

There is no singular "public," but rather many publics whose diverse backgrounds, expertise, and experiences can influence the efficacy of science communication and engagement (see Takeaways about the "Public" below).<sup>9</sup> The term *public* is used here to differentiate general science communication and engagement from more-specialized activities such as communicating about science-based policy, or the day-to-day teaching of science in classrooms. Insights into which members of the public are likely to participate in a given activity can be gained through published research and surveys on participation in similar activities. In addition, science communication and engagement efforts may be designed to reach particular categories of the public, for example:

**PROFESSIONALS**    **YOUTH**    **FAMILIES**    **ADULTS**    **LOCAL COMMUNITIES**    **UNDERREPRESENTED COMMUNITIES IN STEM**

**Takeaways about the "Public" from *Perceptions of Science in America*:<sup>9</sup>**

- Confidence in science varies based on age, race, educational attainment, region, political ideology, and other factors.
- Attitudes toward science are not uniformly associated with one particular demographic group but instead vary based on the specific science issue.
- Recent research suggests that underlying factors such as group identity can strongly influence perceptions about science.

# What Does it Look Like? Example 2

docdrop

Waiting  Auto Scroll  Sync

Select text to annotate, Click play in YouTube to begin

00:00:00 [Music] is [Music]

00:00:20 hi there heartfelt poetry 7 and thank you so much for trusting me to answer this question for you and no it's not a silly or ignorant question especially with all of the misinformation that's been floating around lately so no it's not ignorant and i know that trust has

00:00:33 been pretty hard to build with the science community and whatnot so thank you so much for trusting me to answer this for you and i brought some friends along to help me out okay so here it goes first off no there's no hiv no

00:00:45 heavy particles vary on or whatever in the vaccines okay that's the first thing it's not now what what is in the vaccines are things like fats sugars acids and this thing called rna

00:00:56 particularly mrna or messenger rna and i want to tell you how that works okay so this is what coronavirus looks like a bugger isn't it it's crazy how this little thing can cause so much havoc in our bodies so

00:01:09 anyway the chromovirus has these proteins on the outside they're called spike proteins because they look like little spikes and so these proteins are what our body recognizes when it invades our body

00:01:21 okay and this guy right here is mr antibody he's one of the good guys part of our white blood cells okay when these guys are around they find all the bad guys in our body and

Public

okay and this guy right here is mr antibody he's one of the good guys part of our white blood cells okay when these [More](#)

I always appreciate a visual, and I love these little plush microbes. But this part makes me wonder about the audience. If a person has some scientific knowledge, they might be offended by the "dumbing down" used here. That said, I definitely was not offended, and I work in vaccine science.

Hide replies (3)

Aug 24

Not only that, but I was confused as to who her audience is at first. I thought this might be for children as they are usually responsive to visual aids like the ones she is using. Until I noticed that she is responding to a question from a follower. I guess her illustration works for all audiences.

(edited) Aug 25

I actually was about to write the same – the tone and use of the props is almost too similar to that which would be used to explain this science to a child or younger audience. If the person who asked the question is an adult, this delivery might have the wrong effect; instead of it conveying scientific terminology in lay terms, it might instead be perceived as "dumbing down" the explanation to a level that's more junior than an average adult.

isamay7 Aug 31

Good observations. Dr. Tolson is taking a risk here with the visual she has chosen. It might alienate some folks but it

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# Hypothesis Feedback:

## MHS 603 – Science Communication Principles, Fall 2021-2022

- “I'm honestly excited for this question because I have to admit, when I first read about these annotation assignments, I kind of sighed and thought "well, okay, every course has some kind of discussion board." I wish every course used these instead of regular message boards where, inevitably, everyone signs on about three minutes before the deadline to make the same point five different ways! The annotations, instead, drove me to stay focused on what I was reading and, also, in cases where my peers had already read/marked annotations, it genuinely gave me additional perspectives and helped me recognize key points I may have otherwise glossed over. I honestly really appreciate the Hypothesis annotations and wish more professors used these!”

# Hypothesis Feedback:

## MHS 603 – Science Communication Principles, Fall 2021-2022, cont.

- “They do help with engaging with the reading material, but I can get so engulfed with completing the annotation assignment that I miss some of the key points in the reading.”
- “I found it insightful when reading some of my peer's annotations, it helps me see how others are processing the same information we were given, and that we could provide feedback to other's annotations. It gave online learning that real classroom feeling.”
- “It is interesting to read what others think. It has also shown me that we seem to share a number of things/values in common.”



## **Hypothesis Feedback:**

MHS 600 – Introduction to Library Research & Scholarly Writing,  
Fall 2022

- “I think they are very helpful especially in relating with the material, it is easier to remember things that stood out for you.”

# Hypothesis Feedback:

## Writing Consultant Training, Fall 2022

- “Hypothesis was super easy to use and I loved that it was already in the content rather than having to open other channels. Responding to other consultants was difficult in this time frame, maybe if this was encouraged rather than required.”
- “Hypothesis was easy to use and made the readings a fun, dynamic, and interactive experience. It enhanced my ability to understand and evaluate the texts through a critical lens. The major drawback that I encountered was that seeing other peoples' comments as I was reading the texts for the first time biased my reading of it. Maybe a strategy that we could use in the future is to hide the annotations, read the text, and then go back and look at what other people have written.”

# How Do You Implement Hypothesis?

- See pp. 6-8 of the [UMSSW IDEA Team NTAGI Issue on Hypothesis](#)
- [Hypothesis page on the IDEA Team Knowledgebase](#)
- [Hypothesis Knowledgebase](#)
- Hypothesis technical support email: support@hypothes.is

# Other Helpful Resources

- [Liquid Margins](#)
- UMB Hypothesis Workshop [Slides](#)
- [How to set up Hypothesis readings in BB](#)
- [How to grade Hypothesis annotations in BB](#)
- [Using Hypothesis with BB Course Files](#)
- [A student guide to Hypothesis in BB](#)
- [Using Hypothesis with small groups](#)
- [A student guide to Hypothesis in Blackboard](#)

## Other Helpful Resources, cont.

- [Annotation etiquette for students](#)
- [An Illustrated Guide to Annotation Types](#)
- [Using images, links, and videos in annotations](#)
- [Partner-created Resources](#)