

## Digital Citizenship and Web 2.0 Tools

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### Abstract

This concept paper explores citizenship in a digital age. The potential of Web 2.0 tools highlights the importance of educational institutions' consideration of the use of these tools in school settings to promote citizenship at a time when students are already exposed to powerful online communication platforms. First, a description of three Web 2.0 tools, blogs, wikis, and online social networks, is provided. This is followed by an exploration of digital citizenship. Then, several cases in recent history where Web 2.0 tools played an important part in promoting democracy and social justice are examined. Finally, using a lens of digital citizenship, several instructional suggestions are provided for educators to help students experience and understand multiple layers of citizenship in a 21<sup>st</sup> century technological landscape.

**Keywords:** Social justice, blogs, social networks, wikis, Twitter, democracy, K-12, Digital Citizenship and Web 2.0 Tools

### Introduction

The Internet features communication platforms, such as blogs, wikis, and social networks that have allowed average users to change from passive receivers of information to active producers of information (Budin, 2005). These tools and the ways that they have empowered individuals to take control of their Internet experiences have been categorized as Web 2.0 technology (Pachler & Daly, 2009; Williams & Chinn, 2009). There have been several occurrences in recent history where the use of these tools has either promoted awareness of social causes or gathered people together for civic action. As more of these instances happen throughout the world, it is increasingly important for students to understand not only how Web 2.0 tools work, but also how the sharing and distribution of information through these tools can promote civic engagement (Budin, 2005). Warschauer (2003) defined computer-mediated communication (CMC) as the "interpretive and writing skills necessary to communicate effectively via online media" (p. 117). He continued to say that on a basic level, CMC requires users' ability to communicate with others over the internet. On an advanced level, it includes the ability to use online communication for the benefit of social groups or larger communities.

There are two primary types of online communication: synchronous discussion and asynchronous discussion. Synchronous discussion is real-time or live communication that takes place on platforms such as instant messengers, audio chat, or video chat. Asynchronous discussion is non-live communication that takes place over time and includes platforms such as e-mail, discussion forums, blogs, and wikis (see Table 1).

This paper contains descriptions of how some Web 2.0 tools played an important role in recent historical events. These events can be used as models for middle school educators who can introduce their students to both technological tools (ISTE, 2007) and critical literacy (Comber & Thompson, 2001; Sefton-Green, 2006). Westheimer and Kahne (2004) suggested three types of citizens: responsible, participatory, and justice-oriented. In this paper, these three types of citizens are used to frame the described historical events and to inform the suggested instructional designs to support the growth of digital citizens.

### Web 2.0 Tools

As local, regional, national, and global network infrastructure has improved with increased communication speed, distributed content languages such as XML and RSS have led to the development of sophisticated Web 2.0 tools such as online social networks, microblogs, and wikis (Wesch, 2007a; Wesch, 2007b). The events and suggestions provided later in this paper focus on these three technology platforms that integrate both synchronous and asynchronous communication.

Table 1. *Examples of Web 2.0 Communication Tools*

Tool	Communication Type	Examples
Instant Messaging	Synchronous	AIM, GoogleTalk, MSN Messenger
Audio Chat	Synchronous	Skype, AIM, GoogleTalk, (any VoIP)
Video Chat	Synchronous	Skype, GoogleTalk, MSN Messenger
E-mail	Asynchronous	Gmail, Hotmail, Yahoo Mail, Outlook
Discussion Forums	Asynchronous	UseNet, Tangler, FireBoard
Blogs	Asynchronous	Blogger, Wordpress
Wikis	Asynchronous	Wikipedia, PBWiki, Wikispaces
Social Networks	Synch. & Asynch.	Friendster, MySpace, Facebook
Micro-Blogging	Synch. & Asynch.	Twitter, Tumblr

Online social networks, such as [Facebook](#) and [MySpace](#), allow individuals to set up and customize profiles where they can share resources and information about themselves, their interests, and/or their hobbies (Gunawardena, et. al, 2009; Notley, 2008). Once a profile is set up, users link their profile to other user profiles or to the profiles of larger organizations. Social networks enable users to share thoughts, photos, and videos with people connected to them through their various networks. Social networks generally contain options to maintain a blog via a profile, or to have a live chat with social network members who may be online at the same time.

