On Social Media in the Classroom

Editor's Note: Students are using more than just Twitter, Facebook, and YouTube in the classroom. Many new social media and networking sites are designed specifically for schools. This Spotlight examines the wide-range of social media platforms and explores how educators are integrating these tools into instruction.

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U.S. Schools Forge Foreign Connections

American student are teaming up online with classrooms around the world to learn valuable lessons

By Robin L. Flanigan

Ninth graders at the 2,300-student South Plantation High School in Plantation, Fla., were in a videoconference with Egyptian students and journalists last year when President Hosni Mubarak stepped down. Both the Americans and the Egyptians were in awe, clapping and

laughing and sharing in a moment of global importance.

"All of a sudden, our students understood what freedom is, what a democracy means, how fortunate they are to be where they are, and how people have to struggle to get to that level," said Donna Rose, the director of the school's VALOR Freshman Academy, the academic program for the school's 500 9th graders. "In a heartbeat, they changed their view of humanity. How could I have done that on my own?"

Across the United States, students are teaming up with classrooms around the world, using videoconferencing equipment, social media, and other technologies to learn about current events, historic milestones, economic trends, and cultural norms. Educators say the collaborations, which lend themselves to co-curricular projects, foster deep and meaningful conversations, whet a thirst for knowledge that textbooks cannot offer, and show that people in different countries have a lot more in common than many assume.

Educators note that no matter what countries American students are paired with, the same teenage topics seem to come up as they get to know each other during formal class discussions: dating, sex, family, music, and clothes.

And they point out that the poor technological connections between countries, the dropped calls, and the broken translations teach patience and perseverance even as they pose logistical problems for the partnerships themselves. At the same time, educators say the authentic relationships that form between students from different cultures tend to turn them into more independent thinkers with higher levels of tolerance and compassion.

"It's really easy to hate what you don't know," said Lisa Nielsen, an international speaker on innovative education and the co-author of *Teaching Generation Text*, published in 2011 by Jossey-Bass Teacher. "In the future, I think there are going to be big changes in the way countries are defined, because people around the world are going to be connecting and bonding with each other in a way that doesn't involve places, but their ideas and passions."

Ms. Rose has noticed a rise in the academic performance of each freshman class at South Plantation High School, particularly with critical-thinking skills, since she started partnering with other countries five years ago. Students have spoken with earthquake survivors in Haiti, widows in Afghanistan, and indentured servants in Pakistan.

This school year, they're connecting regularly with a school in Nagoya, Japan, and with students in a Yemeni refugee camp. (Sensitive to requests from Yemen, South Plantation students make sure there are no high-tech gad-

> ❝ It's a big shift for them to go from 'me' to 'we'. I can't help but think that the more kids we involve in projects like this, the more we start to break down some of this sense of entitlement."

SUZIE NESTICO
Project Manager, Flat Classroom Project

gets on their desks and nothing too ornate in the classroom within view of the refugees, because they don't want to make them feel deprived.)

"We are an urban school with a high minority population," said Ms. Rose, "and this is how we expose our students to the world."

Connecting Cultures

For the same reasons but in a far different environment, social studies teacher Suzie Nestico oversees a project that involves 14 schools and nearly 400 students in Australia, Canada, England, Germany, South Korea, and the United States. She teaches students in grades 10 through 12 at the 900-student Mount Carmel Area High School in Mount Carmel, Pa.

"We're a small, rural town of 6,000 with ultra-conservative family values and viewpoints, and most of our students have never gone anywhere else," said Ms. Nestico, the project manager for the Flat Classroom Project, an international collaborative effort that links classrooms around the globe. She also built a course called 21st Century Global Studies that started this academic year. The course is for students in grades 10 through 12 who, through project- and inquiry-based assignments such as editing wiki pages, learn that working collaboratively with other cultures—an increasingly marketable skill—can be challenging.

"It's a big shift for them to go from 'me' to 'we,'" she said. "I can't help but think that the more kids we involve in projects like this, the more we start to break down some of this sense of entitlement" that exists among students in the United States.

"Just imagine if you wrote 200 words on your wiki page, and when you went back the next day, you saw that students in Korea had changed a couple of your sentences because they thought it sounded better another way," Ms. Nestico said. "There are a lot of sighs at first, and it's a messy process, but it's very much worth doing. This is where we truly push learning to the highest level."

Some lessons have less to do with a final grade than with understanding that a simple phrase in one culture can easily be misperceived in another.

When a student in California posted an online request last summer for information about a "flash mob," for example, a teacher from Germany immediately jumped in to write that European students couldn't even talk about such a thing because of the London riots. And two years ago, during an education-related trip to Mumbai, India, Ms. Nestico had to nix any exclamatory T-shirts that might offend the local residents, such as "Holy cow!," because cows are considered sacred animals in India.

'Just Like Us'

Troy Tenhet, a 6th grade teacher for the 650-student Bill L. Williams Elementary School in Bakersfield, Calif., turned to ePals to link his classroom with those in Iceland, Norway, and Singapore. The ePals social-learning network joins more than half a million classrooms in more than 200 countries and territories.

When Iceland's most active volcano began erupting in May 2011, Mr. Tenhet's students heard about the devastation firsthand from children their own age through email exchanges. And a haiku-poetry swap with peers in Norway evolved organically into a lesson on patriotic symbols.

"They realized that, hey, there are kids all over the world that are just like us," Mr. Tenhet said. "All of a sudden, everything matters more."

