

# Poll Everywhere: Year 1 Assessment

## Instructor and Student Use and Satisfaction

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## Introduction

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During the 2016-17 academic year, UW Information Technology, with support from the Office of the Provost, rolled out Poll Everywhere as the new enterprise classroom response system, replacing Turning Technologies. The choice followed UW-IT's efforts in early 2016 to better understand the CRS needs of instructors from a wide range of schools and departments, and to find a solution that would allow students to respond using their own portable devices rather than require purchase of a clicker.

In spring 2017, UW-IT conducted a second assessment of Poll Everywhere to understand how it was being used and to measure instructor and student satisfaction with the technology. The results, described in this report, indicate that overall Poll Everywhere is being used nearly equally in classes of all sizes (<50 students to over 100) with beneficial impacts reported by both instructors and students. Both groups of users find the technology easy to use and, though they made suggestions on how Poll Everywhere could be improved, they also reported high satisfaction with the technology.

## 1. Assessment

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We used a survey as our assessment tool, and designed it to capture information about:

- Where and how Poll Everywhere is being used (size of classes; classroom or conference setting; poll types used, etc.)
- Benefits and challenges experienced by instructors and students
- Satisfaction with Poll Everywhere

We sent a survey invitation via email to instructors and students on May 10, seven weeks into spring quarter. Our instructor list included those who had a Poll Everywhere account and had created a minimum of five polls (n=198). For students, we sent invitations to a sample of half of those enrolled in spring quarter classes whose instructors were using Poll Everywhere (n=5000). We had a 25% response rate for instructors (n=48) and a 14% response rate for students (n=698).

## 2. Participants

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Respondents to the instructor survey (technically those with a “presenter” role in Poll Everywhere) represented 12 academic areas. The majority of respondents came from Natural Sciences (31%), Medicine (20%) and Nursing (11%). Thirty-eight presenters reported using Poll Everywhere in the classroom, one reported using it for a training, and nine for an event/conference.

Student respondents represented 20 academic areas, with the greatest number from the Natural Sciences (27%), Engineering (14%) and Public Health (10%). Most respondents were Juniors and Sophomores (each 26%) and Freshman (24%).

Over half of instructor respondents (58%) had used Poll Everywhere two or more quarters. The remaining respondents (42%) were using the technology for the first time in spring 2017. This same percentage had not used any classroom response system previously, while a nearly equal number (46%) reported previous experience with Turning Technologies.

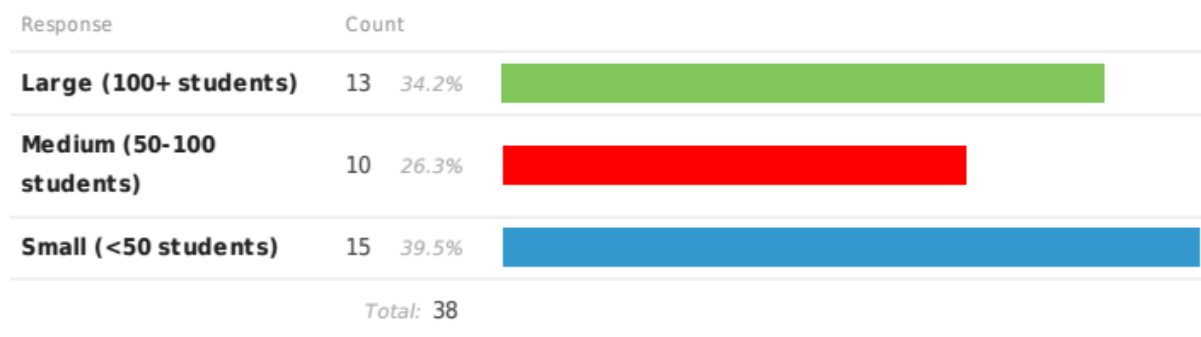
## 3. Poll Everywhere in the Classroom

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### 3.1 Class size

Of the 38 instructors who reported using Poll Everywhere in the classroom, the greatest number (40%) indicated that they were using the CRS in small classes (<50 students). A nearly equal percentage (34%) reported using it in classes with 100 students or more.

**What size is the class in which you are currently using Poll Everywhere? If you are using PE in more than one course this quarter, please describe the one with greater enrollment.**



Students were asked to respond to the survey with a particular course in mind, one in which they were currently enrolled and using Poll Everywhere. Most student respondents (70%) chose a large lecture class (100 or more students).

### 3.2 Purpose

When asked about use of Poll Everywhere in their selected course, instructors and students reported similar answers; students were more likely to report that the instructors in their selected course used Poll Everywhere to take attendance.

	Instructors In this specific course, how are you using PE?	Students In [course name], how does your instructor use PE?
Gauge understanding	90%	83%
Engage in lecture	90%	81%
Record attendance	26%	53%
Give quizzes	26%	28%

### 3.3 Frequency

Results from instructors and students indicated high use of polls in their selected courses.

	Instructors In this course, about how many polls do you create each week?	Students About how many polls for [course name] do you participate in each week?
11+	13%	24%
6-10	37%	38%
2-5	32%	33%
0-1	18%	5%

### 3.4 Types of Polls

Almost all instructors and students reported using or responding to multiple choice polls in their courses. The second-most common poll type—text entry—showed a significant drop in frequency, especially in responses from students.

	Instructors Which types [of polls] have you used?	Students What types of polls have you responded to?
Multiple choice	97%	99%
Text entry	53%	39%
Image click	21%	13%
Q & A	16%	10%
Ranking	24%	19%

### 3.5 Devices

Most students (60%) responded to in-class polls using a mobile app. Next most frequent were “website via laptop” (21%) and “website via mobile device (tablet, smartphone)” (18%).

