Online Student Engagement Beyond Discussion Boards

Student engagement is critical to learning in all classes. Student engagement is defined as "the student's psychological investment in and effort directed toward learning, understanding, or mastering the knowledge, skills, or crafts that academic work is intended to promote" (Newmann, 1992).

Engagement is developed through interactions including: 1) student – student 2) student – instructor 3) student – content (Martin & Bolliger, 2018; Moore, 1993). Student – student and student – instructor interactions build community and facilitate learning. Asynchronous discussion boards are one of the most common tools instructors use to enable these types of interactions. However, some courses cover content that does not lend itself well to discussions.

In this project, I sought alternatives to discussions to engage students in these critical human interactions.

References

Martin, F., & Bolliger, D. U. (2018). Engagement Matters: Student Perceptions on the Importance of Engagement Strategies in the Online Learning Environment. *Online Learning Journal (OLJ), 22*, 205+. Retrieved from http://dx.doi.org.aurarialibrary.idm.oclc.org/10.24059/olj.v22i1.1092

Moore, M. J. (1993). Three types of interaction. In K. M. Harry, M. John, & D. Keegan (Eds.), *Distance education theory*. New York: Routledge.

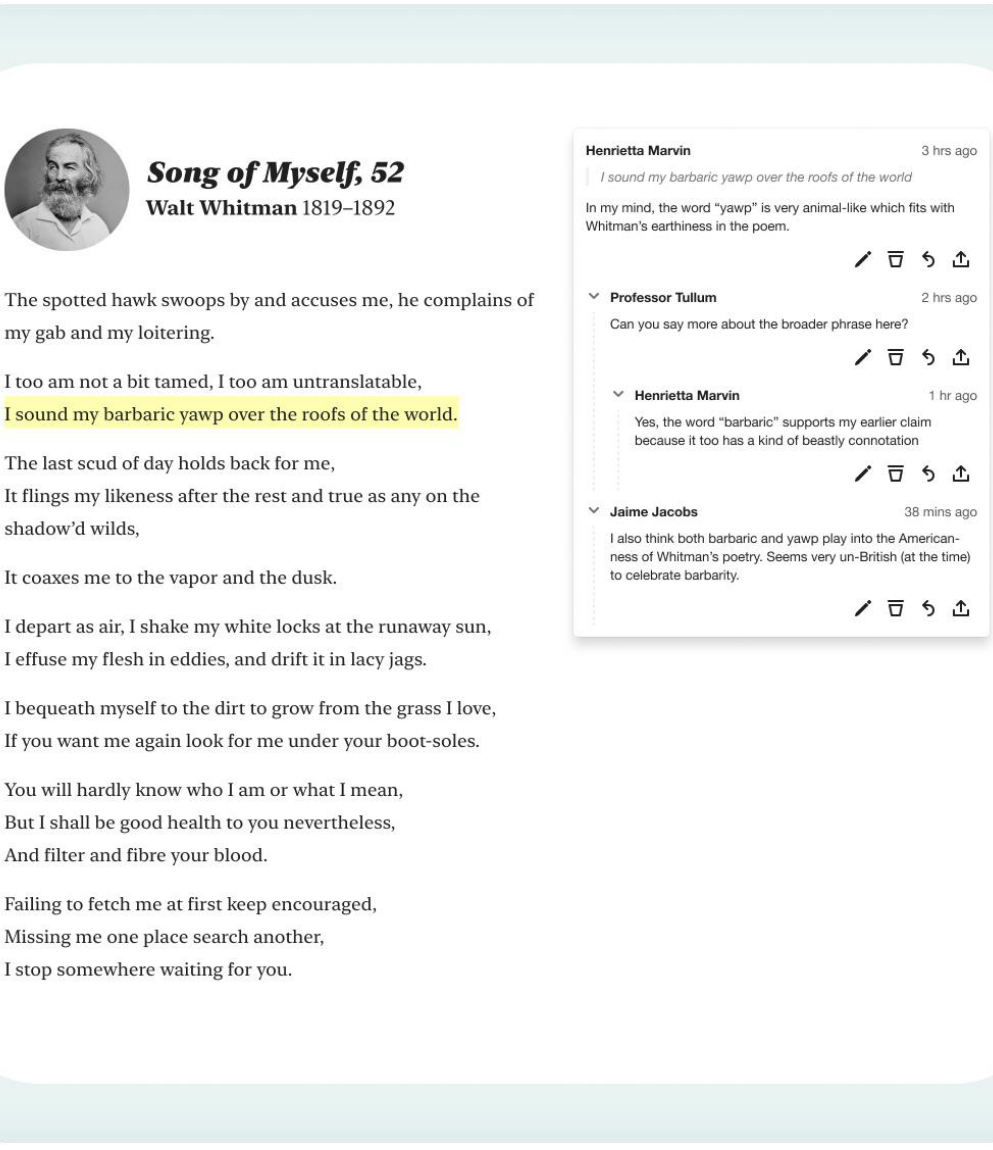
Newmann, F. M. (1992). *Student engagement and achievement in American secondary schools*. New York: Teachers College Press.