The day after Haiti's massive earthquake in January 2010, Melissa McMullan, who teaches English and social studies to grades 6 through 8 at the 900-student John F. Kennedy Middle School in Port Jefferson, N.Y., found herself unable to get her students to focus on an upcoming state exam. They kept interrupting with questions about the catastrophe, and no amount of redirection got them back on track for long.

Ms. McMullan went home that night and, struck by the anguish she saw on the evening news, decided to adjust her strategy.

"I believe strongly that whatever you need to teach kids can be taught in the context of what they're interested in," she said.

With backing from her principal and help from other faculty members, she constructed an interdisciplinary unit of study centered

around Haiti and the earthquake. She set up partnerships with people who traveled frequently to Haiti; ran a shoe-collection drive for orphans; and flew to the ravaged country to deliver the donations. She stayed only 18 hours, but used Skype, a Web-based videoconferencing service, to introduce her students to the orphans they were helping.

"That was the moment," Ms. McMullan said of her inspiration to launch what would become the nonprofit organization Wings Over Haiti. So far, the group has shipped at least 1.5 tons of donated shoes, clothing, and toiletries to Haiti. Students do all of the packing, weighing, and invoicing.

'Make a Difference'

Ms. McMullan's students even helped open a school in Haiti, with 43 students in kindergarten and 1st grade, in October 2010. They wrote job-interview questions, watched the interviews via video, helped hire the school's three teachers, and started a meal program to feed every student at the school two meals a day.

Eighth grader Gianna Bottona organized a car wash to help the fledgling school buy a satellite dish. Her family also has started sponsoring a 4-year-old Haitian girl, whose pictures are all over the family's house.

"It gives you an outlook that no matter what your size is, or who you are, you can make a difference," she said. "It's an indescribable feeling knowing that every time you see those kids smile, it's because of you. It's almost selfish, really. When you help them, you're helping yourself."

She and her classmates use Skype to keep in touch with the Haitian students, and password-protected cloud-computing rooms to post files and pictures and set up conference calls.

As a result, new connections are being made within JFK Middle School's walls as well. Ms. McMullan has her students collaborating regularly with eight special education students she'd never met before the earthquake. "There was something about reaching way beyond us that allowed us to work much better in the building," she said.

Ms. McMullan travels to Haiti once a month these days. The relationships between students continue to strengthen—and that means that some tragedies far away now hit closer to home than before. One student at the Haitian school recently died of starvation.

"When you see those things happen, it makes it much harder to judge somebody because they don't have the right shoes or they aren't good at lacrosse," Ms. McMullan said. "It puts things in perspective."

Robin L. Flanigan is a freelance writer based in Rochester, N.Y.

'Safe' Social Networking Tailored for K-12 Schools

By Michelle R. Davis

This school year, the students in Robert A. Miller's 5th grade class at Port Orange Elementary School in Florida have been chatting with historical figures. They've given Thomas Jefferson advice on how to write the Declaration of Independence and touched base with Benjamin Franklin. In early spring, they had conversations with explorers Meriwether Lewis and William Clark as the duo made their way west. The explorers sent back detailed descriptions of prairie dogs and the sights they saw on their travels. Students had to restrain themselves from revealing to the explorers the pivotal role that the recent addition to their team—a pregnant Native American woman named Sacagawea—would play.

Students are having conversations with those celebrated figures (played by Mr. Miller), as well as each other and their teacher, using the social-networking site Edmodo, which is designed specifically for use in schools. "It makes learning more interactive" Mr. Miller said. "It's a way to extend the classroom after hours, but I'm also using it to present lessons."

Social networking is playing an increasing role in education, as educators realize it's a way to engage students who feel at home on such sites. And while many schools, students, and teachers are using mainstream social-networking sites, like Facebook, for such purposes, those sites aren't designed specifically for educational use and give some school leaders pause. Worries about security, advertising, information-sharing, and social interaction in such an environment have led some educators to instead seek out social networks designed specifically for learning.

"This is a controlled environment," Mr. Miller said of the San Mateo, Calif.-based Edmodo. "The teacher sets the parameters and can see everything, and there's no messaging solely between students."

But even if networking sites are geared specifically to the classroom, they still must be considered carefully, educators say. Some charge a fee for their services; others collect data on their users and could use the data to inform advertisers. And schools need to investigate who owns the material that students post on such sites.

Even so, many educators say they feel more comfortable with a social network designed for education rather than the sometimes-murky environment of a site like Facebook.

"Everything is transparent," said Andrea Keith, the implementation manager at Gaggle, based in Bloomington, Ill., which provides social-networking and other services to schools. "Teachers can be friends with students the way they never would on Facebook."

Focus on Academics

Many users of educational social-networking sites say they're just more comfortable with the security that such sites provide. Most allow for teacher oversight of communication and interaction and limit whom students can "talk" with, sometimes within a class, a school, or a district.

Gaggle, for instance, allows a student to join only at the invitation of a teacher, does not allow students to have private conversations, and has filters (originally developed for school email systems) that block inappropriate language, sense bullying or threatening references, and feature a scanner that detects pornography.

Nancy E. Willard, the executive director of the Eugene, Ore.-based Center for Safe and Responsible Internet Use, says that because of those protections, such sites provide a distinction between socializing and interaction. Ms. Willard prefers to

call them "interactive environments" rather than social networks, even though many of them look and operate in a manner reminiscent of Facebook.

"They should be set up in a similar manner, but the emphasis is different," she said. "You're not trying to pick someone up for a date. This is where you're trying to focus on 'Romeo and Juliet.' "

Education sites also draw out a higher level of discussion from students, some teachers say, than might be elicited on a socially focused site.