### 3.6 Grading

For the 23 instructors who reported grading polls, most (91%) used the grading option for multiple choice polls. Only two instructors used it for image click. An additional three instructors reported that they were not aware of the option to grade these polls.

### 3.7 Surveys

About two-thirds of instructors (61%) were aware that they could use Poll Everywhere for creating surveys from scratch or from existing polls. Of those, an equal percentage (29%) reported creating “0,” “3-5,” and “6+” surveys with the tool.

## 4. Poll Everywhere for Conferences/Events & Training

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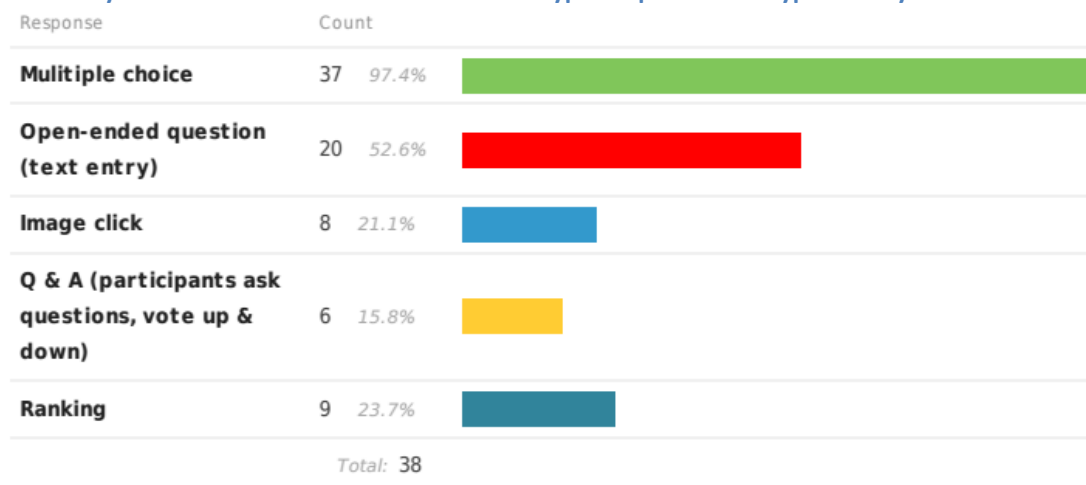
### 4.1 Purpose

For the nine survey respondents who used Poll Everywhere for conferences and events, all (100%) used Poll Everywhere for participant engagement.

### 4.2 Types of Polls

This same group reported using primarily multiple choice (89%) and open-ended questions (56%) for their work.

Poll Everywhere allows users to create different types of polls. What types have you used?



## 4.3 Surveys

Among the nine event/conference organizers and one training organizer who participated in the survey, seven (70%) were aware they could create Poll Everywhere surveys from scratch and from existing polls. Of these, three indicated they had created “6+” surveys; the others reported “3-5” and “0” (two each).

# 5. Impact of Poll Everywhere on Teaching & Learning

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## 5.1 Impact on Teaching

Classroom instructors were asked what changes, if any, they had made to their teaching as a result of using Poll Everywhere. The responses from 35 instructors fell into three categories: more active learning; improved student understanding; and Poll Everywhere functionality.

The changes instructors made to their teaching primarily involved lecturing less, engaging students more through questions, and using active learning strategies such as think-pair-share.

- *Yes -- this has helped me create more interactive lectures, so now I try to plan to include a poll or two in each one*
- *Yes, i do not lecture any more, I facilitate interactive questions with the students. They are more engaged*
- *Ask students to think about issues before I explain them.*
- *I often use the PoLEV to seed think-pair-share activities. I also use it to adjust lecture pace and spend time on topics that showed poor polling responses.*

Classroom instructors also saw the value of Poll Everywhere to check student understanding, respond to misconceptions, and review material:

- *Incorporate more opportunities to gauge student understanding using quick polls/quizzes. in the past, this was difficult to do in large groups, but now I can post a quick set of questions and have students respond to identify what they understood and what may need additional discussion*
- *Use of in-class polling...The Q&A feature has been AMAZING for finding out what students are still confused about.*
- *I like how PollEv can engage students during lecture and also serve as a form of "just-in-time" teaching. It's also a great way to collect anonymous feedback about how the class is going, guest lectures, etc.*
- *Yes, instead of having students answer questions for themselves, or straight review, we can review by asking students questions through poll everywhere*

Some changes teachers noted had to do with Poll Everywhere's functionality and issues with wifi:

- *We grade polling results as part of student grades. We have also had a great deal of connectivity issues. This means that students often are spending cognitive space worrying about points instead of being fully engaged in the polling activity. As far as teaching practices - I am having to spend more time inside and outside of class easing student fears about losing points due to an unavoidable loss of wifi connection. I should mention that this has been much improved in spring quarter.*
- *I don't use images on the question slide compare to Turning Technologies, they load too slow.*
- *Yes, I would have to use more concise sentences in order to make the word fonts showed [sic] on the screen big enough for students sitting at the back rows.*

## 5.2 Impact on Student Behavior

When classroom instructors were asked whether they had noticed any effects on their class (positive or negative) as a result of using Poll Everywhere, most of the 36 respondents noted positive effects:

- *I seem to get more questions from students than I used to, and from more types of students than I used to. I also have much better attendance than in previous quarters.*
- *Qualitatively... Yes! I get opinions from everyone which means students have to be engaged and not "checked out" during lecture.*
- *I believe it keeps students active. I can 'push them' with the polling and stimulate discussion.*
- *They smile*
- *Somehow seems to create a more relaxing atmosphere in class.*
- *Students love the Q&A feature.*
- *Less complaining about the technology than when we used clickers*

The few negative responses were in regard to student cheating and concern for technological distractions in the classroom:

- *One major issue we've had is cheating - students are texting results to students that are not in the class so that they can earn course points.*
- *Compared to clickers, pollev allows cheating (looking at neighbor screens, responding from home)*
- *Students having their phones out during class is not always a good idea*
- *Some students really like it, but others are frustrated that it requires technology and that it's associated with a grade.*
- *Negative because there are more technical problems than there used to be with TurningPoint*

### 5.3 Impact on Student Learning

Students were asked to rate their agreement with a series of statements on Poll Everywhere. The results suggest a strong positive effect on students’ learning and behaviors that support learning.

