Project Description:

Through our project, we aim to design for TAs at UW, both graduates and undergraduates who could benefit from additional support resources. New TAs could possibly struggle with the onboarding process, dealing with lack of participation from students, frustrations with teaching tools, or issues with developing/improving teaching skills amidst other commitments. We hope to create some sort of technology to improve the teaching experience of TAs which in turn, may hopefully improve student experience.

Competing Product:

Poll Everywhere is a technology that can be used in classrooms. It is a digital audience response system that receives answers in real-time. First, the instructor or presenter asks a question using the app, next the audience answers from their personal device, then the responses can be viewed in real time. On the company's website, they offer suggested use cases such as: interactive lectures, making large classes more engaging, and pinpointing misunderstandings (Poll Everywhere). Traditional response systems utilize a remote-like device to click in answers with limited options available. With Poll Everywhere, students can use a device such as a phone or laptop to send in their answers or input (see Figure 1 below).
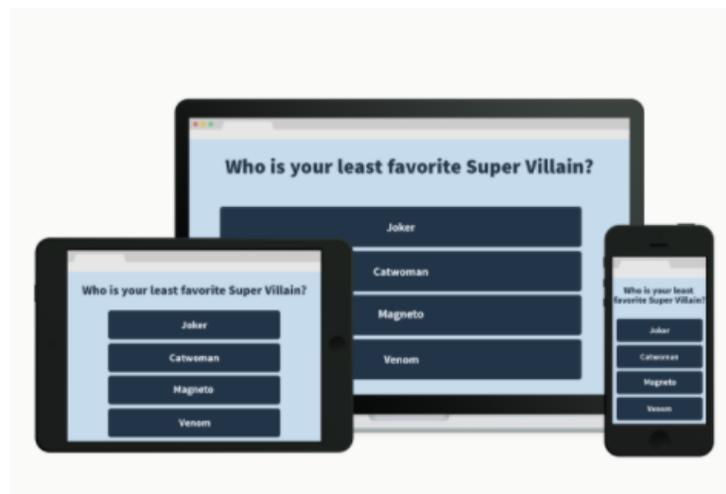

Figure 1: Answer polls on various devices (Poll Everywhere).

Apart from simple true or false questions or multiple choice questions, instructors can choose a variety of input methods to offer different types of engagement (see Figure 2 below).
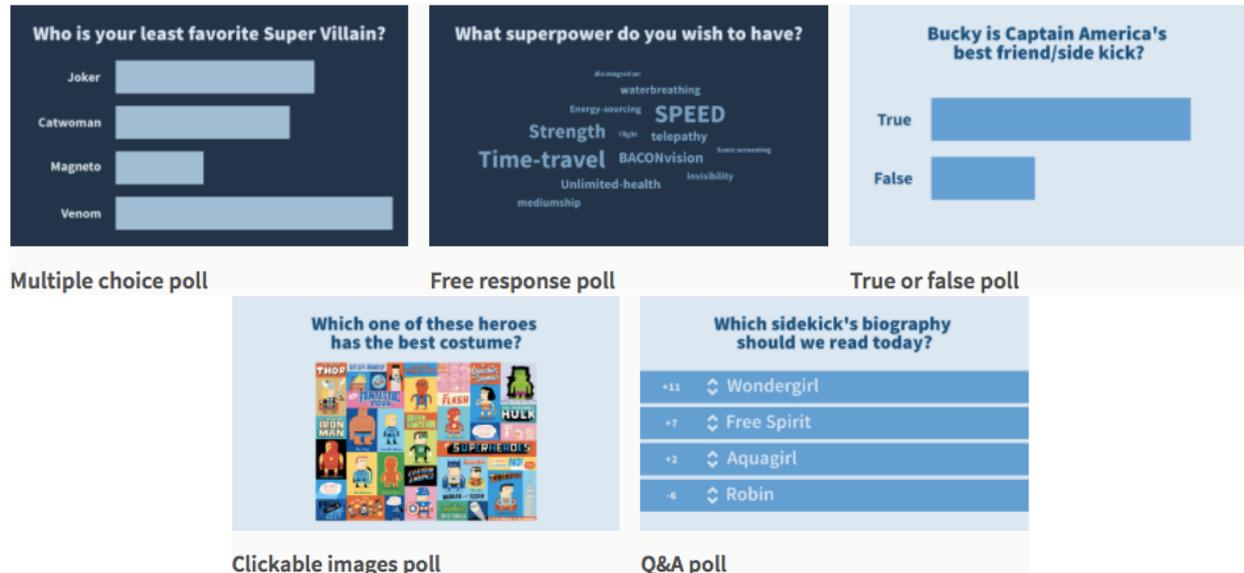

Figure 2: Different poll options (Poll Everywhere).

