



Web 2.0

HOW-TO FOR EDUCATORS

Second Edition, Revised and Expanded

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Introduction

Look at the faces in your classroom and marvel that this generation of students is the first to have grown up with digital tools at their fingertips. They're always "on": texting friends, meeting on social networks, and interacting with the world in nonlinear fashion. They can get information when they want it, follow an idea in ways that have meaning to them, and jump from one thing to the next as the inspiration hits them. When they graduate, employment will be in an environment where reliance on technology is a given and the skills they need most are the ability to adapt, learn new skills, and work in ever-changing teams depending on purpose.

Using the tools that students find appealing can make a difference in their learning now and help them prepare for the future. Students can interact with information, analyze what they find, create knowledge, and then communicate the results to a real audience. The tools, like the students, are always on, accessible anywhere there is internet access. We bring Web 2.0 tools into the classroom where their importance lies in the potential to change the way we operate and maximize students' potential.

Since we wrote the first edition of this book, several important things have changed. Powerful classroom strategies such as 1:1 and anytime learning have become more entrenched. New concepts such as classroom flipping and Bring Your Own Device (BYOD)—and with them the use of powerful mobile devices—are growing. All of these practices drive an increased use of online tools and applications.

Thus, we have expanded our discussions of Web 2.0 to include new classroom examples and powerful new tools and apps. For example, the Productivity chapter (Chapter 4) is centered on the Google suite of tools, and we have added a new chapter on Mobile Apps (Chapter 9). Other new features include new how-to's and a greatly expanded list of Web 2.0 tools. Although many examples of classroom uses of tools from the earlier edition continue to be successful, this edition of the book contains new examples of still-popular tools and examples with new tools and mobile apps.

In addition, since we published the first edition, technology’s role in education has become more prominent—and essential to learning. The Common Core State Standards mandate technology use for both learning and for assessment. And in June 2013, President Obama signed ConnectED, an initiative to enhance digital learning in the United States (White House, 2013). The White House press release sketched the framework for this program: “Preparing America’s students with the skills they need to get good jobs and compete with countries around the world will rely increasingly on interactive, individualized learning experiences driven by new technology.” The press release quoted the president:

We are living in a digital age, and to help our students get ahead, we must make sure they have access to cutting-edge technology. [said President Obama] So today, I’m issuing a new challenge for America—one that families, businesses, school districts and the federal government can rally around together—to connect virtually every student in America’s classrooms to high-speed broadband internet within five years, and equip them with the tools to make the most of it. (White House, 2013)

Defining Web 2.0 Tools

We’ll start with what a Web 2.0 tool is. A definition of any widely used term can be tricky. A Google search for “Web 2.0 definition” returns more than 13 million hits; thus, our goal is to frame just how this term is used. Webopedia (2013) defines Web 2.0 as follows:

Web 2.0 is the term given to describe a second generation of the World Wide Web that is focused on the ability for people to collaborate and share information online. Web 2.0 basically refers to the transition from static HTML web pages to a more dynamic web that is more organized and is based on serving web applications to users. Other improved functionality of Web 2.0 includes open communication with an emphasis on web-based communities of users, and more open sharing

of information. Over time Web 2.0 has been used more as a marketing term than a computer-science-based term. Blogs, wikis, and web services are all seen as components of Web 2.0.

Some educators have added other qualifications as conditions for being considered Web 2.0 tools. Among these requirements are that the tools must be free, open source, and used online rather than downloadable. Others believe that almost any free or low-cost tool currently available online can be classified as Web 2.0.

In general, our plan is to provide readers with information about the tools that educators believe to be Web 2.0 because they use these applications in classrooms in interesting ways to promote the types of digital-age literacies that students need—applications that spark creativity, engage curiosity, and improve learning outcomes. We hope to introduce educators to a wide range of tools and the ways teachers use them, both in classrooms and professionally.

We should be able to harness these Web 2.0 tools to change education. The web is serendipitous: look up one thing and find another somewhat-related idea, and you're off on a learning adventure that can lead to a synthesis of ideas and new thinking on a topic. In schools today, students rarely see learning as an adventure even though we know that they enjoy playing with new tools and using them to communicate with others. In the past few years, many teachers have taken advantage of new tools to get their students started on the learning adventures we want them to take.

We hear that students are ahead of their teachers in web use. They spend hours texting their friends, meeting up on social networks, and displaying antics on video-sharing sites. But using tools and learning with them are two different things. Teachers have to figure out which tools to use, and when and how to use them; how to pull the tools together into a coherent strategy; and how to integrate that strategy as the teachers direct the learning experience. Teachers need easy-to-use applications that are clear about how they contribute to student learning and achievement. Students need teachers' guidance to do more than play with these tools.

Students and teachers are using mobile apps because of 1:1 computing and the move to less expensive mobile devices and BYOD programs. The impetus is to

use cost-effective tools that work for anytime, anywhere learning on multiple devices. Apps are natural extensions of Web 2.0 tools, and the distinction between online tools and apps is blurring. In some cases, both Web 2.0 and app versions of the same tools are available.

The distinction is that Web 2.0 tools are online (cloud-based) and mobile device apps are small programs that you download from sites such as iTunes or Google Play. These apps run on the device even if you access data in the cloud. With Web 2.0 tools, you don't have a program that resides on your personal computer. You just go to the website where it lives.

Challenges for Schools

Technology is driving much change in the world—and education along with it. Thus there are new challenges for students that schools have to address.

Thomas L. Friedman of the *New York Times* says:

In today's hyperconnected world, we all have to learn much more about investing in ourselves in order to succeed.

The combination of the tools of connectivity and creativity has created a global education, commercial, communication and innovation platform on which more people can start stuff, collaborate on stuff, learn stuff, make stuff (and destroy stuff) with more other people than ever before.

What's exciting is that this platform empowers individuals to access learning, retrain, engage in commerce, seek or advertise a job, invent, invest and crowd source—all online. But this huge expansion in an individual's ability to do all these things comes with one big difference: *more now rests on you.* (Friedman, 2013, p. A25)

Can schools address the need to prepare students to become lifelong learners who understand how and when to reinvent themselves for careers in the future? The *NMC Horizon Report: 2013 K–12 Edition* identified six challenges that need addressing (Johnson et al., 2013).

1. Ongoing professional development needs to be valued and integrated into the culture of the schools.
2. Too often it is education's own processes and practices that limit broader uptake of new technologies.
3. New models of education are bringing unprecedented competition to the traditional models of education.
4. K–12 must address the increased blending of formal and informal learning.
5. The demand for personalized learning is not adequately supported by current technology or practices.
6. We are not using digital media for formative assessment the way we could and should.

Education Technology Trends

Fortunately, technology is improving and schools are starting to move in the right direction. The *Horizon Report* identifies cloud computing and mobile learning as technologies that should be in place in one year (Johnson et al., 2013).

Further, it identifies five trends:

1. Education paradigms are shifting to include online learning, hybrid learning, and collaborative models.
2. Social media is changing the way people interact, present ideas and information, and communicate.
3. Openness—concepts like open content, open data, and open resources, along with notions of transparency and easy access to data and information—is becoming a value.
4. As the cost of technology drops and school districts revise and open up their access policies, it is becoming more common for students to bring their own mobile devices.