- 93% of students either “agreed” or “strongly agreed” with the statement, “The use of Poll Everywhere makes lectures more engaging.”
- 92% “disagreed” or “strongly disagreed” with the statement, “Poll Everywhere is a poor use of class time.”
- 86% of students either “agreed” or “strongly agreed” with the statement, “The Poll Everywhere polls help me better understand course content.”
- 89% of students either “agreed” or “strongly agreed” with the statement, “The use of Poll Everywhere makes me more likely to attend class.”

Variable	Strongly agree	Agree	Disagree	Strongly disagree	
<b>The use of Poll Everywhere makes lectures more engaging</b>	229 33.2%	409 59.4%	40 5.8%	11 1.6%	Total: 689
<b>Poll Everywhere is a poor use of class time</b>	13 1.9%	42 6.1%	429 62.3%	205 29.8%	Total: 689
<b>The Poll Everywhere polls help me better understand course content</b>	170 24.7%	421 61.1%	87 12.6%	11 1.6%	Total: 689
<b>The use of Poll Everywhere makes me more likely to attend class</b>	362 52.5%	254 36.9%	62 9.0%	11 1.6%	Total: 689

The open-ended responses provide more details on these results. Students were asked to describe any impacts use of Poll Everywhere had on the way they learn or study. Most common among the 591 write-in responses was the impact Poll Everywhere had on helping students solidify understanding of course content in class. This happened in multiple ways:

Questions in Poll Everywhere helped students recall information as well as apply what they learned in lecture.

- *It has made me remember the content taught in previous lectures.*
- *Helps to explain the concepts with real world questions and answers so it applies more to the class.*

Other students appreciated the polls because these gave them real-time feedback on whether or not they understood the lecture content.

- *It's helpful in checking my understanding of the material. If I solve a question and answer incorrectly, I can ask my professor in lecture the reasoning behind the right answer.*
- *Helps me understand the content being taught right then and there as a check-in to see if I'm actually understanding.*

Additionally, use of Poll Everywhere helped promote interaction with classmates and provide students additional ways to assess and deepen their understanding.

- *It allows me to work through questions with my neighbors in order to talk about the different topics.*
- *I like that we've used Poll Everywhere to prompt discussions with our peers during the lecture*
- *The poll questions help me learn in class! This way, I get to try on my own first to test my own understanding; then I get to collaborate with classmates so that I can get second points of views and opinions to further understand.*
- *Word clouds from open ended questions help me understand how other people are understanding the course*

And further, use of Poll Everywhere kept students engaged in lecture:

- *It's helped me stay engaged in class and check my learning as I go throughout a lecture.*
- *It allows me to stay focused in class instead of getting distracted.*

Some students used Poll Everywhere to review course material.

- *I've practiced the questions again when I'm watching panopto recording to see if I did understand the poll.*
- *The questions are good practice questions to refer to later.*
- *It helps me figure out what in the lecture I need to review again when I get home.*

For students who felt Poll Everywhere impacted their attendance in lecture, the use of polls incentivized them to go to class:

- *I definitely try to attend lecture more and pay closer attention because I know I will be graded on the polls.*
- *Forces me to attend classes, prevents me from falling asleep due to active participation.*
- *It's made me more likely to attend lecture and do practice problems.*



Students felt motivated to prepare for class as a result of Poll Everywhere, because they wanted to ensure their understanding and/or get points/grades.

- *[I]f I do not understand an answer to a poll but my classmates do, it motivates me to prepare the material in preparation before class.*
- *It motivates me to study so I can do well on the poll everywhere questions and receive points.*
- *If the polling questions are counted for accuracy, it makes me study and come prepared to class.*

Some students also commented on Poll Everywhere's improvement over Turning Technology, such as clickers.

- *I like that it's free.*
- *I screenshot polls to save into my notes because I didn't know there was a response history section to the Poll Everywhere. Overall, it's been a good experience! I like it better than the clickers!*
- *It is a more accessible, easier, and cost effective way as compared to clickers. Also, it is better with helping to review response history.*
- *Overall, I think PollEv is a very effective tool, and much more interactive than clickers. It's also very convenient that PollEv can be used from a variety of devices, whereas if you forget your clicker, you're screwed.*

## 5.4 Impact on Review

Students were asked if they had reviewed their response history in Poll Everywhere as a means of studying or preparing for an exam. Of the 235 who answered that they had reviewed their response history, 227 wrote in about the impact response history had on their exam prep. Many noted that it was helpful to have this option as a quick way to narrow down study topics:

- *Helps me to narrow down the topics discussed in lecture and focus on studying those, not waste studying time*
- *It was beneficial to see what were the most significant concepts to repeat over again.*
- *It helped a lot. For example it reminds me of some of the material the professor wanted to highlight and reviewing the possible answers and why some are incorrect vs correct really help to reinforce or refresh my understanding of the material.*
- *It is great knowing what kind of questions an instructor is likely to ask on an exam AND looking back on what types of information they've covered through the app.*

Some students indicated that reviewing the response history helped them double check their understanding:

- *Double check my notes, get what I didn't write down.*
- *I had to rethink my logic for wrong answers and right answers.*

- *It allowed me to reflect on my answers, whether they were right or wrong and correct the answer if it was wrong once I had studied more.*
- *It helped me understand the correct answer to the question, and how the teacher writes his questions.*

Some also pointed out the limitations of using the Poll Everywhere response history, primarily limited content for review, such as only the correct answer or only the student's response, which may or may not have been the correct answer.