Olivia M. Connelly, a high school English teacher at the 1,200-student Hauppague High School in Hauppague, N.Y., who uses ePals with her students, says she didn't have enough time in her 38 minute face-to-face classes for significant discussion, so she moved some of those discussions to the ePals social-networking site.

When students know that other students, in addition to the teacher, are reading their work, "their writing is so much more improved," Ms. Connelly said. "When they're on ePals, they are much more formal. They're not focused on socializing, they're focused on their assignment."

And such sites can often do much more than provide areas for discussion.

Tim DiScipio, the founder of Herndon, Va.-based ePals, says his service provides email, multimedia, and the ability to store documents and use third-party products like videoconferencing software. And many teachers are using such sites for professional development, creating subject-area groups for teachers to find and share content quickly.

Ms. Connelly says that in the online forum, students often bring up ideas she would not have thought of herself, and she's been surprised that students who rarely speak in class are often very active in online discussions.

Alexander Weinrich, a 5th grader in Mr. Miller's class, said using Edmodo "is really cool."

Alexander says he uses the site to talk with other students about books they've been reading and often uses it at home, thus extending the time he spends on academics. He also knows that everything students post or write on the site is monitored by his teacher. "No one can post stuff that's bad," he said.

Subscription Fees

Alexander particularly likes using the social-networking site when students post their homework, discuss answers and help each other with concepts. "It definitely makes homework more interesting and not so boring," he said.

Many educational social-networking companies, like ePals, charge a subscription fee for their services. Gaggle typically costs schools and districts about $5 a year per user, while officials of New York City-based eChalk say their schools pay about $5,000 a year for services. Though ePals offers some services for free, it also makes money from sponsors, who pay the company to embed digital tools into its platform.

All those educational social-networking companies say they don't collect student information to pass on to advertisers.

Torrance W. Robinson, the co-founder and chief product officer of eChalk, says educators should be wary of free social-networking services. His company is clear that in addition to no advertising and no collection of student data for advertisers, the information posted to its social-networking site is owned solely by the school.

"Few people realize that when you upload an image onto Facebook, that is the property of Facebook and not yours" Mr. Robinson said."If it's free, you have to ask what does it really cost?"

Ms. Willard of the Center for Safe and Responsible Internet Use agrees, citing the student-privacy, copyright, disability, and free-speech issues that educators must keep in mind.

Edmodo is currently free, with no advertising. The service is underwritten by the New York City-based venture-capital fund Union Square Ventures, says Betsy Whalen, the vice president of social media and marketing for Edmodo.

Ms. Whalen said that sometime in the future, there may be "options for monetizing the site," possibly by providing premium services for a fee, but that right now, the company is focused on building up its user numbers.

Connecting With Students

Though many educational social-networking sites allow teachers to create groups based on subjects or student interests, entire social-networking sites are also built along those lines. For example, Livemocha, a Seattle-based site devoted to foreign languages, allows a student studying Spanish to link up with a student studying English in Argentina to practice language skills with each other using audio or text capabilities, says Chief Executive Officer Michael Schutzler. Though the site does not limit who students as young as 13 can connect with, teachers can monitor conversations taking place.

Maeve L. Gavagan, a 9th grade English teacher at the High School of Art and De-

sign in New York City, tested out the Jamboree for Arts Camp & Music, or JAM, social-networking and game site devoted to the arts this school year. The recently launched game, created by the interactive-gaming company Nuvana, based in San Francisco, provides "missions" for students related to the arts.

Sample missions had students create a fruit sculpture and post pictures to the site as the sculpture rotted; decorate an envelope that contained a letter to be mailed; and become a living public sculpture and make a video of the experience. As students posted evidence of their endeavors on the site, they earned points and received comments from their classmates and teachers.

Ms. Gavagan was surprised at the enthusiasm of students for the site and says it enabled her to improve her connection with them.

"The excitement around it was energizing for me as a teacher," she said. "I felt comfortable being friends with students here, but I wouldn't do that on Facebook. This felt more academic."

N.Y.C. Outlines Social Media Guidelines for Educators

Principals urged to scrutinize online activity

Michelle R. Davis

New guidelines released last week by the New York City education department make it clear that social networking has a place in education, but they call for restrictions on how educators and students interact in such spaces.

The guidelines recommend prohibiting students and teachers from being "friends" on popular social-networking sites, such as Facebook, and instruct teachers to create school-related email accounts that are separate from their personal email accounts, for example, for interacting with students. The guidelines also call for principals or educational supervisors to closely monitor social-networking sites that are set up for educational purposes.

Despite the restrictions, city Schools Chancellor Dennis M. Walcott touted the use of social networking as a way to engage students and boost learning. In a letter to school principals released April 30, he wrote that the responsible use of such digital tools is important.

"We seek to provide our students with the opportunities that multimedia learning can provide—which is why we should allow and encourage the appropriate and accepted use of these powerful resources," he said.

Matthew Mittenthal, a spokesman for the 1.1 million-student district, emphasized that the guidelines do not recommend banning social-networking sites or interaction between students and teachers on such sites. The district will continue to collect feedback on the guidelines and will review them every three months and update them as needed, Mr. Mittenthal said.

Nancy E. Willard, the director of the Center for Safe and Responsible Internet Use, based in Eugene, Ore., called the guidelines "noteworthy" in their "obvious concerted effort to recognize the importance of social media for instructional activities and the effort at distinguishing between professional and personal socializing."

