

Creating Connection Between Virtual Learners

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Table of Contents

Introduction.	1
Evaluating the Options.	2
Core Features of Our Persistent Polling Solution	3
Two Engaging Designs	3
Persistence	4
Zero Additional Cost	4
Additional Audience Insights	4
Implementation.	4
References.	4

Introduction

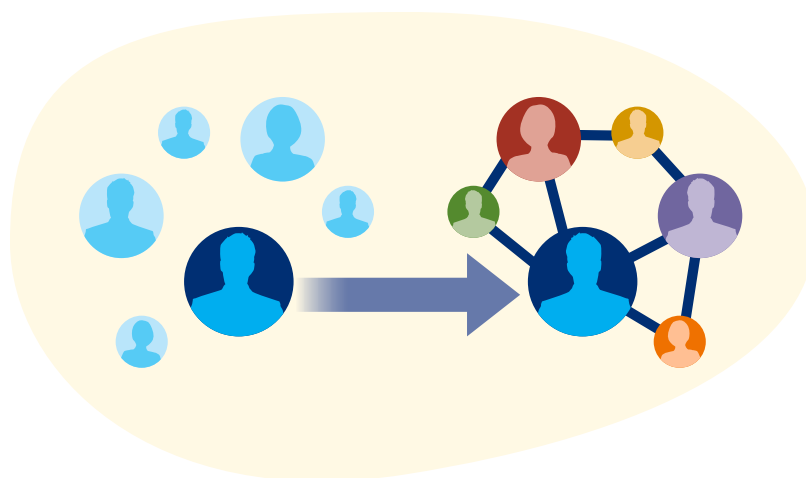
Over the past decade, modern web-based communication platforms have made virtual social connections feel commonplace. Many of us spend our days shifting between a variety of online tools and platforms—including video conferencing platforms such as Zoom and Skype, collaboration platforms such as SharePoint and Teams, and social media sites such as Twitter and Facebook—that facilitate connections with our peers. However, most web-based training courses, *no matter how interactive they might be*, are designed to be taken in isolation. Even if hundreds of your peers were taking the same course simultaneously, you would never know it. They are an invisible cohort.

The advantage of web-based courses built with software such as Adobe Captivate, Articulate Rise, or Storyline is that they can be taken by the learner whenever and wherever it suits them. These courses often incorporate gamification or other features that address the motivation and reward aspects of social learning. However, many web-based training courses fail to address another central tenet of modern social learning theory: using interaction and observation of other learners to obtain context and emotional connection (Spencer, 2015).

Although people are obviously capable of learning in isolation, concepts of belonging have a significant impact on learner motivation and engagement (Tinto, 2016). In terms of web-based training, this means that finding ways to connect the learner to their invisible cohort of peers will help them engage more deeply with the content. By far, the simplest way to do this is by leveraging polls in which the results are transparently and immediately displayed.

Polls are one of the oldest forms of interactivity on the web, but there are technical challenges to implementation in the context of a web-based training course. In order to store and report learner responses, web-based polls require the capability to write and query information from a database. For this reason, authoring platforms such as Adobe Captivate and Articulate Storyline have never been able to incorporate polling into their products as a basic feature; as a consequence, polling is uniquely absent from most content created using the leading e-learning development platforms.

We therefore refer to polling functionality as the “**missing feature**” across the whole industry of web-based training development platforms. With this paper, we propose a solution to address this missing feature: embedded polls that give the learner a real sense of how their own responses fit within the larger cohort of their peers. The feedback received in terms of cohort polling responses lets learners know that they are not taking the course alone.



