Together as Better: Strategies that Invite Convergent Culture into the Classroom via Mobile Devices

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Abstract

University students feel comfortable using mobile devices, although not necessarily within educational contexts. Educators need to make every effort to join their students and embrace new multimedia practices in the classroom. The purpose of this article is to draw attention to a series of mobile device practices and strategies that promote and encourage collective, collaborative, creative, and thoughtful communication in university classrooms.
Introduction

We as a society are moving further into the Conceptual Era, an age in which individuals are equipped not simply with technical know-how, but with the ability to create, analyze, and transform information and to interact effectively with others (Pink, 2005). We witness this shift most vividly in the behaviors of today's university students, identified as the millennials (Howe and Strauss, 2002) or digital natives (Prensky, 2005), who stay constantly connected in order to be a part of a collective intelligence. While this may seem counter-intuitive to traditional education, it is something that we must recognize as one of the more common ways our students choose to gain information: they see "together" as better. More and more often we witness students in our classes seemingly not paying attention because they are texting in the middle of a lecture. The perception is that there is a decline in students' abilities to concentrate on the task at hand. While cognitive neuroscience points to research that shows that today's students have very different ways of processing information that enable them to have a deeper understanding of situations (Jenkins, 2006; Johnson, 2006), those of us who teach these students often don't have this same view; in fact, we often see these actions as disrespectful and counterproductive to the real learning that we think should be happening in our classrooms.

There is no getting around the fact that most of our students are connected to the web and their friends via mobile devices. Today's students will spend more than 10,000 hours playing videogames, send and receive over 200,000 emails and instant messages; spend over 10,000 hours talking on cell phones; watch over 20,000 hours of TV, and see over 500,000 commercials (Kaiser Foundation, 2010). That is exponentially higher than the amount of time that they will spend with traditional forms of literacy and learning. We would be remiss in our duties as educators if we did not recognize that learning and literacy are converging with new media in ways unfathomable ten or twenty years ago. In fact, schooling is just as it was ten, twenty, or even hundred years ago and not much has changed to match the pace of today's learner (Gee, 2003; Lankshear and Knobel, 2007; Steinkeuhler, 2008).

Today's students who are technically and digitally adept outside of school can navigate the Internet and technology peripherals (computers, game consoles, mobile devices) in a rapid and fast changing nature, with the ability to adapt to new changes in these environments at a quick pace which is not always recognized in class curricula (Abrams, 2009; Gee, 2007; Gerber, 2009; Gerber, 2010). The ability to navigate between online environments and popular culture is a convergence of cultures (Jenkins, 2006). It is collaboration and collective decision making that allows people and today’s students to be successful in these environments (Jenkins, 2006; O'Reilly, 2005). This collision of thought, this so called "Convergence Culture" (Jenkins, 2006, p. 10), is at the heart of what good education should be. This same convergence in ways of thinking and collaborating can be invited into the classroom, if we allow it. The purpose of this article is to highlight a series of strategies that promote and encourage collective, collaborative, creative, and critical thought and communication within each and every student. When conducted through the engaging new media of text and web-enabled phones, a symphony of learning can be enjoyed by all who dare to participate. In order to better understand how to listen to and understand the symphony of language produced by today's students, we will first explore the digital native student and look at how these students’ thoughts and styles of communicating...
often collide with traditional academia and schooling before looking into mobile devices and how they can be incorporated in the classroom.