hypothes.is

Hypothes.is is an open-access (free) collaboration tool through which students and instructors can comment and annotate any digital content, including videos, websites, PDFs, online journals, and more. Students read or view a digital source and respond to it using the program. In addition, instructors and students can respond to one another's posts.

Hypothes.is integrates with Canvas and can be used within an assignment to make grading easy.

Hypothes.is example



Wikis

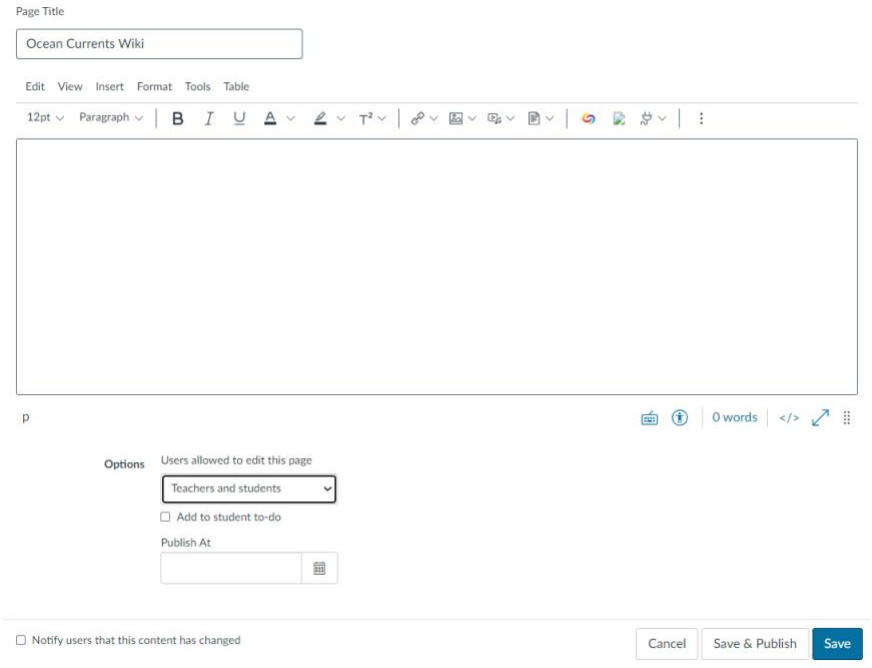
Wikis are websites that can be modified by visitors and allow multiple types of digital content including video, sound, figures, and writing. The most famous wiki is Wikipedia.

In a class, an instructor could use a Wiki to allow multiple students to contribute to a topic. For example, each student could be assigned a different aspect of a topic. In the wiki below, each student could be assigned a different ocean current to research and summarize.

In Canvas, instructors can set up a Wiki using the "page" function, which allows students and instructors to edit the page. Beware that students can edit any content on the page and may accidentally delete other student content. Also, if two or more people are editing the page at the same time, only one of the edits will be saved.