- *It helped a little bit, the only bad part was that you can only see the right answer and not the other options on your poll history*
- *The review was truly ineffective. At least in our class, the Poll Everywhere questions do not have a record of the answer bank or the correct answer if my answers are wrong. This is truly counter-intuitive.*
- *Wasn't helpful, too little context and slides don't show questions fully when exported.*

For the 420 students who answered that they had not reviewed their response history, 398 wrote in what effect such a review would have for them. A majority felt the review of a response history would *not* be beneficial, based on the way instructors use it in class:

- *No, most instructors don't have the questions on Poll Everywhere, just the responses, which isn't very useful.*
- *Not really, because it doesn't show the method of solving the problem, just the answer.*
- *No - most questions on Poll Everywhere thus far have only asked for my opinion on material that had already been discussed in class and did not bring up any new points or restate the material for better understanding.*
- *I don't believe so. Usually poll everywhere is used by our professor to simply gauge what knowledge we have about a topic before we start learning about it in class.*

Students who felt that reviewing the response history would be beneficial noted that would likely allow them to review past course material, check their understanding, and review questions likely to be seen on an exam:

- *I do think it would have benefitted me to review my response history because it would allow me to go back and see what answers I got wrong and why it was wrong and which answers were right and why they were right. Also, it would be a great study method when reviewing for exams. I was unaware that we could go back and look at my responses, but now I would want to review my history and review the concepts to do better and remember content.*
- *Yes. Most professors do not include the Poll Everywhere question slides on the lectures they post online, so I feel like I'm missing material to study.*
- *Sure. Since some questions are checking your knowledge, I'm sure they would prepare me for an exam.*

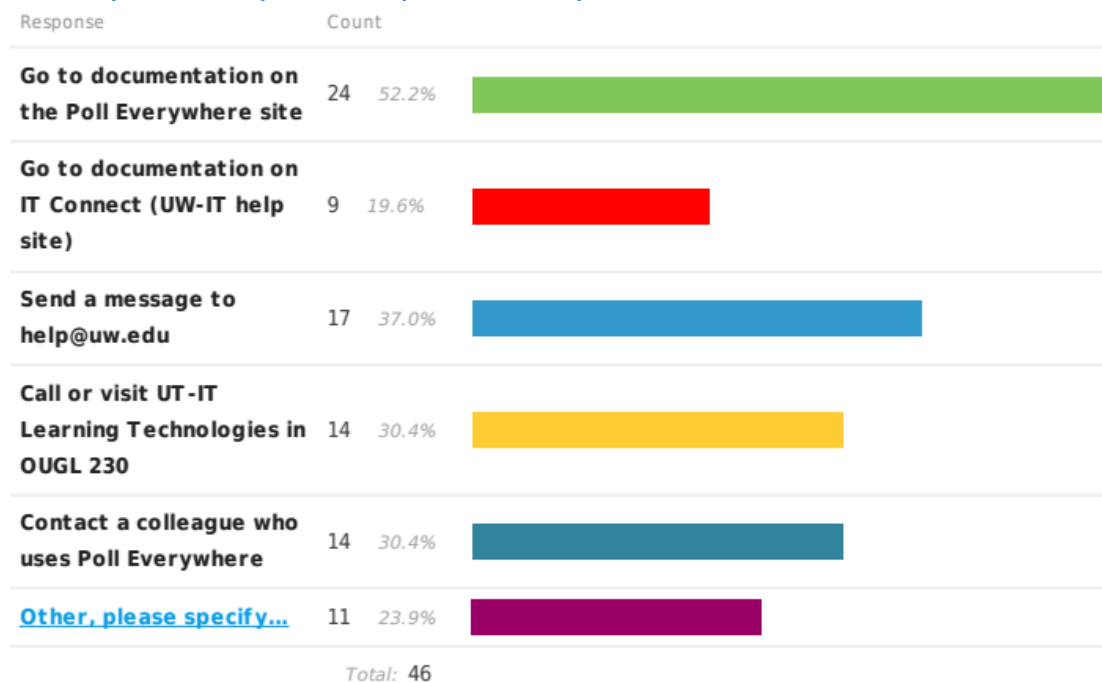
## 6. Support and Training

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### 6.1 Accessing Support for Poll Everywhere

When instructors need help with the technology, they access a variety of resources. Just over half (52%) reported that they “go to documentation on the Poll Everywhere site.” Over a third (37%) reported that they “send a message to help@uw.edu.” Just under a third (30%) indicated that they either “call or visit UW-IT Learning Technologies in OUGL 230” or “contact a colleague who uses Poll Everywhere.”

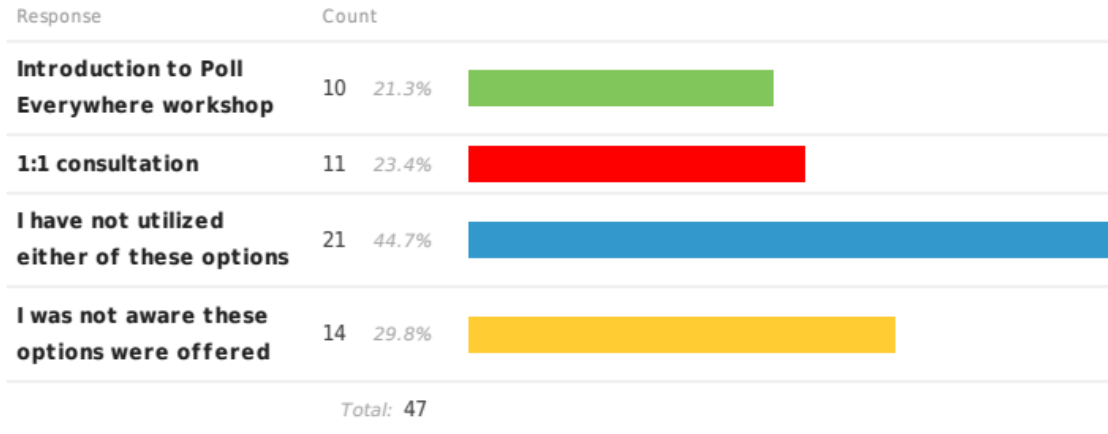
#### What do you do when you need help with Poll Everywhere?