Evaluating the Options

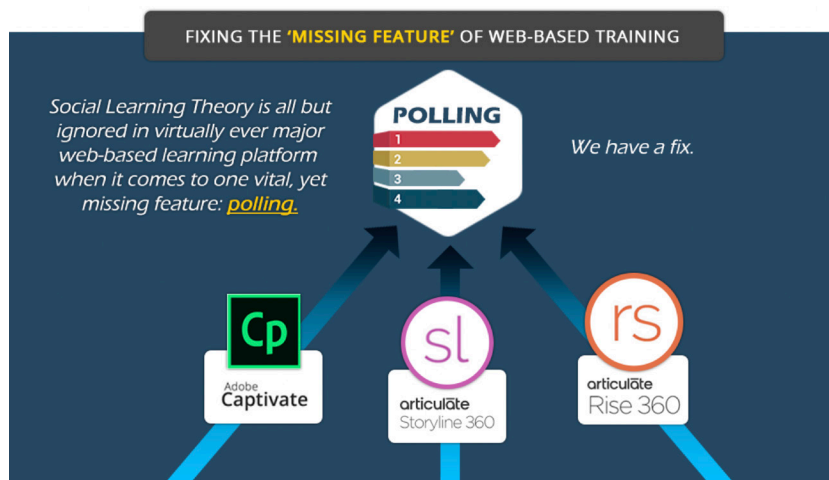
Econometrica consistently strives to improve the training we deliver. After seeing a marked improvement in engagement from social polling in our live in-person and webinar events, we decided to explore potential avenues of implementing this missing feature in our on-demand, web-based training products as well.

Our technical requirements included a solution that would allow us to create stand-alone polls that could be embedded directly into another web page (i.e., one of our training courses built in Articulate Rise or Storyline). It was vital that the polls fit seamlessly within our courses, without the learner needing to leave the lesson or open a new tab. Other requirements included:

- Simple setup and editing of polling questions.
- Clean and attractive question look and feel.
- White label functionality (i.e., no display of third-party logos).
- Ability to host an unlimited number of polls running concurrently.
- Ability to embed polls into another web page (e.g., a training course).
- Polls must be able to remain open indefinitely.
- A platform that is stable and secure over time.

In our research, we evaluated more than a dozen web-based polling platforms that could offer custom, embeddable polls. We were able to quickly disqualify most of these platforms for failing to meet one or more of our core requirements. Some solutions met our technical requirements but proved cost-prohibitive or carried a risk of relying on a third party to host content that would then be embedded within our training products. In this scenario, if the service provider made significant changes to their framework or ceased to operate or support the polling utility, all of the polls within our training could break simultaneously or the polling results data could be permanently lost.

Ultimately, we opted for a solution that would provide us with full control over the life cycle of these web polls. We licensed the code to a simple, yet elegant, self-hosted polling solution for a one-time fee of less than \$50. Because the polling software and database run on our own web servers, we have eliminated the risk of a third-party provider taking their service offline.



Core Features of Our Persistent Polling Solution

Two Engaging Designs

From a design perspective, polling questions are not overly complicated. What we had hoped to develop was a simple, attractive look and feel for our social polls that would fit naturally within the context of the types of web-based trainings we typically develop. In the end, we designed two different question layouts.

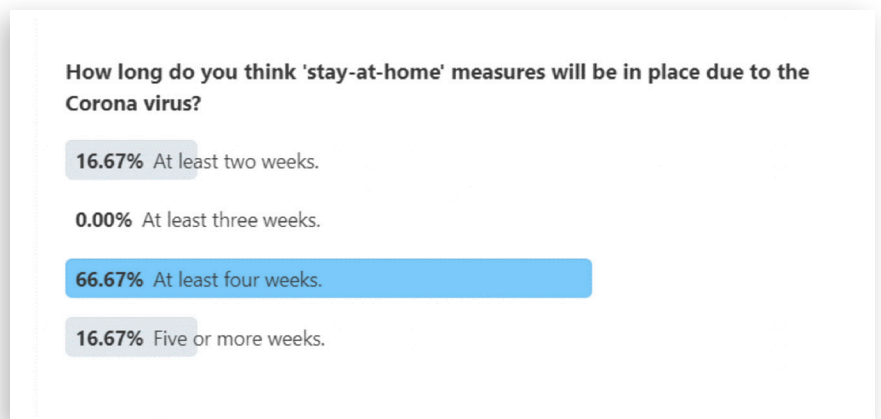
The first is a traditional multiple-choice question. Here, the user is asked a question and given a number of options from which to choose. Once they have made their selection and clicked the “Vote” button, their choice is registered with the database, and the overall results are shown and tabulated. The user’s own answer is highlighted so they can easily see how their response compares to the votes of their peers.