Microblogs are part asynchronous blog and part instant messenger with [Twitter](#) being one of the more popular microblog tools for enhancing social presence (Dunlap & Lowenthal, 2009). Users enter text, links, and hash-tags into their Twitter feed, with a limit of 140 characters per Twitter post. Hash tags (e.g. #hashtag) are used in Twitter to group posts by category. People who have subscribed to a Twitter feed automatically get updates on their own Twitter homepage. Though very similar to regular RSS news feed subscriptions, Twitter and other microblog services have found an interesting balance between immediate communication and asynchronous communication. Twitter's simple design and interface have also made it quite popular (Grossman, 2009).

Wikis are usually cleanly designed and freely accessible websites that allow authorized users to view and update content contained on the pages without the need for webmaster approval. The most popular types of wikis are generally written in an encyclopedic style. One of the strengths of wikis is how they support the building of collective intelligence (Jenkins, 2006) as more users contribute both content and scrutiny (Harouni, 2009). Wikis are very easy to join, view, and edit, though some wiki services require authorization for editing privileges. [Wikipedia](#) is one of the most accessed sites in the world.

Since 2001, wikis have become an increasingly popular destination for information seekers because of the large amount of information and information sources on wiki pages. Content in dictionaries and encyclopedias may take months or years to be verified and then approved to be included in print or online editions. However, a new Wikipedia entry can be made available immediately after being created. Consequently, a Wikipedia entry also can be instantaneously modified or marked for deletion. As new terms, tools, situations, and people emerge each day, the most helpful way to index and record information about them is by utilizing the efforts and knowledge of everyone in the world. Wikis have the potential to be used as a collective intelligence knowledge base for social and political issues (Milberry, 2006).

### Three Types of Citizenship

Westheimer and Kahne (2004) suggested three types of citizens: the personally responsible citizen, the participatory citizen, and the justice oriented citizen. They also stated that these three categories are not necessarily cumulative. Though commonalities may exist among the three citizen types, they felt that it was important to make each category distinct.

According to Westheimer and Kahne, a personally responsible citizen acts dutifully in his or her community by doing things such as recycling, obeying laws, or contributing to local food and clothing drives. A participatory citizen actively partakes in “the civic affairs and the social life of the community at local, state, and national levels” (Westheimer & Kahne, 2004, p. 4). Participatory citizens need to understand how government and community organizations work, and they need to understand how to plan and lead meetings.

Westheimer and Kahne (2004) defined the justice oriented citizen as one who pursues social justice. They provided an example where a justice oriented citizen focused on the root of people’s hunger, rather than donating food or even organizing a local food drive (Westheimer & Kahne, 2004). This type of citizen does not simply respond to a problem. Instead he or she works to find a solution to the cause of it. A justice oriented citizen also understands how to value and incorporate diverse and even opposing views when addressing the roots of social problems (Westheimer & Kahne, 2004).

### Digital Citizenship

The [International Society for Technology in Education’s](#) most recent technology standards for students contained a major category about digital citizenship. These standards state that a digital citizen practices conscientious use of technology, demonstrates responsible use of information, and maintains a good attitude for learning with technology (ISTE, 2007). However, these standards do not promote the idea that critical literacy and civic responsibility are equally important characteristics of a digital citizen (O’Brien, 2008; Salpeter, J. 2008; Makinen, 2006). Still, these standards and the types of citizens proposed by Westheimer and Kahne (2004) can be combined and adapted to describe three types of digital citizens.

A personally responsible digital citizen may opt out of paper mail for electronic mailings, communicate respectfully on public discussion forums, and subscribe to information feeds about local volunteering events from Web 2.0 resources such as blogs or social networks. A participatory digital citizen might use a discussion forum to organize a local clothing drive or use an online social network to raise money for a local charity (Center for Social Media, 2004). A justice oriented digital citizen might start to a Web 2.0 resource such as a wiki or a public discussion forum that directly deals with social issues (Westheimer & Kahne, 2004). He or she might support a movement towards social justice by joining an appropriate online social network.