**Who are the Digital Native Students?**

Today's college students think very differently from students of ten or even twenty years ago (Gee, 2003). These students, recognized by some as digital natives (Prensky, 2005), have very different ways of processing information and conceptualizing ideas. In fact, neuroscience shows that today's students' brains are likely wired in such a unique manner as compared to their parents and teachers that often it seems as if a language barrier exists between the “digital natives” and the "digital immigrants" (their parents, teachers, professors, and those not from the millennial generation--1978-2000). These are the students who have come of age in a world with technological advancements, and who do not remember a time without the Internet and computers; they are the students for whom the phrase "I'll just Google it" holds more validity than turning to reference books for information. Digital native students are adept in using multimodal means to communicate and acquire knowledge through platforms such as video games, social network services (Facebook, Myspace, Friendster, and Bebo), YouTube, Instant Messaging, and other forms of Computer Mediated Communication or CMC. These are their tools and they use them as extensions of their bodies and minds, fluidly incorporating them into their daily routines (Prensky, 2005). They are changing the world when given the tools and the ability to do so. For example, Mark Zuckerberg, digital native student and founder of the world's largest social network service, Facebook (which has over 200 million users), was a Harvard student when he developed this social network service; Facebook is now the website of choice for many people young and old, for up-to-date information on life, politics, and civic engagement. He used what he knew about the communication needs and desires of students and improved upon the already existing idea of social networks and computer-mediated communication to create this site. Reportedly, Mark Zuckerberg turned down one billion dollars for his beloved Facebook from Yahoo because he felt that he was more knowledgeable about the wants and needs of the millenials and digital generation, being a member himself (McGirt, 2007). Digital native students know how to use media and create digital environments where communication and collaboration are nearly synonymous (Lomas, Burke & Page, 2008). This does not always occur within the four walls of school.

**Collision of Cultures**

A collision of cultures may occur when digitally literate students clash with digitally challenged older adults in the traditional classroom. As stated above, research in cognitive neuroscience shows that there is indirect evidence that digital native students think and process information much differently from their parents and other digital immigrants. In fact, much of the current pop culture and the technology that emerges as a result of collective intelligence born out of pop culture can be credited with these changing brain patterns (Johnson, 2006). But what does that mean for schooling and for digital native students in a classroom that is not a familiar digital land? Often, it means a lack of understanding between what is to be learned and what is actually learned. The digital native student tends to become disinterested in the traditional classroom due to the segmented nature of the learning. Learning in a digital environment becomes an experience where learning is integrated and collaborative in nature.
(Gerber, 2009). In order to increase an interest in learning, educators must encourage and accept student autonomy and initiative by allowing students to tap into these very diverse learning styles and digital aptitudes that emerge from today's students’ repertoire of digital tools. Digital natives are used to being producers of knowledge and are aware of how to take a dynamic role in learning; being a pure consumer of knowledge is not something that sits well with them. Most traditional schooling forces students to only be consumers of knowledge and does not allow for them to become active producers of the very knowledge that they are helping to define. This is a collision of cultures, an area that should be more deeply explored to see how to integrate this digital native learning style into current curricula. One such way is to use the current medium of communication that most students carry around with them: the mobile phone or smart phone.

New Literacies, Learning, and The Smart Phone

Addressing the changing nature of technology and student interaction with technology must include a conversation about the socio-cultural nature of new literacy practices on students. Engagement can particularly be attributed to the idea that new literacy, by its very nature, includes practices that can lead to higher student engagement (Osborne, 2005). In these new literacy environments, students often rely on skills of collaboration, collective intelligence, and appropriation, or remixing to be successful in these environments (Gerber, 2010). These same traits and skills can be harnessed within classroom instruction when using mobile devices. These practices and literacies are more collaborative, more distributed, and more participatory (Lankshear and Knobel, 2007).

According to the Pew Research Center's study of teens and mobile phones, the mobile phone has become the favored communication hub for roughly 75% of American young adults (Lenhart, Ling, Campbell, & Purcell, 2010). Most students today own smart phones which are web-enabled that often run with multiple operating systems (OS), from PC based platforms, to Linux and Apple systems, which in turn can enable the owner to work on documents and browse the Internet. Smart phones, such as the iPhone and Blackberry, combine the elements of interactivity, identity and mobility. The mobility of the device demonstrates that media is no longer bound by time and space can be used in any context. Owning a smart phone gives students the opportunities to not only browse the web, but to stay constantly connected and plugged into a social network of learning, communicating, and collaborating. It enhances the participatory culture through increased levels of interactivity. Instead of merely watching, users are actively involved in making decisions, navigating pages, contributing their own content and choosing what links to follow. The smart phone offers endless choices and ways to get personally involved with multiple media at the same time, in a nonlinear way.