An instructor could also set up a wiki using WordPress or another free website builder. Or, an instructor could use Microsoft SharePoint or Teams and Microsoft Word (see section below).

Canvas Page- can be used for a Wiki



Blogs

A blog is an informational website with discrete entries, often in the style of a diary. In contrast to a wiki, a blog is usually written by one individual.

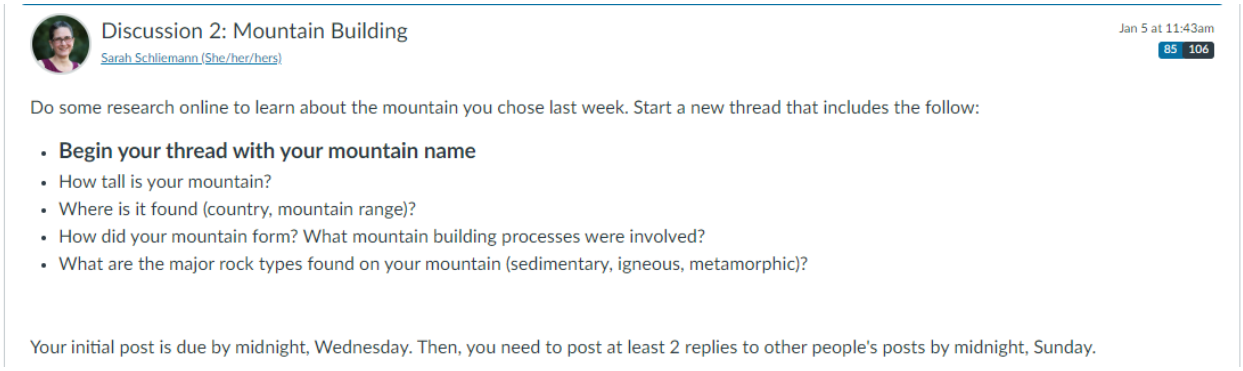
Blogs allow students to explore a topic on a weekly basis and over the semester, accumulate a significant amount of information on that topic.

For example, I use blogs in an upper-division environmental science class called *Mountain Environments*. During the first week, each student chooses a mountain to research for the semester. Each week, the student writes about an aspect of their mountain based on a prompt. The prompts correspond to the content being covered that week in the class. In addition, students read and comment on one another's blog posts. By doing so, the blog functions in a similar way to a traditional discussion, but the prompts are content-driven rather than discussion-based. As an added benefit, the students learn about various mountains through reading and commenting on blog posts from other students. See example below.

In my class, I run the blogs using discussion boards in Canvas because they are easy for the students to use and easy to grade.

However, using the discussion board tool for blogs isn't ideal because it doesn't allow for the construction of a true blog. Each week, the students post to a new discussion. A true blog would be created on one website with all the content for a single topic on that website. If an instructor wanted students to create a true blog, they could have each student create their own website using WordPress or another free website builder. In my class, this would mean that each student would have a website that corresponded to their mountain and each week they would add to the content on that website.

Week 2 Blog prompt:



Discussion 2: Mountain Building

Jan 5 at 11:43am

85 106

Sarah Schliemann (She/her/hers)

Do some research online to learn about the mountain you chose last week. Start a new thread that includes the follow:

- **Begin your thread with your mountain name**
- How tall is your mountain?
- Where is it found (country, mountain range)?
- How did your mountain form? What mountain building processes were involved?
- What are the major rock types found on your mountain (sedimentary, igneous, metamorphic)?

Your initial post is due by midnight, Wednesday. Then, you need to post at least 2 replies to other people's posts by midnight, Sunday.