But she and others expressed worries about how the guidelines ultimately will be carried out. For example, the recommendation that principals and supervisors oversee educational social-media sites and review their content closely is unlikely to work in the real world, she said.

"There is no way … a principal can effectively manage a multitude of professional social-media sites," she said. "Impossible."

Communication Issues

In crafting the guidelines, the country's largest school district is following in the footsteps of other districts, including the 664,000-student Los Angeles Unified School District and the 9,000-student Minnetonka, Minn., district, which Mr. Mittenthal said were both used as models for the guidelines.

In response to inappropriate behavior, many districts have adopted or considered restrictions on interaction between teachers and students on social-networking sites. Teachers have been fired for improper communication with students through such sites or for inappropriate comments about their jobs or students on their own personal online pages.

National Education Association affiliates in Missouri and Ohio have issued statements saying teachers shouldn't participate in social-networking sites even for personal use. Missouri lawmakers ended up repealing a law prohibiting teachers from using websites such as Facebook, which permit "exclusive access" to students, after mounting objections and legal action.

Experts say it's important for districts to have policies that address social networking in education to benefit both teachers and students.

Marcus Artigliere, an English-as-a-second-language teacher at John J. Pershing Intermediate School 220 in New York City, said he believes his district's new recommendations will give some teachers more confidence to use social networking, since they'll have guidelines to follow. He often uses Gmail and Google applications with his students, but he said colleagues are often reluctant to move into such media.

Mr. Artigliere said he already has a separate professional Gmail account for use with his students and maintains a personal one for his private use, just as the new guidelines recommend.

Maeve L. Gavagan, an English teacher at the district's High School of Art and Design, said she's active on Facebook, but has long had a personal policy of not being an online "friend" with students. She makes it a point to neither accept nor reject friend requests from students, instead taking no action on them.

"Even the act of declining has an impact on them," she said. "All these social-media platforms can be helpful and innovative in teaching, but they can also create relationships that aren't appropriate for an academic setting."

The new guidelines, however, suggest that teachers decline student friend requests with a message citing the new social-media guidelines.

The recommendations acknowledge that social media can be useful for educational purposes. But it says that teachers must get supervisor approval before setting up any such site, and that supervisors are responsible for monitoring such sites on a regular basis.

Chiara Coletti, a spokeswoman for the New York City-based Council of School Supervisors and Administrators, said her organization is concerned "that our principals will be expected to bear the burden of monitoring social-media activities that are, in fact, almost impossible to monitor."

Science Shared on Online Communities

By Sarah D. Sparks

L ast spring, thousands of children and adults filmed or photographed themselves planting more than 10,000 trees, flowers, and other plants on six continents. The videos were consolidated and posted May 5 of last year on YouTube, where nearly 10,000 viewers, mostly children and young adults, commented on them.

The massive planting wasn't a social project or contest, but a birthday present for Hank Green, the founder of the environmental-blogging site EcoGeek.com and a popular YouTube video blogger. Mr. Green's ongoing video conversations with his brother, the young-adult book author John Green, often include original songs and debates about science topics, and have spawned a community of more than 470,000 who discuss current events, science, and other topics, and engage in regular group projects like the planting.

"To me, science is intrinsically cool," Mr. Green said in an online interview with *Education Week*. "We may be a bunch of nerds, but when you see how much energy there is surrounding or growing knowledge of the world, it's hard to not get caught up. And that's really what we need; we need students to get caught up in the excitement of it all."

That community is an example of a growing trend in the way science is communicated online. As home cameras and desktop publishing have grown easier to use, thousands have started posting videos and websites dedicated to sharing (often explosive) experiments, debating current issues such as stem cells, discussing events like the latest NASA launch, or organizing group games and social projects.

"From the perspective of informal science education, we've been slow to notice and connect with these self-organizing communities," said Kevin J. Crowley, a co-principal investigator for the Center for the Advancement of Informal Science Education, or CAISE, in Washington. While online communities are definitely an increasingly popular medium for informal learning, Mr. Crowley said, "as educators, we have to be careful of how we approach them."

"If it feels top-down, if it feels like someone else's agenda," he said, "it doesn't generate the same kind of energy."

Rick Bonney, the director of program development and evaluation at the Cornell University Ornithology Lab, in Ithaca, N.Y., and the founder of several nationwide citizen-science projects, knows that danger firsthand.

In the late 1990s, the lab produced a series of print advertisements calling for volunteers to track bird populations. The fliers had tag lines like: "Lend your brain to science!" and "You are the eyes and ears of scientists," Mr. Bonney recalled, but the ads generated little response.

In 2002, the lab took a new tack, launching an online site called eBird that allows people to keep and compare personalized bird-sighting checklists, photos, and descriptions; plot bird sightings on maps; and talk with other bird-watchers.

"Participation tripled in the first week," Mr. Bonney said. "In a way, we tricked people, because we're still getting all their data, but they're getting much more personalized information on their birds and sharing it."

Sharing Experiments

Science online is seldom that organized, however. YouTube and Google Videos abound with viral videos in which multiple users repeat and add on to visually interesting experiments.

The most popular of them involves someone—usually a child or teenager—dropping one or more Mentos candies into a bottle of Diet Coke, spurring a chemical reaction that spurts soda 20 or more feet in the air. Variations of that experiment went massively viral in 2006, with more than 10 million people ultimately watching the videos by 2007, according to the online tracker KnowYourMeme.

In May 2008, Louisville High School students briefly held a world record after taping 1,800 simultaneous soda geysers, and hundreds of others have posted permutations. Some posters attempt to explain the chemicals that cause the explosion, or to test the fountain height of different types or amounts of soda or candy, though many more don't spend much time talking about the science involved.

