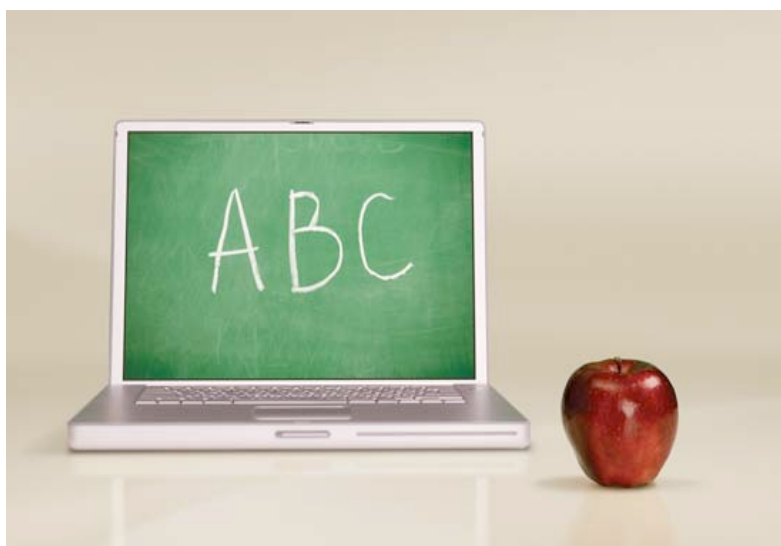




Moving Toward Web 2.0 in K-12 Education

Steve Hargadon - October 22nd, 2008 - (*Brave New Classroom 2.0*)

The title of this post is a watered-down version of my typical opening line on this topic, both because of the importance of allowing for true dialog on this topic (which can sometimes be lost in the strident opining that blogging seems to engender), and because of the difficulty of quantifying educational success when talking about the particular outcomes that I hope to show are largely inherent in and facilitated by the use of Web 2.0. Normally I would say, "Web 2.0 is the future of education," and while I harbor a hope that will be true, I think it might be more accurate to say that "Web 2.0 will be a significant part of the future of learning," and that in the best case scenario it will become an important part of our formal educational institutions.



My personal definition of **Web 2.0** is not complicated. With an appropriate nod to Tim O'Reilly, who used the phrase originally in a **business context**, I'd like to suggest that for the sake of our discussions around education that Web 2.0 is simply the use of the Internet as a two-way medium--that it is a platform upon which content is not only consumed but also created. For my generation, our use of the Web largely mirrored our experiences with print and broadcast media: we were the audience, and a select few were the creators (this would be Web 1.0, if you will). For my children and our students today, their use of the Web often entirely revolves around content that they and their friends have created, and within Web frameworks or scaffolding that facilitate that creativity rather than providing the content for them. They build profile pages, upload photos and videos, and interact with each other and that content through active commenting systems.

Web 2.0, defined this way, is facilitating a dramatic change in our relationship to information. The advent of printing press lowered the cost of producing written material, and Web 2.0 not only brings that cost now to essentially zero (anyone in this country can go to a public library and use a computer for free and with free software publish to the web), it is also bringing the nature of information publication as a conversation to the user who used to just be a part of "the audience." While most of us *watched* those conversations taking place between trusted authorities or authors before in a world of broadcast media, we are often now *immersed* in them ourselves.

The Web as a Conversation

Seeing the Web as a conversation is very helpful in understanding how our paradigms about information will have to change. We often speak of “information overload,” and the perception that there is too much information can reinforce our belief that information needs to be more carefully controlled and vetted before being “allowed” to become public. When, however, we see the ever increasing amount of content as “conversations” that are taking place, it becomes an educational imperative to teach ourselves and students to be productive participants in those conversations. I like to tease educators by claiming that the answer to information overload is to create (and to teach the creation of) more information—a paradox in our existing paradigms, but self-evident in a new understanding.

What is abundantly clear is that no matter what our schools are currently doing, most of our students are already actively involved in this content creation and conversation outside of school. In a [series of reports](#) recently released by BECTA (the government agency leading the UK drive to ensure the effective and innovative use of technology throughout learning) on Web 2.0 technologies for learning, students ages 11 - 16 were surveyed. 74% reported that they had at least one social networking site account and 78% reported having uploaded pictures, video, or music to the web—with 50% having done so in the previous week of being asked. If we make the somewhat logical assumption that most parents are still living in a Web 1.0 world (largely passive consumers of content created by others) , then whether we see the Web as a dangerous collection of minefields or as an unparalleled learning environment, most youth are participating on the Web without the benefit of much guidance or mentoring from the adults who are most interested in their progress and well-being.

So, if for no other reasons than we might muster to justify driver’s education in schools (learning to do something very important that carries some inherent and significant personal and social dangers), we can argue for the need to be teaching Web 2.0 as a part of K-12 education. But I believe there are more positive, less alarmist, reasons. In fact, I think the inherent characteristics of Web 2.0 are so aligned with significant educational pedagogies that we are going to have to dramatically rethink our educational institutions and expectations because of them. Even though the benefits of Web 2.0, like those of a liberal-arts education, resist easy assessment methods and therefore present a challenge to how we measure educational success, I’m optimistic that they will ultimately prove so valuable as to require that we rethink teaching and learning.