Mobile Devices and Collaboration through Micro-Blogging

In recent years, Twitter's popularity has steadily gained traction. What started as a simple way to update friends about daily life has grown into a powerful tool for business, communication, and education. Twitter is an online micro-blogging service that allows users to broadcast and receive messages from the computer or cell phone of 140 characters in length. For instance, all those who "subscribe" to a broadcast can see a message, called a "tweet," and in return, can receive messages from all those to whom they subscribe. Because tweets can be sent
and received from a mobile phone, users can efficiently utilize this highly mobile form of communication. Twitter may be a few rungs below Facebook in terms of popularity among college students, but a growing number of educators are embracing it as a way to introduce students to a different kind of communication. The creative ways Twitter users have incorporated micro blogging into their daily lives have inspired universities to incorporate Twitter in the college classroom.

Why use Twitter in university classrooms? Twitter can help keep students engaged in course content beyond the classroom walls. The time when students could sit in a residence hall lobby after class to discuss ideas and share philosophies is almost a nostalgic practice of bygone days. Today, many students work several jobs and more often than not, do not live in a residence hall. However, using Twitter in the classroom is a way to make up for this lost venue.

The following are a few ideas for incorporating Twitter with course content in academic classroom.

Direct tweet

Professors and students can contact each other through direct Tweets without having to share cell phone numbers. The benefit of using a direct Tweet is that these messages are only viewable by the person who receives the message. Direct messages are a also a nice way to personally greet new followers without cluttering your twitter stream with redundant introductions.

Class twitter group

A class Twitter group will help facilitate professors and students getting to know each other, especially if the class is part of a more intimate setting such as a seminar. This is a good way for professors to post class news, announcements, and project updates on the network during the course of the class period. Goals can range from helping students to develop personal learning networks outside of class, giving a voice to students who do not speak up often, creating a backchannel for two-way dialogue, and learning how to manage a fast-paced online conversation. In addition to following the professors, class members can follow each other and this can help to create a classroom community. In addition to the previous suggestions, a class Twitter account allows students to brainstorm, share interesting websites that are relevant to their class and posit questions to the professor or the class as a whole.

Before having a class participate within a group Twitter account, it may be advisable to set up a few guidelines. First, students need to understand that although they will be able to be in constant contact with their fellow classmates and their professor, tweets should be kept on a public, academic level, not a personal level. This is particularly important for professors to retain professional relations with their students. Further, the professor needs to establish the times when it is appropriate to tweet. May students tweet during a lecture? Should tweeting happen only when class has concluded? This guideline needs to be determined at the onset of the Twitter experience. Further, is it probably worth showing students how to turn off Twitter’s
pushing (updates) to their phone during specified hours so the phone does not go off at 3 a.m. Finally, if students do not have unlimited texting, their number of text messages can really skyrocket. To address this concern, have them follow all of their classmates, but have only 5-10 of them pushed to their phone. Just because students are following someone does not mean they will get their updates on their phone.

Collaborate on projects

Students can set up a group using an app like Tweetworks, which is a Twitter application that makes it simple to find and participate in relevant conversations. Users of the app can enjoy fully threaded conversations, join and create groups on any topic and share media with single-click tagging.

Take a poll

Students can express their opinions or get feedback on future projects or topics by using an app like PollDaddy, an app that allows the creation of surveys, polls, and quizzes in a short time. Responses can be collected via their website, e-mail, iPad, Facebook, and Twitter. The app can also generate and share easy-to-read reports.

Follow These

Twitter allows the class to follow politicians, mentors, the news, citizen journalism or professionals in the class' area of interest.

Experiment with Twitter Tools

Glunote is a note taking application. Notes can be taken and retrieved by using either a favorite Twitter client, Twitter itself, or on the Glunote website.

TwitPic lets users share media on Twitter in real-time from their phone, from the site, or through email.

Tweetree puts a Twitter stream in a tree so users can see the posts people are replying to in context. It pulls in numerous external content so the class can see them right in the stream without having to click through every link participants post.

Bringing a service like Twitter into academia as a teaching approach has garnered a fair amount of criticism. Some feel that restricting users to a mere 140-character blurb wreaks havoc with students' writing skills and does nothing to help lengthen their attention spans. Others feel a tool like Twitter should be used solely with other professionals in the field. Finally, some feel Twitter's usefulness depends on the individual. As William Kist, professor at Kent State University shares, "If you want to share information in small bites with a group of people who share your interest, that's what it's for." (Miners, 2010).
Mobile Devices and Collective Intelligence

Collective intelligence is based on a model of deliberation in which diverse groups of people deliberately compare notes and work through problems together. It is the kind of intelligence that is constantly enhanced and coordinated in real time. "No one knows everything, everyone knows something, all knowledge resides in humanity" (Levy, 1999). Scarlat & Maries (2009) concur when they suggest that collective intelligence is the ability of a group to solve problems more effectively than any of its individual members.