Student's blog post to the prompt:

Mauna Kea

Mauna Kea is the highest peak on Hawai'i coming in at 4,207.3m (13,803 ft) and is one of the mountains of the Hawaiian Island Chain within the United States. Mauna Kea formed by a hotspot plume located in the middle of the Pacific Plate which broke the surface and began to build an island through a series of volcanic eruptions. Mauna Kea is a shield volcano, meaning that as it was forming, less viscous pahoehoe lavas (smooth and rope-like flows) would flow from the summit down building a gentle slope. However, Mauna Kea is not fully finished forming. As the Pacific Plate moved, the hotspot under Hawai'i was moved on the surface to form the mountains Mauna Loa, Kilauea, and the newly forming island Kama'ehuakanaloa, Mauna Kea transitioned from a shield-stage volcano to a post-shield stage volcano. Over the last 65,000 years, eruptions around every 4,000-6,000 years have occurred at its summit in the form of cinder cones and expelled 'a'a lava (rough and jagged rocks and flows) making the smooth summit much bumpier in topography. The rock type of Mauna Kea is almost exclusively igneous rock due to the lava that built the mountain. The most common rock of Mauna Kea is olivine basalt, which is mostly comprised of the mineral labradorite, a form of plagioclase feldspar. Olivine is the other mineral comprising olivine basalt and forms the larger grains in the rock and is brown-green in color (think of olives!). When eroded, olivine basalts become andesites which have higher content of silica and alkalies and is lighter in color than the dark basalt. On Mauna Kea in particular, andesites are incredibly common due to the age of the rocks and go by the name "hawaiite".

Here's a pronunciation guide too since Hawaiian words don't necessarily come easy if you haven't heard them before:

Mauna Kea – "maw" "nuh" "kay" "uh"

Mauna Loa – "maw" "nuh" "low" "uh"

Kilauea – "kill" "uh" "way" "uh"

Kama'ehuakanaloa – "kah" "ma" "eh" "who" "ah" "kah" "nah" "low" "ah"

Pahoehoe – "pah" "hoy" "hoy"

'a'a – "ah-ah"

National Parks Service. (2006, March 24). *Character of Hawaiian Volcanic Activity*. Hawai'i Volcanoes & Haleakala. https://www.nps.gov/parkhistory/online_books/hawaii-notes/vol4-2-7d.htm

Smithsonian Institution National Museum of Natural History. (2013, December). *Mauna Kea*. Global Volcanism Program. https://volcano.si.edu/volcano.cfm?vn=332030

USGS. (2023, November 21). *Geology and History of Mauna Kea*. Geology and History of Mauna Kea . https://www.usgs.gov/volcanoes/mauna-kea/science/geology-and-history-mauna-kea

USGS. (n.d.). Kama'ehuakanaloa. https://www.usgs.gov/volcanoes/kama%E2%80%98ehuakanaloa

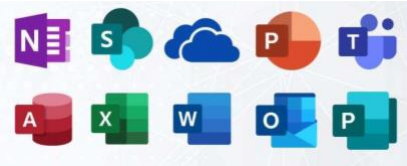
Reply

Reply post:

Hey! This is really interesting to read more about this mountain. I was able to travel to the crater itself when I visited Hawai'i a few years ago. I found it neat that the mountain itself changes the climate within the region and that the island is starkly different depending on whether you're on the eastern or western coast of the island. The coloration of the Olivine makes way more sense since the entire western side of the island is nothing but brownish-green rocks that are jagged and rough.

Reply

Microsoft SharePoint/ Teams Collaborations



Students can simultaneously collaborate on a Microsoft Office document (Excel, PowerPoint, Word, etc.) using MS SharePoint, which is supported by MSU Denver. Once a document is started, users can be invited to edit or view the document.

Students can access SharePoint through the student hub. Alternatively, an instructor (or student) can create a Team (using MS Teams) and save files in the Team (which are concurrently saved in SharePoint).

Students can also communicate (using Chat) or meet using the meetings function in Teams.

These tools are especially helpful when students are working on group projects in online classes.

One important thing to note is that if students create their own Team, an instructor will not have access to the Team unless the students invite the instructor.

Microsoft Whiteboard

Note: MS Whiteboard is similar to Google's Jamboard, which will be unavailable beginning December 2024.

