Infusing Social Media into the Mathematics Classroom

Kristopher J. Childs, Ph.D.
University of Central Florida
kristopher.childs@ucf.edu

Vernita Glenn-White
University of Central Florida
vglenn-white@knights.ucf.edu

Background

This workshop is intended to teach useful ways of helping mathematics educators use social media and technology within the classroom to engage students. The majority of student's time is spent outside of the classroom. During this time students are engaged with their peers through different forms of technology which includes various social media platforms. Educators need to tap into this interest and incorporate it in the classroom.

Technology will be deeply embedded into this generation's activities. They will be dependent on technology as it has always been there and will feel lost if they cannot access technology. Being contactable 24/7/365 is very important to them, even when on holiday; they would not consider a destination without wi-fi and mobile phone access.

(Yeoman, 2008, p. 235)

Goals for this Session

- Define social media
- Learn how to incorporate social media into a mathematics lesson
- Engage in real-time social media activities

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What is Social Media?

Social media are technologies that facilitate social interaction, make possible collaboration, and enable deliberation across stakeholders. These technologies include blogs, wikis, media (audio, photo, video, text) sharing tools, networking platforms (including Facebook), and virtual worlds.

(Bryer & Zavattaro, 2011, p. 327)

Pros vs. Cons

Pros	Cons
Promotes collaboration	Technology availability
Limitless boundaries	Privacy concerns
Current students have grown up with Internet, SNS, reality TV, iPods, smartphones, etc…	All students are not comfortable using technology
Students can become more familiar with new and emerging technologies	Educators may miss out on the nonverbal aspect of communication
Potential to create "buy-in" and rapport with students	Some students may wish to keep their social media pages separate from academics

Social Media Unifying Themes

- **Flexible Learning** – flexibility has been viewed as a key element of developing the learning experience via mobile technologies (Luckin et al., 2005)
- **Creative Learning** – information technologies have been viewed as a successful way of fostering creativity within education (Ogunleye, 2002); new technologies can act as part of the creative production of new and innovative teaching and learning practices (Sutherland et al., 2004)
- **Sensory Learning** – provides a multisensory learning experience
- **Personalized Learning** – the development of personalized learning is a function of social networks
- **Collaborative Learning** - social media provides the opportunity for students to engagement in a collaborative learning experience

(Dale & Pymm, 2009)

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Pinterest

What is Pinterest?

Pinterest is a tool for collecting and organizing the things that inspire you.

How to add a board?

1. Go to www.pinterest.com
2. Sign up for an account
3. Click your name at the top of Pinterest then click **Your Profile & Pins**
4. Click **Create a Board**
5. Choose a name and category for your board. You can also make the board secret or invite others to Pin to it
6. Click **Save Changes** when you're finished

Example

Unit: Trigonometric Functions

Students are asking, what is the real-world relationship? Or how will I ever use this in life?

Example

Other ways and ideas to use it in the classroom….

- Create resource boards
- Use the boards as a visual aggregator for photos and design projects and collages
- Collect ideas for a virtual field trip

Twitter

What is Twitter?

Twitter helps you create and share ideas and information instantly, without barriers. Twitter allows one to connect with people, express yourself and discover what's happening.

How to post a tweet?

1. Go to www.twitter.com
2. Sign up for an account
3. Type your Tweet into the box on the left side of your screen, or click the compose new Tweet button in the top navigation bar
4. Make sure your update is fewer than 140 characters
5. Click the Tweet button to post the Tweet to your profile

Example

Common Core Standard

MACC.5.NF.1.1 Add and subtract fractions with unlike denominators (including mixed numbers) by replacing giving fractions with equivalent fractions in such a way as to product an equivalent sum or difference of fractions with like denominators.

Lesson Objective

Use equivalent fractions to add and subtract fractions.

Essential Question

How can you use a common denominator to add and subtract fractions with unlike denominators?

Example

Kevin bought 3/8 pound of red grapes and 5/12 pound of green grapes. How many pounds of grapes did he buy?

Example

Write a Separate (Result Unknown) story problem with only fractions (unlike denominators).

Post the problem to twitter using the hashtag #NCTMCHILDS and/or mention @drkchilds

Other ways and ideas to use it in the classroom….