User-generated content (UGC) refers to various kinds of media content that are produced by the users themselves, as opposed to traditional media producers such as professional writers and publishers (San Diego Media, 2010). Perhaps one of the most well-known examples of UGC is Wikipedia, The Free Encyclopedia, an online encyclopedia that anyone can add to or edit. Equal parts online encyclopedia, almanac and tabloid, Wikipedia is exhaustively comprehensive but also corruptible because its content can be submitted and edited by users who are not always qualified or objective. Although not uniformly endorsed by instructors, Wikipedia tends to be more up to date than Encyclopedia Britannica, which has the brand, but Wikipedia employs a "super brain". With very minimal software, Wikipedia directs millions of minds to create a new kind of encyclopedia (O'Reilly, 2006).

Mobile devices can bring in more contextual information to user created data and enable creation of on-site and real-time information (Nishimoto, 2007). Today's smart phones contain microphones, cameras, motion sensors, proximity sensors, and location sensors. These sensor-based applications can be designed to get better the more people use them, collecting data that creates a virtual feedback loop that creates more usage (O'Reilly & Battelle, 2009). Utilization of mobile devices in the classroom to promote collective intelligence makes sense because these delivery platforms can be accessed anytime, anywhere, are cost effective, have a global reach, promote just-in time learning, are highly personal and encourage collaboration and interactivity.

Dr. David Kaufer, professor of English at Carnegie Mellon University states, “Studies show that people working in teams are able to arrive at better and more creative solutions than people working alone, and this is particularly true in reading and writing tasks. However, that collective effort is difficult to achieve in formal education settings” (Carnegie Melon University, 2011). Mobile devices can be used to engage students in online learning communities that effectively tap the collective intelligence of groups. For example, students can share their ideas about texts, news articles and other reading materials or their critiques of each others’ writings. Additionally, students can read assigned texts and then annotate them with online editing tools. Their observations can then be shared with others that may then spark discussion within a document, cluster similar comments and identify which comments are most influential. Using mobile devices in the classroom can enhance students’ experience as readers and writers.

The following are some applications for mobile devices that encourage the practice of collective intelligence.
Mashups

Mashups combine music, text, video or images into one composition. They are useful in the classroom to get students to think creatively.

Wikis

A Wiki is a piece of server software that allows users to freely create and edit Web page content using any Web browser. Wiki supports hyperlinks and has a simple text syntax for creating new pages and crosslinks between internal pages on the fly.

Document Sharing

These are phone applications that allow users to "catch" documents from other sources and save them to personal phones.

Social Networks

A social networking service is a platform, that focuses on building social relations among people who share interests and/or activities.

Blogs

A "blog" is a blend of the terms "web" and "log". A blog is usually maintained by an individual on a regular basis and can be interactive. Visitors to a blog are often invited to contribute to the existing conversation.

Podcasting

Podcasting allows users to create audio files and post them to the Internet for others to download and listen to at any time. Podcasts can serve as an alternative to student produced newspapers or oral presentations of reports and assignments.

The interfacing of collective intelligence with mobile applications in a classroom setting allows information to be compared, contrasted, and collated. At this moment in time, the idea of sharing information is being valued as much as the idea of proprietary information. Although these mobile applications hold many promising prospects, hand held devices are unable on their own to determine whether information is true or not. An application will assimilate information as 'truthful' and will render a result based on the original input, regardless of the quality of the original information. These apps do not know right from wrong, good from bad, so it is up to the collective intelligence to evaluate, rate, and update misinformation where it exists. Further, there are some legitimate concerns about privacy and ownership rights to data that is freely posted on multiple websites. That being said, use of mobile devices in the university setting to compile information from the collective is a promising way to truly harness our "web brain" in "real time".
Mobile Devices and Appropriation/Remixing