### Recent Noteworthy Use of Web 2.0 Tools

In 2008, the number of Democratic voters that showed up increased from 2004 while the Republican turnout decreased (Joyner, 2008). Though a number of mitigating circumstances may have contributed to this increase, one important factor was how Barack Obama used the power of online social networks to recruit voters, share information, and engage people who had limited access or ability to contribute to political activity. At first, Obama’s team tapped existing grassroots networks such as Organizing for America, using their energy and resources to build momentum for their own campaign. As Obama’s popularity grew, individuals with no official connection to the campaign began organizing their own supportive meetings using online social network sites like Facebook and LinkedIn. Obama’s team eventually created their own online social network to take advantage of people’s desire to take part in this historic election (O’Hear, 2007).

Previous candidates such as Howard Dean had used the Internet for their campaigns, but mostly just to raise funds (Carr, 2008). Obama and his campaign team may have seen the Internet’s ability to engage people’s desire to be justice oriented citizens. Many individuals took their own time and resources to help make a change in the United States after possible disappointment with the previous administration (Carr, 2008). Obama’s Presidential office has continued to use the social networking model to develop their community service driven initiative, connecting people to civic and social service projects.

In June 2009, protests over a controversial election began to take place in Iran. Iran’s government, following a predictable pattern, tried to control information about the protests from going out over TV, radio, and the Internet (Guardian UK, 2009). As commercial media outlets were not able to give the protests adequate coverage, individuals began using blogs, social networks, and other Internet tools to

deliver news reports. Many Iranians began to use their Twitter feeds to deliver live accounts of the protests they were witnessing in Tehran and in other parts of the country (Berman, 2009). The microblogging tool allowed the delivery of immediate, though not necessarily verifiable (Grossman, 2009), news about how people were actually responding to a situation. This stands in stark contrast to the typically limited and filtered information that comes out of Iran (Abadi, 2006). Though the Twitter posters were not directly addressing the cause of a social problem, they did directly provide the rest of the world with rarely accessible information about the citizens of Iran.

In May 2008, the entry for California's Proposition 8, a ballot proposition to ban same-sex marriage in the state of California, was created (Wikipedia, 2009). Proponents both for and against this proposition used TV, print, and live meeting outlets to voice their positions and rally support. As media coverage about the intense debate over Proposition 8 increased, many people turned to Wikipedia to share and gather information about the ballot proposition (Parr, 2009). Between November 2008 and December 2009 there were over 3000 revisions made and 150 outside references added to the wiki entry for Proposition 8. In the election month of November 2008 alone the wiki page had over 1,000,000 views (Wikipedia, 2009; Wikipedia Article Traffic Stats, 2009).

There are critics of how Wikipedia operates, including those who point out that only a small percentage of people do a majority of the edits (Wilson, 2008). However, the revisers do the work voluntarily and no individual is denied access or the opportunity to contribute to Wikipedia's knowledge base. Though it seems likely that people against Proposition 8 would use the wiki entry to state their position, as more users contributed information to the Proposition 8 wiki, the page presented a neutral view that simply provided information about what the proposition was about. Those who contributed to this wiki and helped keep the content credible acted as justice oriented citizens by understanding the importance of diverse opinions.

### **Instructional Activities**

The events described in the previous section are only three examples of Web 2.0 tools being used by justice oriented digital citizens in political and social situations. As the potential of these tools becomes more evident, it is equally important to prepare students with the skills needed to understand the communication platforms and their potential for civic engagement. The following activities are possible ways for middle school educators to meaningfully introduce microblogs, wikis, and social networks to students to prepare them with the skills necessary to be productive digital citizens as they grow older.

### **Microblogging Activity**

Twitter is a completely free website, but with the lack of cost also comes a lack of control. To use Twitter in an educational setting, teachers would need for their students to garner a sense of responsibility about posting while also helping the students understand the immediacy and permanence of twitter posts. They will also need to understand that the information posted by other Twitter users does not get filtered and that there is potential for the students to come across offensive language or content. Students can use personal phones and other Internet-ready handheld devices or the school can provide computers with wireless Internet access. An acceptable use policy (AUP) or class contract can be very helpful before beginning an activity with a new technology tool so that expectations are clearly defined for students, administrators, teachers, and parents.