- Summarize an entire chapter in 140 characters
- Have students follow a real-time even on Twitter and react to it by writing a paper
- Find a mathematics twitter hero and follow him/her for inspiration

Instagram

What is Instagram?

Instagram is a fun and quirky way to share your life with friends through a series of pictures. Snap a photo with your mobile phone, then choose a filter to transform the image into a memory to keep around forever.

How to post a photo?

1. Download the Instragram app from the Apple store or Google play
2. Sign up for an account (via app)
3. Tap the camera tab at the bottom of the app
4. Select a filter, click next
5. Click SHARE

Example

Common Core Standard

MACC.6.GA.1.1 Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical problems.

Lesson Objective

Developing the student's sense of area, especially the relationship between the area of a right triangle and the area of the corresponding rectangle.

Example

Find all possible right triangles on a 5 x 5 geoboard.

Post the image of the right triangle to instagram using the hashtag #NCTMCHILDS and/or mention @drkchilds

Other ways and ideas to use it in the classroom….

- Showcase students' work
- Post snapshots of in-class notes
- Record a problem solution

Skype

What is Skype?

A software application that allows users to call, see, message and share with others – wherever they are.

How to Skype?

1. Go to www.skype.com
2. Sign up for an account
3. Download the appropriate software
4. Sign-in to the software application
5. Add a Skype contact you can search for the friend you want to add as a contact by their full name
6. Once the contact accepts the invite
7. Click Video Call to contact

Example

Special guest speaker….

Other ways and ideas to use it in the classroom….

- Collaborate with other classes, no matter where they are
- Take a virtual field trip anywhere in the world
- Find guest speakers and invite them into your classroom

YouTube

What is YouTube?

YouTube allows billions of people to discover, watch and share originally-created videos. YouTube provides a forum for people to connect, inform, and inspire others across the globe and acts as a distribution platform for original content creators and advertisers large and small.

How to upload a video?

1. Go to www.youtube.com
2. Sign up for an account
3. Click the upload button at the top of the page
4. Select the video you'd like to upload from your computer
5. Make any changes you want to the video settings and information
6. Click Publish

Example

Common Core Standard

MACC.2.NBT.2.6 Add up to four two-digit numbers using strategies based on place value and properties of operations.

Lesson Objective

Apply place-value concepts when using a break-apart strategy for 2-digit addition.

Essential Question

How do you break apart addends to add tens and then add ones?

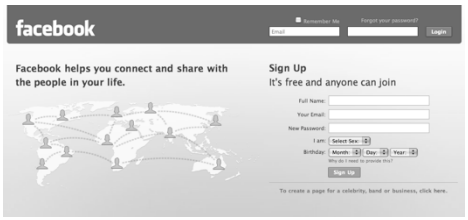
Example

Model the problem 59 + 25 = _____ with base-ten blocks.

Other ways and ideas to use it in the classroom….

- Record critical parts of your lesson so you can review how you taught that lesson in previous years
- Create a custom channel
- Search for different problem solving methods

Facebook



What is a Facebook Fan Page?

A fan page is a public profile which allow one to build a closer relationship their audience and customers.

How to Create a Facebook Fan Page?

1. Go to www.facebook.com
2. Sign up for an account
3. Select pages in the left-hand column
4. Click "Create a page"
5. Select a category
6. Follow the on-screen instructions to complete the set-up process
7. Invite your students to join your page

Example

Mae2801 Spring 2012 Childs | **Facebook**

PSTI 2011 (Kennedy Space Center)

Other ways and ideas to use it in the classroom….

- Make last minute announcements
- Ask students to explain a concept they have mastered
- Allow former students to remain fans and share their experience(s) with a new group of students

Polleverywhere

Poll Everywhere

What is polleverywhere?

Allows you to engage your audience or class anywhere in real time.

How to create a poll?

1. Go to www.polleverywhere.com
2. Sign up for an account
3. Click Create a poll
4. Enter your poll question
5. Select how will your audience respond
6. Click create
7. Project the poll

Other ways and ideas to use it in the classroom….

- Adaptive learning in the classroom
- Structuring small group discussions
- Classroom quizzes

Revisiting the Goals for this Session

- Define social media
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Contact Information

Kristopher J. Childs, Ph.D.
Twitter/Instagram: @drkchilds
kristopher.childs@ucf.edu

Vernita Glenn-White
vglenn-white@knights.ucf.edu