Where instructors indicated “Other” forms of finding help, these included Google, the IT Connect help site, or a department Poll Everywhere liaison.

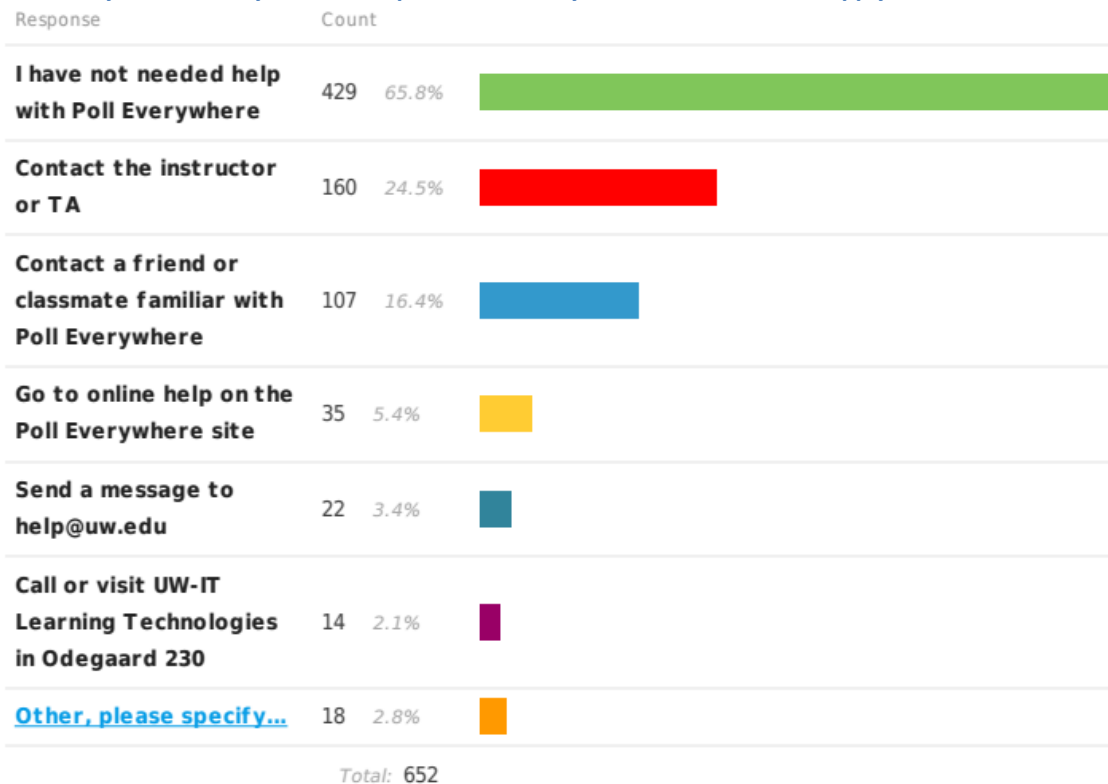
Most instructor respondents (45%) reported that they had not utilized either the 1:1 consultations or Intro to Poll Everywhere workshop offered by UW-IT Learning Technologies. In addition, 30% of respondents indicated that they were not aware these support options were offered.

UW-IT Learning Technologies offers a workshop as well as 1:1 consultations on Poll Everywhere. Which of these support options, if any, have you utilized?



A large majority of students (66%) reported that they have not needed help with Poll Everywhere. Those who did primarily “contact[ed] the instructor or TA”(25%), or “contact[ed] a friend or classmate familiar with Poll Everywhere” (16%).

What do you do when you need help with Poll Everywhere? Select all that apply.



“Other” forms of help described by students included using a link provided by the instructor “to the UW-IT instruction page for Poll Everywhere,” or more passive solutions; as one student wrote, “[If] other people in the class also have the same problem...I would just wait and see what the teacher says.”

## 7. User Experience

### 7.1 Ease of Use

Students were asked to rate their experience completing different tasks in Poll Everywhere.

- A majority of students (58%) reported “no problems” logging into Poll Everywhere. Close to 40% reported “minor problems.”
- Nearly 80% of students reported “no problems” finding their instructor’s poll session.
- Over a quarter of student respondents (27%) selected “not applicable” in regard to looking up their response history. Of the 477 students who had used this feature, 76% indicated they had “no problems” doing so and 18% reported “minor problems.”
- Similarly, 19% of respondents selected “not applicable” to using the Poll Everywhere mobile app. Among the 531 students who had, 63% reported “no problems” using the app, and 33% reported “minor problems.”

Please rate your experience with the following in Poll Everywhere:

Variable	No problems	Minor problems	Major problems	Not applicable	
<b>Logging into Poll Everywhere</b>	380 57.9%	261 39.8%	13 2.0%	2 0.3%	<i>Total: 656</i>
<b>Finding your instructor’s poll session</b>	520 79.3%	129 19.7%	7 1.1%	0 0.0%	<i>Total: 656</i>
<b>Looking up your response history</b>	363 55.3%	86 13.1%	28 4.3%	179 27.3%	<i>Total: 656</i>
<b>Using the Poll Everywhere mobile app</b>	336 51.2%	174 26.5%	21 3.2%	125 19.1%	<i>Total: 656</i>

### 7.2 Satisfaction

Presenters (all respondents to the instructor survey, including those using it for a conference/event or training) were asked slightly different questions targeted to their experience with Poll Everywhere. Their answers suggest a high degree of satisfaction with the tool. One question asked presenters to rate their satisfaction with various aspects of the technology.