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>
> ANDY ALLAN
> Chemistry and Biology Teacher,
> El Diamante High School,
> Visalia, Calif.

By contrast, a group of anonymous Canadian chemistry and biology researchers has come together online under the username Nurdrage to post more than 90 science experiments, from growing silver metal crystals to levitating pencil graphite with magnets. While the vloggers—a video-blog group—never show their faces, they work in a full lab setting and include a description of both the scientific processes and safety hazards in each experiment. Nurdrage is in the top 100 subscribed Canadian channels on YouTube.

"We select experiments based on a balance of popularity and educational value, then proceed to perform them in a safe and visually appealing manner," the vloggers said in an online interview with *Education Week*. They added that they never demonstrate reactions

that could lead to explosions, nor do they demonstrate how to manufacture narcotics.

"Chemistry has the unfortunate and undeserved reputation of being associated with terrorism (in bomb-making) and criminal enterprise (in illegal drugs)," they said. "We stay away from that to try and improve the public perception of our field."

The rise of online experimentation and science communities has tracked with a broader trend toward do-it-yourself and local activist communities online, Mr. Crowley said. "Technology has become the key enabler," he said.

Andy Allan, a chemistry and biology teacher at El Diamante High School in Visalia, Calif., started posting chemistry and biology videos and diagrams while he was trying to teach himself how to design a website. His site, ScienceGeek.net, has become popular for teachers and high school students using virtual-laboratory simulators and interactive graphics.

"In some ways, the primary motivation was my own desire to learn something new, and initially, the benefit to my students was secondary. I remember putting a 'hit counter' on my first page and thinking that it would take months to get to 1,000 visits," Mr. Allan said. "On a daily basis, I now get over 1,000 visits before I wake up in the morning. I did not foresee the Web page evolving into a website that would be a resource to teachers and students whom I will never meet."

Accuracy Concerns

Alan J. Friedman, a former director of the New York Hall of Science and a member of the National Assessment Governing Board, calls the rise of science-related blogs and user-generated content "a striking phenomenon," but he also worries that viewers can more easily be misinformed online at user-generated sites.

While researching an exhibit on the theory of relativity, Mr. Friedman reviewed professional and amateur websites on the subject. "Some of the amateur sites were terrifically good; they'd invented better analogies for some concepts than the professionals … but I also came across sites that looked just as good, with animation and graphics, but that were completely wrong," he said.

Mistakes or bad science online can stay up for years and get top search billing, he noted.

"Science is self-correcting; it can take a few years or a few centuries, but we tend to correct our mistakes," Mr. Friedman said. "Will that eventually happen with the Internet? I don't know. We don't yet have a Good Housekeeping Seal of Approval for things on the Internet."

Yet if the Internet provides more of a platform for bad science and honest or agenda-driven mistakes than school- or museum-based science education, it can also provide an easier conduit to professional scientists that most students ever get off-line, Mr. Green said.

"You have, on the one hand, news sources and blogs that people consider 'successful,' and, at those, you have a lot of really bad science and even some really bad writing," he said. "But then you've got blogs written by actual scientists and engineers. I see this constantly behind the scenes, real communities with real knowledge that goes a lot deeper than your average blog post."

The Nurdrage team agrees. "In regards to education, I think the Internet's ability to bring together people with very rare or niche interests [is] the most powerful," they wrote. "Gone are the days when young minds interested in obscure and uncool topics like chemistry or astronomy had to pursue their passion alone. Now they can join communities of like-minded individuals and access the help of professionals."

Robert Krampf is one of those working to bridge "traditional" informal science education and the emerging do-it-yourself culture. Mr. Krampf, a former science instructor at the Memphis Pink Palace Museum, in Tennessee, now runs The Happy Scientist website, which puts out daily science news and experiment-of-the-week videos. More than 19,000 people a day view his daily science photo quiz on Facebook.

"It is very easy for a science educator to convince the audience that he is smart. After all, he has all the amazing devices, cool facts, and the scientific answers," Mr. Krampf said. "It is much more challenging, but ultimately much more rewarding, to convince the audience that they are smart, and that science is something they can understand and appreciate."

Mr. Friedman agreed, but said the field of informal science has a long way to go to understand and leverage online communities.

"I think people learn when they want to learn," he said, "and if we play our cards right, we can make what happens in the stars and what lives under the ocean just as fascinating as what happens on Facebook, … but I don't think we're at that place yet."

COMMENTARY

Using Twitter in High School Classrooms

By Bill Ferriter

n Laconia, N.H., high school principal Steve Beals sees the potential of a school-wide culture that celebrates learning beyond a traditional classroom.

Not long ago, I met a super-motivated team of teachers from Westfield High School (Westfield, Ind.) at my Teaching the iGeneration workshop in Cincinnati. They were particularly interested in the different ways that Twitter can be used in schools. To help, I turned to the teachers in my own Twitter network for ideas—and while the examples shared were as diverse as the digital peers that I learn from, they seemed to fall into three broad categories:

Twitter can be used as a backchannel, encouraging reflection and conversation among students.

As a guy who needs to speak out loud in order to process information, I love to tweet during workshops and professional development presentations simply because it gives me the chance to interact with ideas without interrupting the people near me who are trying to pay attention.

Twitter serves the same purpose in the classrooms of many teachers—including business teacher Sarah Bird, who has her students tweet the "Most Valuable Point" from every lesson, using a shared classroom hash tag.