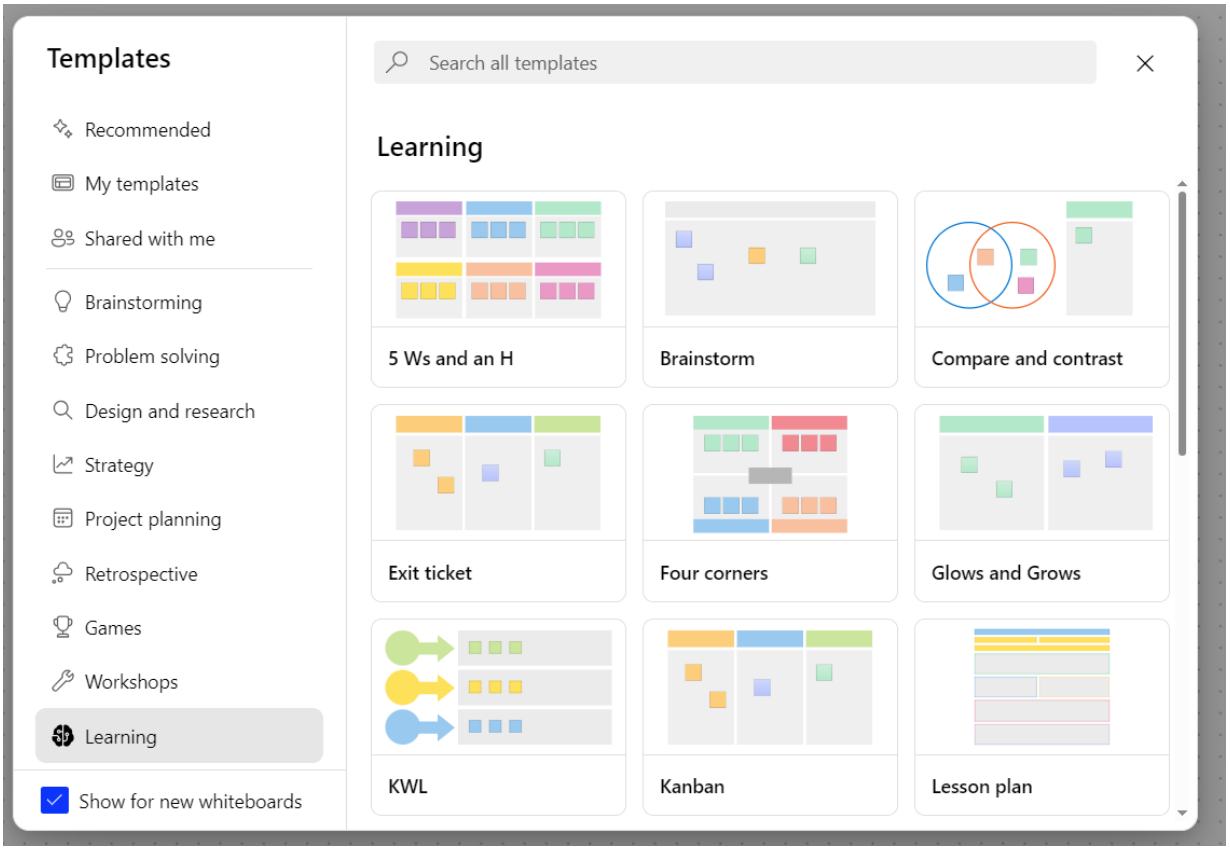
MS Whiteboard is a collaboration tool that utilizes a virtual whiteboard that allows users to write, draw, or insert content onto the board. The program has many templates or the user can start with a blank board. Templates are grouped by theme and the program has numerous templates specifically for education.

Within a board, users can use sticky notes, shapes, text boxes, a digital pencil for writing or drawing, or post multimedia including videos or sound.

Whiteboards could be used in a class to organize and facilitate a collaborative discussion or lesson.

MS Whiteboard can be used within Teams or can be accessed through the student hub. Once a board is started, users can be invited to join the board.

MS Whiteboard templates



Example Whiteboard