After a general understanding of the process has been firmly established and logistics of the exercise fleshed out, students can set up individual twitter accounts and then figure out how to find and follow the rest of the members of the class on Twitter. After a week or so of getting comfortable with the communication platform, the teacher should identify events for groups of students to attend such as sporting events or other after school activities. The students can report on what they are experiencing, categorizing their posts by using Twitter's hash tag system. By posting their own "tweets" and reading others' posts, students can experience being producers, consumers, and validity-checkers of information.

By introducing microblogs using a framework of digital citizenship, teachers have the opportunity to prepare their students to be personally responsible and participatory digital citizens. These students may become justice oriented citizens in the future as they gain understanding of social presence through the use of Web 2.0 tools such as Twitter (Dunlap & Lowenthal, 2009).

### **Wikipedia Activity.**

An authentic learning experience for students could be their creating or updating a wiki on Wikipedia itself (Harouni, 2009). A teacher would first need to explain the basic information organization of wikis,

explaining how information gets added, updated, and even marked for deletion. The teacher would also need to introduce the idea of reliability of authorship when considering the validity of the information found on public wikis. The teacher would then need to show students how to use the editing and revision history functions of the page so that students know how to add but also how to revert back to previous versions if necessary. Following a satisfactory orientation to wikis, students can create a Wikipedia account for free. A good introductory Wiki page might be for students to create, or update, an entry for the school they attend.

As the page develops, class members can invite other students of the school, parents, teachers, and alumni to contribute to the entry. As more users update the page, the likeliness that the page will be marked for deletion decreases. This exercise would give the students an opportunity to edit the contributions of people outside of their class, adding to the authenticity of the experience. They also have the opportunity to revise their own work as well as the work of others (Jones, 2008). The creation of a wiki page may help students understand the leadership and initiative that is required of justice oriented digital citizens.

### **Online Social Network Activity.**

Schools may hesitate to incorporate social network environments such as MySpace and Facebook into their schools (Notley, 2008). Most social networks feature heavily distributed content, making it very difficult to control the spread of information and resources once they have been posted and shared. However, as the pervasiveness of online social network platforms becomes more evident, it is increasingly important for schools to prepare students to be communicators in various digital settings (Gunawardena, et. al, 2009). Several companies have developed social network environments that have similar functionality to Facebook and MySpace but provide design and management control to administrative users. Ning is a service that allowed people to create their own private social networks for free, but recently changed their service to a fee-based model. SocialGO is another service that offers free private social network hosting. The free version of their product puts advertising on all pages that are a part of the private social network. Elgg is an emerging social network development program that is maintained by a large open source community. It is a robust program, but its setup and infrastructure management requires some technical expertise.

A teacher could first create a private network and then ask that each student create their own profile within the teacher's private network. Each student can then link to the other students in the class. Once everybody is joined together, students should be encouraged to share ideas, photos, videos, and comments with each other. The teacher would play the important role of a guide as students experience the communication possibilities in this medium. Once students have had a chance to become familiar with the interface and the organizational structure, the teacher can begin structuring activities that begin on the private network. For example, the teacher can assign the students to set up an after school meeting on a particular day in the coming month. The students would have to use the social network to organize the date, time, location, and content of the meeting.

This experience could expose students to the potential of online social networks to organize gatherings of people. Students can practice being participatory digital citizens by attending a meeting organized online, or they can practice being justice oriented citizens by setting up a new social network or organizing a meeting themselves.

The activities suggested at the end of this paper are not intended to be detailed lesson plans. Rather, they are suggestions for teaching the use of tools whose importance is validated by social and political events that have occurred in the past decade. It is also important for researchers to continue exploring the significance of Web 2.0 in the development of 21<sup>st</sup> century citizenship. Web 2.0 tools have provided accessible outlets for individuals to become active citizens. Schools need not only to prepare students to be responsible citizens, but also to prepare them with the technological and communicative skills necessary to engage civic responsibility in a digital age.

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