Imagine how powerful that could be—for teachers and for students:

• You give students a digital home for interacting around your content—a space that they are likely to return to on their own time.

• When students can see what other kids are thinking during lessons, their own thinking is challenged. And you've created built-in opportunities for the kind of social pushing and polishing that defines collaborative dialogue and knowledge creation.

• You can treat the exercise as high-quality formative assessment. When you can see what students are thinking, you have access to immediate feedback about the levels of mastery and misconceptions in your classes—

which can be used to plan next steps.

Twitter can help students develop their civic voices.

Social media spaces are changing how elections are won and lost—and how politicians operate. President Obama has initiated a series of Twitter town hall meetings where he answers questions submitted through the microblogging platform. Even Gordon Brown, longtime Prime Minister of the UK, recognized that policy can't be made without listening to people in social spaces.

The result: Nearly every modern campaign jumps feet-first into social media spaces.

If we are going to prepare our students to be effective participants in this changing political landscape, shouldn't we be showing them how to hunt down electoral candidates in social spaces—both to learn more about their positions and to ask important questions?

That's exactly what Jeremy Reid is teaching his 11th grade social studies students, who have used a classroom Twitter account to reach out to candidates in local elections.

Think about that for a second, would you?

Traditionally, learning about candidates and their positions was a cumbersome, time-consuming process. The result: dismal turnouts for elections and a heaping cheeseload of under-informed voters.

Social media spaces, however, make interacting with politicians and their ideas easier. If we care about preparing students for democratic citizenship as much as we say we do, that's a practice worth introducing our students to.

Twitter can become a place to imagine.

Danah Boyd, a Senior Researcher at the Microsoft Research Center who specializes in studies on the ways that digital spaces are changing today's kids, has noted that Twitter can be a more playful place for teens than Facebook.

The social pressures and expectations tied to participation in Facebook are often so high that they act as an inadvertent governor on student interactions. Twitter, on the other hand, is a more casual space, the equivalent

of talking in a room rather than shouting to the world.

That makes Twitter the perfect place to ask students to use their imaginations.

In Tracee Orman's high school English class, imagining in Twitter means pretending to be characters from the novels that they are studying in class.

"After reading a chapter in a novel," writes Orman, "I tell them to pretend they are one of the characters from that chapter … Then they pretend that character has an Android or iPhone (or another smart phone) and is about ready to post a new tweet on Twitter. What would they write?"

Talk about a fun way to engage kids in the content that they are studying, huh?

Wouldn't it take a sophisticated understanding of a character's motivations, desires, and personality to be able to tweet believably from his or her point of view? And couldn't classes have great conversations about characterization as they reflect on the believability of the tweets being shared by their peers?

A logical extension for Orman's students would be to explore some of the popular Literary Parody Accounts in Twitter to determine how well the fictitious accounts reflect the attitudes and personalities of the original authors.

In the end, using Twitter in high school classrooms makes sense mostly because it is a social space that has already been embraced by today's teens.

Boyd says it this way: "Twitter and its ilk aren't going away, and the answer to responsible use isn't to shut teens out of public life. What matters is not whether or not teens are speaking in public, but how we support them as they try to learn how to responsibly navigate the networked public spaces that are central to contemporary life."

She's got a point, doesn't she? Social spaces aren't going away—and ignoring them because we don't believe in them is an irresponsible practice for educators who want to create student-centered learning environments. If we want to make our schools relevant, we need to stop turning our backs on the tools

and behaviors that our kids care the most about.

More importantly, for high school students—who are often deeply passionate about quirky interests yet forced by the constraints of traditional schooling to march through a standardized curriculum devoid of customization—the ability to create opportunities for personalized learning is incredibly valuable.

And that's exactly what makes Twitter so powerful: Users who are diligent about finding others with shared interests and who are willing to follow links to interact in the spaces beyond their tweets can find deep thinking and rich, meaningful dialogue around the topics that they care about.

The truth, of course, is that most teens in social spaces aren't creating forums for deep and meaningful conversations on their own. Twitter streams and Facebook pages are simply homes for casually extending social interactions and relationships with friends beyond school.

I would argue, however, that the only reason teens aren't using social spaces in more sophisticated ways is that no one has ever modeled that kind of behavior for them.

But what would happen if teachers—who are expert learners—began to demonstrate ways to use the tools and spaces that students care about to master the kinds of skills and behaviors that we know matter?

Couldn't social networking spaces double as social learning spaces?

That's got to be a lesson that's worth teaching to our students.

Bill Ferriter teaches sixth graders in Wake County, N.C. A Teacher Leaders Network member and former North Carolina regional teacher of the year, Bill is co-author of Building a Professional Learning Community at Work: A Guide to the First Year, Teaching the iGeneration, *and* Communicating and Connecting with Social Media *(Essentials for Principals). His blog is* The Tempered Radical *and his Twitter handle is @plugusin.*

COMMENTARY

Why Twitter and Facebook Are Not Good Instructional Tools

By Paul Barnwell

I remember feeling like a rebellious trailblazer when I first asked my 8th grade students to take out their cell phones for a class activity in the fall of 2009. The 8th graders' eyes lit up as they reached into their pockets, prized gadgets finally allowed to breath open air after being crammed in with gum, pencils, and crumpled papers. After all, school policy prohibited the devices from being out at all during the school day. I was the cool teacher, seeing beyond the anachronistic policy and bringing 21st-century learning into the classroom.