- Taken together, 87% of respondents reported that they were “satisfied” or “very satisfied” with Poll Everywhere’s reliability.
- Even more (94%) indicated that they were “satisfied” or “very satisfied” with the ease of creating and administering polls.
- Nearly half of respondents (46%) indicated that creating and importing course lists in Poll Everywhere was not applicable to them. Of the 25 respondents who reported using this feature, 20 (80%) reported that they were “satisfied” or “very satisfied.”
- Similarly, over half (59%) indicated that exporting scores to Canvas was not applicable to them. Of the 19 respondents who rated this feature, 12 (63%) reported being “satisfied” with this functionality.

**In general, how satisfied are you with the following aspects of Poll Everywhere?**

Variable	Very satisfied	Satisfied	Dissatisfied	Very dissatisfied	N/A	
<b>Reliability</b>	18 40.0%	21 46.7%	3 6.7%	3 6.7%	0 0.0%	Total: 45
<b>Ease of creating &amp; administering polls</b>	16 34.8%	27 58.7%	2 4.3%	1 2.2%	0 0.0%	Total: 46
<b>Ease of creating &amp; importing course lists</b>	7 15.2%	13 28.3%	3 6.5%	2 4.3%	21 45.7%	Total: 46
<b>Ease of exporting scores to Canvas</b>	0 0.0%	12 26.1%	6 13.0%	1 2.2%	27 58.7%	Total: 46

When asked if they would recommend Poll Everywhere to a colleague, over three-quarters of respondents (77%) said “yes,” and only one said they would not.

**Would you recommend Poll Everywhere to a colleague who was interested in using a classroom response system?**

Response	Count	Percentage	Bar
<b>Yes</b>	36	76.6%	
<b>No</b>	1	2.1%	
<b><u>It depends (please specify)...</u></b>	10	21.3%	
Total: 47			

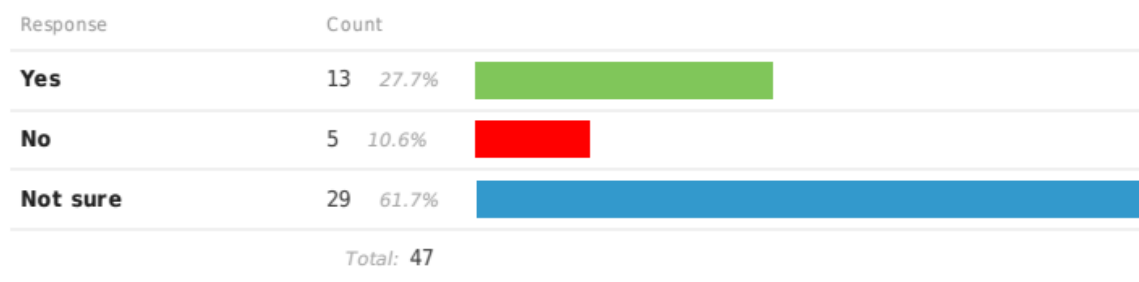
About one-fifth of respondents (21.3%) selected “It depends...” and described their reasons:

- *If they need opportunities to test low-level (i.e. memorization) learning.*
- *If they need something cheap and lightweight, then PE is a good solution.*

- *Issues with cheating in large classes and students distracted by screens.*
- *I suggest that my colleagues format their questions/answers like I do (most of the info is on the PowerPoint slide, with only the skeleton in Poll Everywhere), which means that they can't use Presenter Mode. For some instructors, not being able to use Presenter Mode is a deal killer.*
- *It would be app/computer dependent as not all classrooms have the poll everywhere app downloaded and/or have internet options.*

The same group was told that Poll Everywhere has been working to improve the user experience for teaching and learning. They were asked if the vendor's efforts made a difference during the time they had used the technology. Possibly because many respondents were using Poll Everywhere for the first time, most (62%) indicated that they were "not sure" that the vendor's efforts had made a difference during the time they had used the technology, although over a quarter (28%) responded "yes," it had.

**Poll Everywhere has been working to improve the user experience for teaching and learning. Have their efforts made a difference during the time you've used Poll Everywhere?**



## 8. Improving Poll Everywhere and its Use

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### 8.1 Feedback from Instructors

Instructors were asked if there was anything they would like to do with Poll Everywhere but were not able to do. Responses from the 25 instructors who wrote in suggestions primarily addressed grading functionality. Other comments addressed formatting issues, or features that would increase efficiency or ease of use.

In regard to grading functionality, instructors described ways they wanted to expand Poll Everywhere's capabilities for grading and possibly thwart cheating.