Our second template is a more visual presentation for questions that have only two response options. Like our first question type, the user simply selects their desired response, then clicks “Vote.” Once they have registered their vote, they see how their response compares to the overall results.

How long do you think 'stay-at-home' measures will be in place due to the Corona virus?

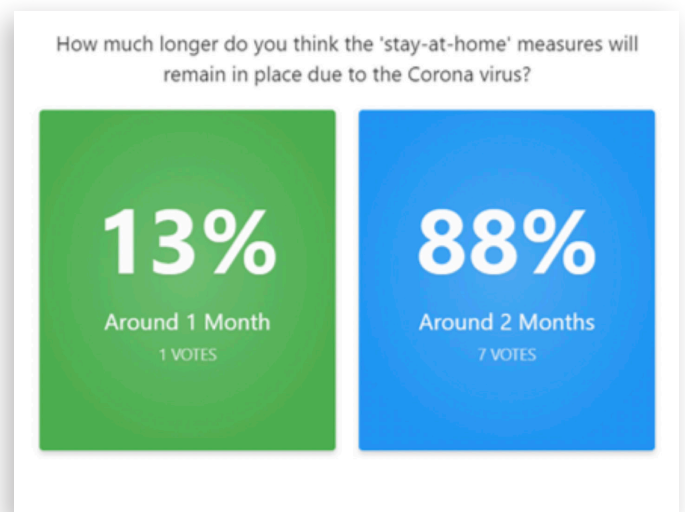
- At least two weeks.
- At least three weeks.
- At least four weeks.
- Five or more weeks.

[Vote](#) [Results](#)



How much longer do you think the 'stay-at-home' measures will remain in place due to the Corona virus?

[Results](#) [Vote](#)



Persistence

Whenever we use polling during our live training events (either webinars or in-person events), the polls are typically open for about a minute. This gives most participants an opportunity to consider the question carefully before responding, but it also constrains participation to that brief moment during the larger presentation. In contrast to the short duration of those polls, the polling solution required for on-demand, web-based training content must be persistent and unlimited in the number of potential respondents. Each poll must remain open indefinitely, so that providers opening the course 2 years from now will experience the same functionality—the same sense of their invisible cohort—regardless of the time elapsed. Our self-hosted polling solution and associated database allows us to ensure that polls remain open and functional during that time.

Zero Additional Cost

We are able to host our polling solution on the same server space that we are using to host our web-based training content. Consequently, there is no additional or ongoing costs associated with this solution.

Additional Audience Insights

Although our primary intention in adding polls to our web-based training is to increase provider engagement by leveraging elements of social learning theory, that is not the only benefit. Since our web-based courses are not hosted on a traditional Learning Management System, it is difficult to get meaningful usage data out of these courses. For instance, we cannot know the percentage of attendees who respond correctly to a knowledge check in one of our web-based courses because those user interactions only remain in the browser cache of the provider's device. However, with an embedded polling question, user interactions are instantly captured in a database, providing us with additional insight into our audience interests and performance as well as the effectiveness of our training.

Implementation

We have integrated live polling questions into our web-based training courses to provide learners with real-time feedback through responses from other learners. These questions can be of two general types:

1. Pulse of the audience questions (e.g., How is everyone feeling about x or y?).
2. Content-specific questions (i.e., a knowledge check).

In the first question type, **there is no “correct” answer**, but we can use these questions both to learn about our audience and to enable individuals in the audience to learn about their invisible learner cohort. This question type also allows us to gather learner feedback about course quality and satisfaction. Following a satisfaction question, we can also invite learners to provide additional feedback using a set of standard course evaluation questions. Responses from these questions would be held in our database for course analysis but would not be visible to the learner.

In the second question type, **there is a correct answer**, so we can use data from learner responses to gauge the effectiveness of a lesson. This is particularly useful because there is otherwise no specific trend analysis possible on knowledge check questions in a course that runs outside of a Learning Management System.

We believe the ability to integrate polls into on-demand learning events takes our web-based training events to a whole new level by integrating social interaction among the learning cohort participating in the event, thereby putting our web-based training products at the forefront of e-learning development.

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