I've always been open to new technologies in the classroom—in fact, in 2010 I argued in an *Education Week* Commentary piece that we were doing students a disservice by not incorporating cell phones into instruction. But over the past two years, I've seen or read about too many teachers and students who have become enamored with—even addicted to—social media and cell phone applications that fail to offer true pedagogical advantage or promote critical thinking. While summarizing is a real skill, do we really want students to further fragment their thoughts and attention in this age of incessant digital distraction and stimuli with 140-character blurbs? Do we want students to spend even more time in front of a screen, bypassing opportunities to converse and collaborate face-to-face?

Back in 2009, I discovered Poll Everywhere—an easy-to-use Web texting service—that allowed students to respond to open-ended or multiple-choice questions by text message. I tried it as an exit card, to reflect briefly on a lesson on sentence structure. I also tried having students publicly summarize what they read during independent reading. They loved seeing their answers pop up almost immediately on the digital projector screen. But some students didn't have texting on their phones—if they owned one—and a few students thought it'd be hilarious to anonymously post derogatory remarks for the whole class to see. After a month-or-so trial, I decided that old-fashioned note cards and verbal responses were more efficient and ensured more class participation.

Questioning 'Tech Savviness'

Using Poll Everywhere turned out to be more gimmicky than useful. It increased initial engagement in the activities, but the overall benefit was marginal. After all, I wasn't promoting any critical thinking skills, but rather just using phones and the Web service to get students' attention—though in a way that took more time and effort than more traditional strategies. Other Web applications and social media tools such as Prezi, Wordle, and Xtranormal might initially seem to have worthwhile educational use, but theirs is limited as well. I'm tired of hearing how "cool" Prezi is, when really it's just a better-looking, slightly more interactive version of Powerpoint. I don't want students to become dependent on technology that requires too many templates, cheapens thinking, or relies on flashy graphics and movement. These gimmicks do not develop genuine technology competence.

A recent report by the Economic & Social Research Council refutes the notion that today's youth, the "net generation," is truly tech savvy. After interviewing and collecting data from 2000 first-year college students in Britain, researchers found that only 21.5 percent of students had blogged, and only 12.1 percent of students had used wikis. Too few students are familiar or engaged with these sorts of technologies that are structured to promote academic rigor; instead, they opt to use Twitter, Facebook, and Tumblr, most often as distractions from their studies rather than learning tools.

I've come to agree wholeheartedly with the study's findings. Do many students you interact with know how to do much more than Tweet, post to Facebook, or browse YouTube? Email is antiquated to students; after all, many kids are so used to fragmenting their thoughts that writing a substantial email is drudgery. Twitter is all the rage for teenagers and is a constant

source and depository of mindless banter and instant gratification. Being tech savvy should include the ability to synthesize ideas and media forms, and create something original. So how can we promote more thoughtful use of technology in schools?

Using Tech to Create

Despite my shifting beliefs about the efficacy of certain technologies in the classroom, I am a long way from giving up on technology altogether—indeed, I currently teach a digital media and storytelling course. There is tremendous power and potential in what we can teach students with sound, image, and video-based projects.

These days, instead of simply embracing Web 2.0 tools, I've decided to embark on creating a curriculum that utilizes technology as part of a larger creation process. Like the writing process, which requires planning, prewriting, drafting, editing, and revision, we can utilize audio, still photos, and video—all student-generated—to teach students to be tech savvy in a meaningful way.

In my digital storytelling course, for example, students learn how to collaborate using Google Docs, analyze images and video in the context of literature and narrative, and apply photo rules when they shoot, interview, edit, and sequence all of their raw footage and images. They create photo essays, audio slideshows, and short documentaries from start to finish, then critique each other's work. I'm lucky to have collaborating professionals join class weekly. I've also learned that true tech savviness starts with people. If students can't communicate face-to-face to conduct interviews or set up photo shoots, there is little point in placing a camera in their hands or a laptop at their desk. As educators, we must find a balance between screen time and "face" time.

If it's simple—even mindless—to use or create with new technology, then we must question the pedagogical value of what we are doing. That said, I don't regret using Poll Everywhere and experimenting with class blogs several years back. After all, as educators we must be willing to test out, and sometimes adapt to, evolving opportunities to teach and engage students. I'm still trying to figure out my curriculum, and will continue to test out new programs and technology applications to enhance the course. But until I'm convinced that cell phone and social media applications truly support deep thinking, my students will keep their devices in their pockets and backpacks.

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COMMENTARY

Virtual Book Clubs: Connecting Adolescent Readers

By Ryan Kinser

Not long ago, I witnessed something strange as I wandered through my local bookstore: teenagers talking to each other—and their parents—about books. As students sifted through the books on tables highlighting middle and high school reading lists, they grabbed the usual suspects: *The Great Gatsby* and *To Kill a Mockingbird*, for instance. Intermingled with the classics were newer novels like *The Hunger Games*, *Shadow of the Wind*, and *Tinkers*. And students were also snatching up nonfiction: *Fast Food Nation*, *Columbine*, *On Writing*. "I've got to get this one, Mom," I heard a teenage girl plead. "Everyone has already finished it. And it's required!"

Yes, many of the books were required. And yes, these adolescents seemed to be outside of their natural habitat. But they were excited. Many teachers have become accustomed to writing off adolescents as apathetic or reluctant readers. Maybe we just haven't figured out how to help the iGeneration make the most of reading as both an independent and shared experience.

As I looked over the books, I noticed some "Oprah's Book Club" titles. That's what triggered my epiphany: I should try virtual book clubs. If I couldn't conquer my middle schoolers' need for virtual connectivity—which they constantly seek through social networking, video games, and smartphones—why not join them?