- *There is not an easy way to grade a "select all that apply" question.*
- *Make questions with multiple correct answers. Download a report of Q&A questions that includes the up/downvote data.*

- *Have multiple choice questions and the student has to choose two options - and the credit for each option is added up to make the grade for the question.*
- *I'd like to create two versions of a question and have half of the class receive one version and the other half receive the other version.*
- *The clickable image is too specific sometimes. I wish there was a way to give a point just for participation, regardless of the click (i.e. On the world map), but it won't give points if someone is outside of the clickable area.*
- *I would like to be able to set the default points for correct answers (I use 2) and incorrect answers (I use 1)*
- *"Grade" other types of polls so students can get credit for responding to short answer or word cloud. Restrict poll responses to just students in the room.*
- *Require in-class attendance to respond to polls.*
- *I would love it if students were able to see their participation percentages and the class polls they did NOT respond to so they can accurately gauge their participation rate. It would also be great to be able to filter later polls by the results of earlier polls or by demographic student information (e.g., sort responses to Poll 2 by how they answered Poll 1, or by Male/Female). Better integration with Canvas, especially when using a customized grading scale (e.g., 80% participation = 5 points) would be great.*

Some instructors reported problems with grade reports:

- *The grading reports have been buggy. I see who answered the question correctly, but it doesn't assign points properly.*
- *Exporting grades to a spreadsheet still has some bugs. The list doesn't quite match with the order displayed in Canvas.*

For instructors who described things they wanted to be able to do in Poll Everywhere that were not related to grading, most wanted control over formatting:

- *Add an image in the instruction view setting for open-ended questions. I can do it for multiple choice but don't see the instruction view option for open-ended polls. I know I can add an image to the title bar but it is too small and I don't want to insert as a background image.*
- *More control over layout. Easier manipulation to show or not show results.*
- *Have an easy interface to include graphics in poll questions without embedding jpegs.*

Others described additional features that would make their work easier and more efficient:

- *On reports, instead of the words of response, I would like to just see the number or letter for easier viewing. I would also like to be able to increase the font size when showing the answer responses.*
- *I would like a timer feature, so that when you publish the poll it times out after a prescribed time. I miss this feature, which was available in Turning Technologies system.*



- *Would like to be able to use open-ended poll responses to take attendance -- I can download a list of respondents and cross check this with my roster, but this is a bit of a kludge.*
- *When I embed the question in PowerPoint, I can't figure out how to activate it directly without coming out of presentation mode and going back into Poll Everywhere.*
- *Because of how I format my questions/answers (I put the words in my PowerPoint slides rather than in Poll Everywhere) I'm not able to use Presentation Mode. To me, that's a significant downside of the system.*
- *There are courses where each quarter has different TAs. When instructors are not changing the teaching materials, it would be really helpful if Poll Everywhere can let previous TA pass on the existing surveys to the next TA. It would save a lot of time for people!*

## 8.2 Feedback from Students

Students were asked if there was anything more we should know about their experience with Poll Everywhere. Many of the comments included suggestions for improving the technology and user experience.

Suggestions for features or fixes to Poll Everywhere ranged from a more complete response history to poll organization by course and adding timers to polls.

- *The response history needs to be worked on. It needs to separate the history between classes or make it obvious which questions are for each class. My biggest problem with Poll Everywhere is that you cannot see the entirety of the question with all the multiple choice options. It only shows you what you chose so you can't even go back in and look at what the correct answer was.*
- *It would just be nice to see the entirety of the polls answered and if those were broken up by the polling name/ class session.*
- *It would be nice if we saw all the options for answers to questions. That would be more helpful to review especially when it's content we learned in the beginning of the quarter. That way it would be helpful to study for the final.*
- *Some professors often give little warning when shutting polls down. A countdown is always helpful.*

Some students described difficulty in logging in to Poll Everywhere or answering specific question types, either because of problems using the mobile app or poor wifi connection.

- *It's really hard to log in when using the mobile app.*
- *I use Poll Everywhere on my phone and sometimes I am not able to complete the ranking questions as I cannot "shift" the responses to correspond to my ranking.*
- *I didn't have space on my phone or the ability to bring a laptop to class, so I used the text based Poll Everywhere. This prevented me from participating in point and click questions, along with questions where I needed to rank in order.*

- *Sometimes my device doesn't stay connected, which means I could miss a poll question. Or once the next poll wouldn't load for anyone at all in the entire classroom.*
- *Cell service in the building is crappy. Poll Everywhere requires me to bring a computer I wouldn't otherwise.*

Students compared Poll Everywhere to other classroom response systems. Some students wanted Poll Everywhere to be more widespread, while others wanted Poll Everywhere's functionality to match the system used in Physics classes.

- *The physics 12x series uses Learning Catalytics, which allows the teacher to assign us into groups based on our seating and shows us statistics on how many people chose each answer. I wish Poll Everywhere had that same functionality.*
- *More classes should use it. Especially for physics that system does not work. Bio should use it as well if they haven't switched over already.*
- *It would be nice to have the answer display on the app post question round closing. I have other apps used in class that do the same and it makes the application of concepts all the more beneficial if we can evaluate the validity of our answers.*

A common concern was the ability to cheat with Poll Everywhere. Some students recommended adding features that would block answers or make it difficult to submit them remotely.

- *It's easy to glance at someone else's and see their answer. A hiding of answers out of x amount of time would be good. Professors count too much toward grade v participation.*
- *It is technically possible to login to polls remotely and not be in lecture so maybe check locations?*

Some students expressed confusion about how Poll Everywhere functions, specifically logging in or navigating to response history. Students recommended having Poll Everywhere tutorials for instructors or "quick guides" for both instructors and students to learn about the technology.

- *For UW students, logging in is a mystery. In order to log in, I have to manually type in my UW address into the Username bar, hit enter, only for it to fail and give me a link to the Single-Sign on page, which is not linked anywhere on the freaking website.*
- *I'm not sure how to check my response history on Poll Everywhere.*
- *I should be able to look up all the courses.*
- *I like it, but some of the instructors could use some training with it to make it go smoothly.*
- *Teach the teachers about its functions other than repetitive multiple choice questions.*
- *I think a quick guide given to students and instructors are important to have because I think a lot of instructors also students are not familiar with it. I think this a great task IT could help with.*

A few students who were both students and instructors described problems using Poll Everywhere when they had both roles.