Tom Pettit, Associate Professor of English at the University of Southern Denmark, suggests that in the centuries prior to the invention of the printing press, humans commonly utilized devices such as sampling, remixing, borrowing and appropriating as a means to communicate and learn (Pettit, 2007). Interestingly, Walter Ong (1982) suggests that we have recently entered into an era of ‘secondary orality’, or prevalent form of communication, which is similar in scope to the time before Gutenberg when it was common practice to ‘appropriate’ thoughts and ideas, incorporating them into their own works of self expression. According to some scholars who are following and documenting the learning practices of today’s participatory culture, media-centric youths are again demonstrating the same ‘pre-Gutenberg’ inclinations for “appropriation”, “collective intelligence”, and “networking” as staples of the methods they often utilize, especially in informal learning situations (Jenkins, 2005; 2006).

Scala, a girl's chorus from Belgium, performed a song for the 2010 movie The Social Network. What made the performance noteworthy was that the all-girls' choir sang an acoustic reworking of Radiohead's song Creep. Brothers Steven and Stijn Kolancy took the rock song and reinvented it as a melancholic hymn. In other words, they remixed Radiohead's original song.

The term remix is a metaphor for "changing it up," "looking at things in a new way" (Prins, 2010). Remix culture is all around. Popularized through the music culture and the online networking scene, it can now be found in literature, photography, video, and art. A remix in literature may be an alternative version of a text. Photographic mosaics are often a reorganizing or remixing of photographs. A movie parody of various mainstream movies may be a remixing or mashup of video. A similar term, "appropriation", refers to art and means to take possession of another's imagery by properly adopting, borrowing, recycling or sampling aspects of man-made visual culture (Delahunt, 2010) such as Andy Warhol's painting of the lowly Campbell soup can.

Images, sounds, video clips and text abound online. Copying those and reworking them with software is one way for students to accomplish a remix. Appropriation and remix are most often used to make some kind of commentary, but can also just be a fun way to work with a song or image that a student likes. In recent years, remix practices have gained increased recognition as powerful tools for teaching and learning in the youth media field. Re-using media is a means to strengthen critical analysis and heighten awareness of media’s many creative forms and the cultural, political, economic, and social functions of mass media, popular culture and digital media in contemporary society (Hobbs, 2008). Remix practices offer students the opportunity to participate in culture, practice self-expression, communicate, advocate and become participatory citizens.

Popular examples of current remix practices used by today's youth include:

Photoshopping remixes - diverse practices of image editing, many of which constitute forms of remix.
Music and music video remixes - taking bits and pieces of existing songs and splicing them together.

Machinima (machine + cinema) remixes - the process by which fans use video game animation "engines" to create movies.

Original manga and anime fan art - a distinct branch of fan music clips using anime as their visual resources (Lankshear & Knobel, 2007).

Gee (2007) observes that humans feel "expanded and empowered when they can manipulate powerful tools in intricate ways that extend their area of effectiveness." He further notes that many of the tools young people increasingly have access to today are "smart tools" that have knowledge built in to them in ways that enable them to "collaborate" with the tool users to do complex things that the tool user either could not do alone or could not do as effectively. Classroom pedagogy stands to learn much from remix affinities and how they enable learning and achievement (Lankshear & Knobel, 2007). But, there is a caveat. Despite the popular and long-standing use of appropriation/remixing, these artistic practices have resulted in contentious copyright issues. Since remixers often borrow heavily from an existing piece of art, the issue of intellectual property becomes a concern. Producers and educators working with appropriation/remixing need to have a sound understanding of copyright and fair use and how it applies to teaching and learning (Hobbs, 2008).

Conclusion

Today’s digital natives and millennials are growing up in a world dominated by communication with others and have constant access to vast amounts of information through the use of mobile devices. Even though our undergraduate student population is extremely diverse, e.g. culturally, geographically, socioeconomically, traditional or non-traditional, one aspect remains the same; all of them will need to be prepared to work and communicate in 21st century classrooms. As our students connect and communicate with each other, so should we as educators make every effort to join them and embrace new literacy practices in which they are proficient. Current university students feel comfortable using mobile devices although not necessarily within educational contexts. This will require educators to use up-to-date multi-literacy practices to make learning more relevant and meaningful for digital and non-digital natives to be successful in the classrooms of the future.
References


