The Innovative Instructor

Pedagogy

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What this is

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CENTER for **TEACHING EXCELLENCE** & **INNOVATION**

JOHNS HOPKINS UNIVERSITY

Using a Course Blog as a Class Ice-Breaker

Anindya Roy, Postdoc, Dept. of Materials Science and Engineering

The issue

In the fall of 2014 I taught a course, *Stuff of Dreams: How Advances in Materials Science Shape the World*, in the new Whiting School of Engineering Hopkins Engineering Applications & Research Tutorials (HEART) program. The program introduces undergraduates to engineering research in specific disciplines in a small class taught by advanced graduate students or postdoctoral fellows. The classes meet once a week for two hours for six weeks. The challenge of teaching these one credit, pass/fail courses with no requirement of the students beyond class attendance, is getting the students engaged.

The students in my class were freshmen, sophomores, and one junior. Not all were engineers, there was one from the School of Public Health. The students had a mix of backgrounds, interests, ambitions. With a two hour class session, I did not want to lecture; I wanted the classes to be discussion based. With no requirements to do assignments, I had to rely on intrinsic motivation to get students to do reading outside of class and participate in discussion. My first priority was getting them engaged by relating materials science to their interests. I thought I could use a blog to determine what they wanted to learn.

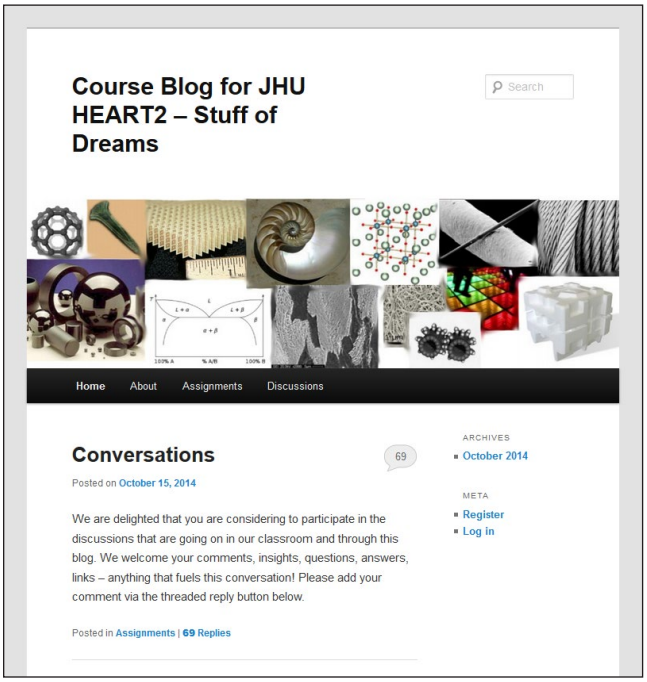
Why does it matter

In general, blogging can be an effective way for students to respond to course readings or to work collaboratively in groups. Blogs can also be used to improve students' writing along while developing their critical and analytical thinking skills. In this case, I used blogs as a way to get to know my students and their interests, specifically those that intersect with materials science.

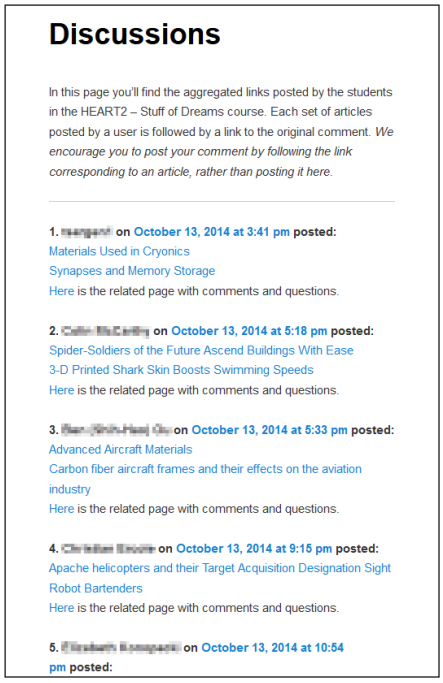
Faculty solution

Materials science is a very broad field. My research uses computational methods based on quantum chemistry not likely to be accessible to beginning students. Before the course started I polled the students using a Google survey to determine which social media platform they would be willing to use. Facebook and Twitter were among the choices that students rejected. I decided to use a blog based on their responses. There are a number of options for blogging platforms, including Blackboard, which offers both course and individual blogs. I used Blackboard for other course materials, but the blog tool didn't have some features I wanted, including making the blog available to the public, so that it would stand as a record and could be referred to after the course ended. WordPress is the free, easy-to-use option that I selected.

I introduced the blog in the first class session, asking the students to spend up to an hour outside of class to pick an area of interest, then research and post two links to resources on their topic on the blog. The students were then asked to do enough background reading on their topic to give a five minute presentation in class at what I called a Wikipedia level. When the students presented in the second class, I used the links they had provided to teach them how to think critically about information on the web. Students collected a wide range of content,



Course blog using WordPress



List of Discussions

everything from Buzzfeed lists to high-level research articles in scholarly journals. I asked the class how they could evaluate the materials. What claims were being made? Were sources cited? Were those sources credible? It was a good way to educate the students on evaluating content for research purposes, something they need to know as they move forward in their education. In this course, I didn't ask the students to go through the exercise a second time to find better or more appropriate materials, but in a more traditional course, this could be a two-part exercise.

For the second blog assignment, the students were asked to review the posts made by their peers, read some of the articles, and comment on them. This helped the students get to know each other and to see where their interests in materials science aligned. They engaged by commenting on each other's posts. Because the students were determining the topics for discussion in these first couple of weeks, it meant that I was teaching on my feet to some extent. If I didn't know the answer to a question, I would have the students do just-in-time research, using their laptops or other mobile devices right there in class to figure it out.

Results

The blog worked very well as an icebreaker, getting students interested in the course content and engaged in discussions. Student interaction outside of class was another challenge for me, with the course running only six weeks. The blog provided a way for students to continue their work outside of class collaboratively. As researchers and instructors our work doesn't stop at 5:00 PM; neither should class discussion be confined to the time students spend in the classroom. When students are reading they can immediately post what they are thinking, and their peers can respond with comments. This was the case even with the limited use of blogging in my HEART class, but this technique could be even more effective if used throughout a traditional course. I certainly will use a course blog in the future and have students write more extensively, perhaps in response to assigned readings. I like the idea of having them do peer review of classmates' posts. Students take pride in their writing, especially when it is open to the public and judged by their peers.

Being able to give formative feedback to students for the first assignment was a valuable teaching strategy. I think the students benefited from gaining an understanding of how to evaluate content on the web.

Other thoughts

From my perspective there were no disadvantages to using a blog. WordPress was easy to set up and the students found it intuitive to use. That said, there is a need to think about how you set up the WordPress or other blog instance. It is important to organize the pages so that students are clear about where to post each assignment. You will also want to consider what aspects of the blog to make public if that is applicable. As the site administrator you can make these choices. On my blog only the assignments, posts, and my comments are visible to the public; to view and post comments, users have to be registered. This prevents spam comments, which can be a problem. The blog can be seen at https://h2stuffofdreams.wordpress.com

Author's background

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Anindya Roy received his Ph.D. in 2011 from Rutgers University. As a computational physicist, Roy's primary research focus is on understanding materials important for energy harvesting, storage and management, using calculations based on quantum chemistry. Besides materials research, he is interested in teaching at the undergraduate level, and understanding the pedagogical aspects of physics and engineering education.