Researchers have found Poll Everywhere to be quite successful at improving student engagement. In their research, Wendi M. Kappers and Stephanie L. Cutler from Embry-Riddel Aeronautical University found that asking open-ended questions through Poll Everywhere caused more students to feel engaged than when just being asked multiple choice questions (2015). Thus this ability to have different question types proves to be effective at encouraging participation. Herb Shon and Laurie Smith of California State University, San Bernardino conducted research using the Poll Everywhere system on two undergraduate classes. Through their research, Shon and Smith found more than 90% of students felt the polling system was easy-to-use, over 90% of students felt the system helped them learn, and more than 80% of the students would recommend it (2011). Poll Everywhere has been able to successfully create a user-friendly system that improves student engagement and participation.

Rather than relying on standard lecture practices and traditional course evaluations, instructors can use Poll Everywhere to improve the learning environment. Given the examples above, it proves successful at creating a more engaging classroom, but it also offers more opportunities for gathering student feedback. Instructors can set up polls asking for student input on how they can improve the course and students can respond anonymously. However, this can only be done while in the classroom and it is instructor-driven. Students cannot provide their own anonymous feedback whenever they please.

Interview Questions + Responses

Interview Prompt:
I am an undergraduate student here at the UW studying Human Centered Design and Engineering (HCDE for short). I am currently enrolled in HCDE 318 which is about user centered design and we are working on a group design project to design a technology of some sort. Our target audience are UW TAs. With your permission, I would like to ask you some questions related to your experience as a TA. The purpose of these research questions is to gain an understanding of the different aspects of life as a TA for UW and further inform our design decisions.

Questions:
1.) What is your current year of study and what are you studying?
Second Year Graduate Student, Atmospheric Science

2.) What are your outside activities/hobbies/commitments?
Choir, Church, Playing Guitar, Reading

3.) What class are you a TA for?
ATMS 101

4.) What are your responsibilities for the class?
 • Write HW assignments, Quizzes, Midterm, Final
 • Make/Proctor activities for Quiz section
 • Hold Office hours
 • Grade Assignments
 • Attend Class

5.) How do you feel your position as a TA fits into the rest of your life and commitments? Why?
Good amount of work and responsibility. Feels like it fits in well – though sometimes there are lots of things going on, which can be overwhelming.

6.) Did you feel prepared before the quarter started? Was there any training you went through? If so, can you describe what was involved?
Well enough--had an orientation of the TA office room by the lead TA of where to find relevant material, how to use the copier, etc. and a conversation with the professor about expectations and the layout of the class.

7.) What sort of technology do you use in the classroom or outside the classroom for communication purposes? Do they effectively serve your needs? Why or why not?
Powerpoint-- look at a bunch of different kinds of maps; To do that as a class it is helpful to have the maps projected. Email mainly to communicate.

8.) Please describe a typical class – both lecture-style and/or quiz section if it applicable. What are you doing/how are you involved?
First check-in with the students with how they are feeling about lecture and explain things that are confusing or take feedback to the professor. Then do an activity that involves some lecture at the beginning and then working through an activity; this is either individual work or group work. Some weeks, proctor a quiz.

9.) How would you describe your experience as a TA overall? Positive? Difficult? Why?
It has been fairly positive-- have good support both from lead professor and from co-TA, as well as information/activities/handouts/quizzes passed down from the previous quarters that makes putting together the next activities/handouts/quizzes much easier than coming up with an assignment from scratch. (This isn't always the case with some of the other classes). Also have an advisor that believes TAing is a priority, so though research time has diminished they are not pushing too much; quite understanding.

10.) Anything else to add? Questions?
Nope!

References:

Poll Everywhere. (n.d.). Retrieved January 18, 2017, from https://www.polleverywhere.com

Shon, H., & Smith, L. (2011). A Review of Poll Everywhere Audience Response System. Journal of Technology in Human Services, 29(3), 236-245. doi:10.1080/15228835.2011.616475

Kappers, W. M., & Cutler, S. L. (2015). Poll everywhere! Even in the classroom: An investigation into the impact of using PollEverywhere in a large-lecture classroom. Computers in Education Journal, 6(20), 140-145.