Using Collaboration and Communication Technologies to Transform Large Lectures into Small Seminars

University of Michigan Provost's Teaching Innovation Prize

2010 WINNER

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Innovation Description

Large classes feel more like a small community of learners when students possess multiple avenues for active participation. Each of the four following technologies can stand alone, allowing faculty to experiment with discrete components as time and interest permit. Deployed in combination, these tools support a powerful set of pedagogical practices that leverage the devices students already have with them -- cell phones and laptop computers.

Types of tools and specific examples:

POLLING: Poll Everywhere is a web-based tool that replicates "clicker" functionality via cell phone text messages or laptop browsers. Faculty can try new pedagogies without increasing costs to students.

BACK CHANNELING: Live Question Tool provides a web-based "back channel" that invites, ranks, and refines questions from students.

VIDEOCONFERENCING: Elluminate, DimDim, and Timbuktu make videoconferences more interactive by allowing students to annotate speakers' slides.

WIKIS: The Wikispaces wiki has graphical editing capabilities and flexible discussion tools for collaborative knowledge building and sharing.

Comments

"The Wiki page allows students to offer opinions and additional information with no risk and tremendous reward: that of appreciation and interest. It does not take up unnecessary class time, yet still stimulates students to research outside of the classroom." (former student)

"Reading responses are posted to the class wiki in CTools. As students enter the physical classroom, selected responses are posted for them to reread; they use their cell phones to vote on the "best" response. This technique provides incentive for completing responses on time, enables students to review the day's reading just before class, and focuses students on the topic of the day in a positive and interactive way." (faculty colleague)

"Nearly every week we have video conferences that give us insight into the minds and findings of some of the world's leading experts… I had a question for a professor from the University of Wisconsin with whom we were video chatting. She immediately answered my question and looked me in the eye while doing so. These types of personal communications make learning more intriguing, interactive, and ultimately more beneficial." (former student)