Since then, I've discovered that virtual book clubs (VBCs) can be fun and easy complements not just to language arts class, but to any curriculum. Here are some tips on how to implement a VBC at your school:

Decide the role and focus of the VBC. Will taking part in a VBC be a requirement, an extra-credit opportunity, or an optional, fun way to extend student learning? How closely linked will it be to your curriculum? Will you mandate the titles, allow students to choose from a menu, or enlist them to nominate titles? Whatever your curriculum, be it English or orchestra, you can find great books. Want to address the dangers of performance-enhancing drugs with your P.E. class or football team? Give them *Gym Candy* or *Crackback*. How about giving social studies students exciting, yet palatable, glimpses into the lives of major historical figures? Try *Wicked History* biographies.

Prepare to bridge the digital divide. As you plan for the VBC, consider how you will accommodate students who do not have Internet access at home. This may not be a big problem if students have opportunities to use school computers. If the VBC is going to be part of a class, offer extra credit for participation rather than making it a requirement—and come up with other extra credit opportunities for those who cannot participate.

Choose a forum. Many websites enable educators and their students to collaborate safely and privately. Most wiki sites offer a simple account setup process for teachers and allow you to invite others or direct students to accept requests. Wikispaces, PBworks, and Wetpaint have user-friendly sample pages and demos. There is also Moodle, which is intended to be an all-inclusive virtual classroom. On Voki, a free site that offers upgraded private classrooms, you can even add a speaking avatar that delivers 60-second messages in your own voice.

Communicate with parents. Before kicking off the club, be sure to communicate your expectations clearly with parents. Many are leery of teacher-student social networking relationships. Inform them of the book club's purpose and what you expect from participants. Give parents access to the site—you might even encourage them to read along and drop in on the discussions! Keep in mind that technical glitches may occur, like account-creation problems. Just let parents know upfront that the VBC is a work in progress, and then try to resolve issues quickly.

Establish norms and guidelines for participation. Build student ownership of the VBC by asking them to help decide key questions such as, "What types of comments are appropriate?" Others should be outlined in advance like, "Is this optional or required? How many people can participate in one group? How often should students contribute to virtual discussions?" Anticipating student behaviors will make for a smoother experience, just like in the classroom.

Preview several books. Before turning students loose in a virtual discussion environment, generate background and excitement around the books. Book trailers are great ways to do this with young adult fiction: You can find good ones on YouTube, Book Trailers for Readers, and the University of Central Florida's Digital Booktalk.

Demonstrate a sample page. Walk students through the site and create a sample page with them. Don't feel you have to be a digital native. By stumbling around a bit, you'll anticipate problems students might have—although they're likely more technologically savvy than you are! Part of the fun comes from watching how your kids will collaborate and add creative content to the site. Once I outlined a skeletal procedures page with instructions on how to invite club members, I was amazed at how quickly my 6th graders transformed the website into pages of smaller book clubs, complete with trailers for additional titles, preliminary discussions, reviews, and links to author blogs.

Model for students what you expect of them—and help spark productive discussion. Students will love demonstrating autonomy as they take part in the VBC, but you will probably still need to scaffold early discussions. During the first few weeks, you should model discussion techniques, guide higher-level thinking, and ensure appropriateness of content. Monitor class conversations by checking in regularly and responding to student posts. It's critical to keep the site fresh. Not only does your presence demonstrate your commitment to the club, it satisfies students' need for timely, relevant information and feedback.

Let students take ownership. Avoid the temptation to micromanage. This is an opportunity to teach students to monitor and take responsibility for their own learning. Younger students may do better if they have specific, assigned VBC roles. For example, assign someone to be the Bridge Builder, or the person responsible for drawing out group members' personal connections to the text. Have students design their own reading schedules and rotations of roles.

Develop a culminating activity and celebration. Ironically, the highlight of your virtual book club may be a face-to-face culminating activity. Students will want to share what they've discovered in their own creative ways. So why not let them film their own book trailers and have a screening party? Last year my 6th grade students created a wax museum: They dressed as their favorite characters and invited the school to tour "exhibits." Visitors could press a button and—presto!—a character spoke. Options are endless, but here are a few:
- group dramatizations of scenes from books
- Skype interviews between students and authors
- book/film comparisons
- service-learning projects linked to VBC titles

Reflect on the experience. After your trial run with virtual book clubs, you'll want to reflect on what worked and what didn't. You might ask for students' feedback, too. Keep in mind that one year's VBC can feed the next: Student-produced trailers, podcasts, and book reviews can be ready-made attention grabbers for next year.

Virtual book clubs can engage students in independent reading by giving them opportunities to stay connected beyond the classroom. If you decide to give them a try, you should anticipate some stumbles but also take pride in watching students get out there and talk about what they're learning.

Ryan Kinser is a 6th grade reading and language arts teacher at Walker Middle Magnet School for International Studies in Tampa, Fla. A member of CTQ's Teacher Leaders Network and New Millennium Initiative, Ryan became a teacher after a career in television production. Formerly afraid of technology, he is chronicling a year-long effort to integrate technology in his classroom.

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www.jam4art.org

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www.livemocha.com

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Net Generation Students: Agency and Choice and the New Technologies
www.onlinelibrary.wiley.com/doi/10.1111/j.1365-2729.2010.00370.x/abstract
Christopher Jones, Graham Healing
Economic and Social Research Council,
April 2012

New York City Department of Education Social Media Guidelines
http://schools.nyc.gov/RulesPolicies/SocialMedia/default.html

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