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## Social Media in the Math Classroom



I am a teacher and PhD action researcher, and I have been integrating social media into my face-to-face classes for years. Many students today have knowledge that enables them to create, connect, and form partnerships in the learning process. Unfortunately, that knowledge is not widely used in the classroom.

Over time and through the action research cycle, I have found that I needed to respect my students' input in their learning and create a partnership with them. By integrating social media into the classroom and by designing creative learning activities, I have been able to move away from the concept of the teacher telling students what to do and how to do it.

For each of the past three semesters, I have designed and created an online social media discussion environment using a Ning ([ghs2011.ning.com/group/mashups](http://ghs2011.ning.com/group/mashups)), where all my students interact, collaborate, post content on blogs and discussion forums,

### Tip: Navigating oceans



You can fly under the surface of oceans and explore underwater terrain, such as the Davidson Seamount.

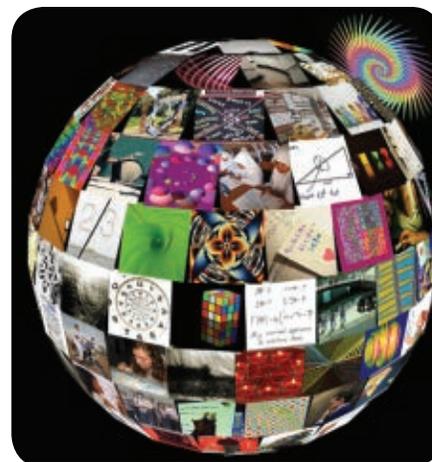
To view the surface of oceans, click **View > Water surface**. To view relevant points of interest, in the Layers panel, check **Ocean**.

You can mark locations under these water surfaces using placemarks.

[Learn more about Ocean in Google Earth >](#)

make online friends, and learn from each other.

It would have been easy to use the Ning solely for the purpose of providing information, class timelines, formulae, and links to basic resources. The challenge was to promote creative thinking and to share that thinking across grade levels and subject areas. So I used the Ning as a one-stop shop to post dynamic projects, which also involved peer critical feedback and peer assessment. It was similar to Facebook, but I moderated membership and



By Gail Casey

## Mathematics

activity. In many ways, students became teachers for their peers, designers, creators, and publishers, and they had an audience beyond their teacher.

Most of the projects posted on the Ning also used web 2.0 tools that prompted discussion and critical thinking. Here are a few of the sites I use:

**Tag Galaxy.** This application (taggalaxy.de) uses words as tags to generate a revolving globe of photos from Flickr. I used the term *math* to prompt my students to engage in a wide range of conversations about the diverse images displayed. As I walked around the classroom, it was the math language and the sharing of these simple global creations that supported understandings of math in the real world and reinforced the idea that math is everywhere.

**Data visualizations.** When discussing the concept of *area* in math class, I used data visualization software to create a map illustrating the extent of the 2010 Gulf of Mexico oil spill. I created an image of the area of the oil spill overlapping a map of Australia. This amazed many of my students and engaged them in deeper conversation.

As I walked around the room, I could hear students picturing themselves surrounded by the oil spill. They were relating distance and the practicalities of the disaster to their real lives.

I noted that even students who were not in my math classes also found this interesting and openly discussed it in their classes. The activity focused on data visualizations ([ghs2011.ning.com/group/datavisualisation](http://ghs2011.ning.com/group/datavisualisation)), where students visit a number of websites that

combine different data in visual form. These types of activities encourage students to interpret pictures based on real data published around the world, and then discuss and share their ideas. This type of learning activity builds critical thinking as students examine the conversations of their peers to help create their own knowledge.

**Google Earth.** I assigned students to use Google Earth to find the area of their homes as well as the walking distance to school to help make math real to them. They gained an appreciation that mathematics is everywhere. By posting their thoughts and ideas as well as their work, students had access to peer models of learning while making connections and building understanding.

I posted these projects and activities on the Ning to allow all of my students to browse the content of other students, even those taking different classes or in other grade levels. For example, I posted projects such as Kodu game programming ([ghs2011.ning.com/group/kudugameprogramming](http://ghs2011.ning.com/group/kudugameprogramming)) for my IT class, but some of my math students contributed to the discussion.

Many of the projects that I developed are transferable to other environments besides Ning, such as Moodle and a variety of learning management systems. The dynamic nature came not from the specific environment, but from the shared framework of learning and valuing students as contributors to the learning process.

—Gail Casey is a classroom teacher at Geelong High School, Victoria, Australia. She is currently on leave while completing her doctorate at Deakin University. Casey won first place in the 2012 ISTE Online Learning awards.

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