- *It's confusing to switch between teacher mode and student mode. I TA'd fall quarter ENVIR 100, but also took a class where I was participating as a student in polls. I may have just made a new account - I don't remember how I resolved this.*

## 9. Conclusions

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### 9.1 Usage of Poll Everywhere

Survey results indicate that Poll Everywhere is being used at UW primarily in the classroom, but also for events and conferences. Instructors are using it in classes of all sizes, and they're using it frequently; nearly 70% reported that they created between 2-5 and 6-10 polls a week. Most common are multiple choice polls, used by almost all instructors. Instructors reported using text entry polls nearly half as often, and half again for ranking and image click polls, a pattern confirmed by student survey responses.

### 9.2 Impact on Teaching and Learning

Whatever types of polls they're using, however, UW instructors appear to be putting Poll Everywhere to use as intended, primarily in service of learning goals: Ninety percent of instructor respondents reported using Poll Everywhere both to engage students in lecture and gauge their level of understanding, while about a quarter reported using it to administer quizzes or take attendance. Use of the technology has had a positive impact on both teaching and learning.

Instructors reported more interaction with their students, a better sense of where students were confused, and an ability to address misconceptions during class through targeted teaching and review. They also noted increased engagement by students, a more "relaxed" classroom environment where "students smile," and "more types of students" feel free to ask questions. While a few noted the propensity for students to cheat using Poll Everywhere, or to be distracted by their mobile devices, most comments were positive.

Students were equally positive about the impact of Poll Everywhere on their learning, and their comments echoed those by instructors. A large majority described how the technology helped them solidify their understanding of course content--through recall and application of material, immediate feedback on where they had misunderstandings, and review of course material ahead of exams. Students reported more engagement with the lecture, and appreciated opportunities to interact with their classmates when instructors made responding to polls a collaborative activity. While some students complained about instructors using Poll Everywhere to take attendance, other students wrote that it incentivized them to come to class and arrive better prepared.

## 9.3 Support and Training

Survey results suggest instructors and students especially had little need for support in using Poll Everywhere. When they did need help, about half of instructor respondents (52%) reported that they went to documentation on the Poll Everywhere site, indicating a sense that they could independently find the information they needed. Other popular sources of support, selected by about a third of respondents, included contacting [help@uw.edu](mailto:help@uw.edu), calling or visiting the office of Learning Technologies in Odegaard, or contacting a colleague who also uses Poll Everywhere.

Just over 20% of respondents indicated that they had attended either a workshop or a one-on-one consultation with Learning Technologies' staff. Of the 45% who reported they had utilized neither of these options, two-thirds indicated that they were not aware that these options were available.

Students appeared to find Poll Everywhere easy to use. Sixty-six percent of students reported that they did not need any help with Poll Everywhere. When they did, students appealed to the instructor/TA or a classmate for support, and this was apparently sufficient. In addition, when asked about specific tasks (logging in to Poll Everywhere; finding their instructor's poll session; looking up their response history; using the Poll Everywhere mobile app), a large majority of students reported that they had no problems or only minor problems completing them.

## 9.4 Satisfaction

Instructors indicated a high degree of satisfaction with various aspects Poll Everywhere--specifically, its reliability and ease of use in creating and administering polls, creating and importing course lists, and exporting scores to Canvas. Not surprisingly, given these results, three-quarters of respondents to the instructor survey reported that they would recommend Poll Everywhere to a colleague.

However, both instructors and students provided feedback on what they would like to see in terms of improvements to the technology and/or to its use. Instructors primarily wanted to expand Poll Everywhere's capabilities in terms of grading, and have greater control over formatting or features that would make using the tool more efficient. Students primarily wanted a more complete response history, better organization of polls by course, and some way to tell how long they had before a poll shut down. Both instructors and students were unhappy with the potential for cheating with Poll Everywhere, either by students logging in remotely or simply by peering over at another student's answer in class.

# 10. Recommendations

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Overall, the results of the survey suggest that Poll Everywhere is meeting the needs of UW instructors and students quite well. A number of features requested by instructors and students already exist in Poll Everywhere, suggesting that better education about Poll Everywhere's capabilities is needed. These features include the ability to:

- Create questions with more than one correct answer
- Set different point values for correct and incorrect responses
- Set a timer feature that closes a poll after a prescribed time period and communicates time remaining to students
- Create a report of submitted Q&A questions along with their ratings
- Save and transfer polls to another (for instructors and TAs teaching the same course)
- Format text (change typeface, font size, etc.)
- Effectively implement Poll Everywhere polls within PowerPoint

UW-IT and Learning Technologies are planning an event with a Poll Everywhere account representative for early January 2018. At this onsite feedback session, UW faculty and staff will have the opportunity to talk about their experiences with Poll Everywhere and request additional features they would like to see in the tool. This will be an opportunity for coordinators to educate participants about existing features as well.

Furthermore, Poll Everywhere is currently working on two recommendations that would improve the student experience:

- **Develop a more complete response history** so students are able to see the question, all possible answer options, their original response, and the correct answer(s).
- **Better organize polls by course** to make them easier for students to find.

Poll Everywhere's solutions are expected in summer 2018.

Finally, Poll Everywhere is looking into the feasibility of location-specific poll restrictions, which may address concerns about cheating by students not physically present in class.

## 10.1 Support for Instructors and Students

In this section we offer a number of recommendations that might further improve users' experience with this technology.

- **Help instructors understand the full range of functionality available with Poll Everywhere.** As noted above, some of the functionality instructors requested already exists with the tool, so this may require getting the word out beyond documentation and workshops.
- **Help instructors understand the range of poll types** and how they may be used for different purposes to support teaching and learning.
- **Provide best practices for instructors who wish to track grades** on polls or poll participation and also use Canvas.
- **Provide student instructions on how to log in to Poll Everywhere and navigate to response history**, possibly an FAQ that instructors can share with students.
- **Provide specific instructions for students who are both a student and TA** on how to log in to/manage polls in Poll Everywhere.