Examples of Teaching Innovation
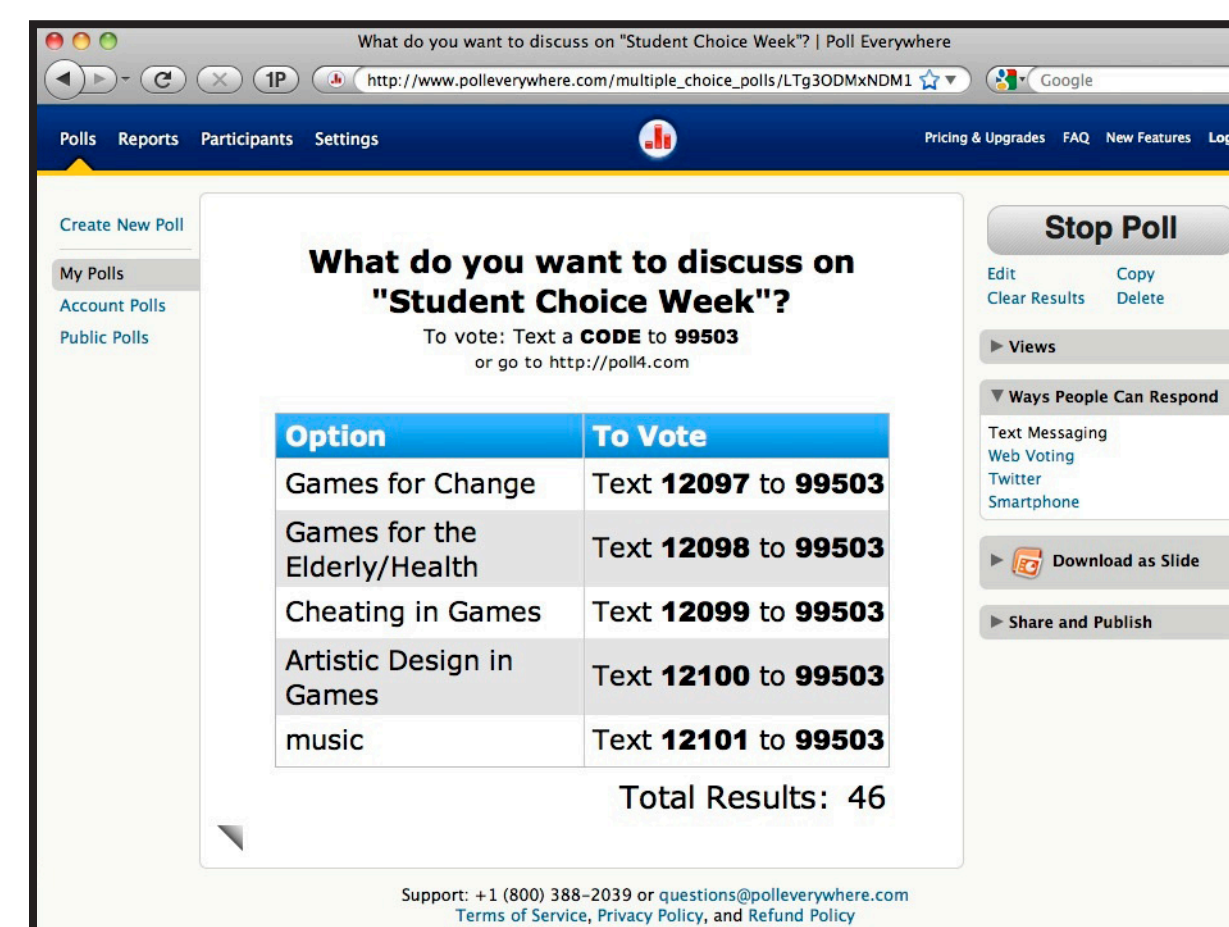
Poll Everywhere is a tool that can be used in place of proprietary "clicker" hardware. Using either cell phone-based text messages or their web browsers, students can vote on questions to engage more actively in class discussion and decision making.
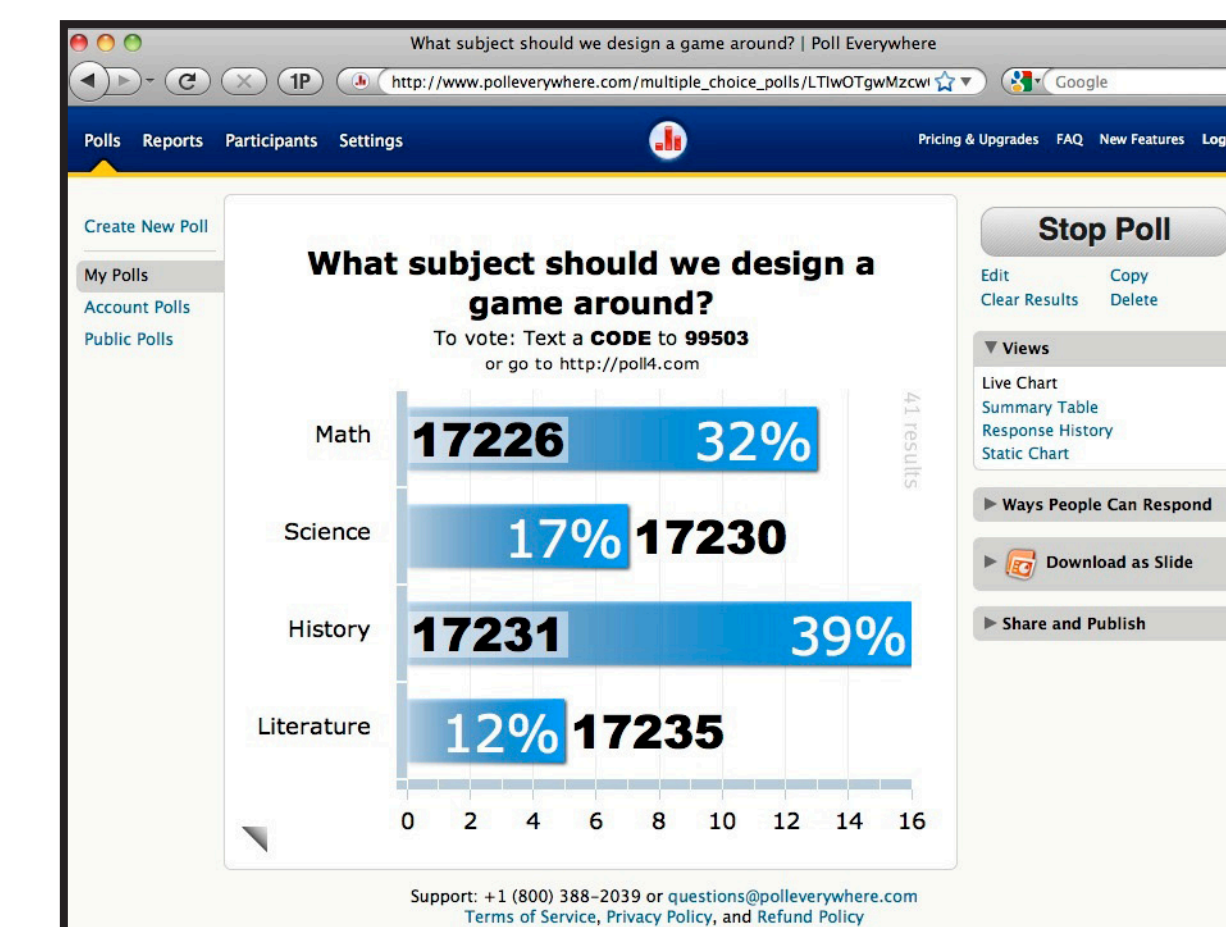
In this Poll Everywhere poll, students are selecting a topic for an in-class activity. The results graph updates live as students enter their responses.

The Live Question Tool (developed at Harvard Law School) allows students to post questions, vote on others' questions, and even respond directly to others' questions. Questions can be addressed when they best fit the conversation.