A caveat is perhaps in order. For 25 years we’ve watched computer fad follow computer fad in education, each promising to transform learning. It’s absolutely appropriate to be skeptical of claims of technological El Dorados. Hundreds of millions of dollars, if not more, have been spent on outfitting schools with computers, and most of us would appropriately claim that the impact on student achievement has been little to none. But I would submit that, as happened in our business culture 20 years ago, a set of technologies that actually transform our traditional methods will become the driving catalyst for ubiquitous access to computers at school. What we currently have are computers purchased and maintained largely by school business offices, relatively divorced from teaching methodologies, and either not in a quantity or in a condition to allow overworked teachers to change their teaching methods. Driven not by technology vendors or unproven theories, Web 2.0 instead seems likely to change education precisely because it is a disruptive external change.

What are, then, the aspects of Web 2.0 that translate into achieving educational goals? Let me suggest the following list of educational benefits of Web 2.0, which I hesitate to claim as exhaustive, but which I hope will help the discussion.

Engagement. This is often a promised result of technology, so I feel the need to address and defend it early on. Because the engagement of Web 2.0 is in the act of content creation, and seems to exist independent of the particular program being used or even of being in a formal learning environment, this claim seems not only reasonable but compelling. Students

who continue to post to their blog or to stay involved in discussion forums during their vacations exemplify the power of Web 2.0 to engage students because of the authentic nature of the work rather than being required assignments.

Authenticity. Both having an authentic audience, and having the contributed work be authentic, argue for Web 2.0 as an active part of K-12 education. When I wrote essays in school (back in the day...), only my parents and my teachers saw what I wrote. I was, in effect, writing for "practice" with relatively little feedback. Students today are creating on the Web for very real audiences, and their writing or production has to pass a very real test: are they communicating well? Whether it is the peer audience in school which keeps their Web 2.0 programs within the "walled garden" of the school network, or it is publishing for the world, both the work and the audience are authentic.

Participation. That is, actually being a contributor to world's body of knowledge. Previously, to pursue an educational interest as part of a larger part of one's life work, that interest had to be within the relatively narrow confines of existing institutional structures in order to be worthy of publication or presentation—and was rarely available to students. Now, in an amazing flowering of the Chris Anderson's "Long Tail" model (www.thelongtail.com), students (and teachers!) can find specific intellectual paths to tread where they are able to participate, say, as an historian and not as someone preparing to be an historian. A student can write a report on an historical figure, or a scientific theory, and both publish that to the web and also participate in meaningful ways with other students and adults interested in the same topic. (Think of all the historical figures and topics that might otherwise not receive much attention.) There is no good reason to keep our youth "preparing" for life until their mid-twenties when their contributions to society could be so important to both us and them much earlier.

Openness and Access to Information. The backbone of the Internet "Revolution" is openness. Open computer standards, open software, and open content. Web 2.0 is making obsolete many of the restrictions on access to information that were intended to protect the rights of creators, but instead mostly inhibited learning by others. When the world's knowledge doubles in short periods of time, the incentives or rewards for keeping information proprietary significantly diminish, and the resulting willingness to share presents great opportunities to learn and to participate. The ability to "look something up" or to learn something new has never been greater.

Collaboration. I remember even when I was growing up that collaboration was said to be important. But, truly, it wasn't. Or, at least, it wasn't what was really rewarded, either in school or in the business world. Web 2.0 has actually given real practical value to a character trait we wanted to instill. In the world of Web 2.0, collaboration is not only king, but it can be seen and assessed—look at the history page of a wiki, for example, or the linked list of contributed comments on the personal profile page of a social network. Web 2.0 has created an unparalleled ability to build or participate in personal learning networks and communities of interest or practice.

Creativity. We are, to paraphrase [Clay Shirky](#), in the midst of the greatest increase of creative capability in the history of the world. A regular student can write, film, and edit a video which then can be uploaded to YouTube and potentially seen by more of an audience than some commercial films actually garner.

Passionate Interest and Personal Expression. More than just the ability to build a profile page on MySpace, Web 2.0 actually gives both students and educators to build for themselves a online portfolio of the endeavors they are passionate about. Where the resume and the degrees have been our short-cut indicators of abilities and accomplishments, the

personal body of work now contained and hopefully organized on the Web gives everyone who wants it the the opportunity for an expression of personal interest and achievement.

Discussion. A lost art in culture and politics, in my view, is the thoughtful discussion. One of the great features of Web 2.0 is the discussion forum, which provides an environment for learning how to actually talk about things. While I may feel that a lot of the discussion that takes place in the “blogosphere” is overly antagonistic in order to be seen, it is discussion, and often becomes much more thoughtful in the context of a discussion forum.

Asynchronous Contribution. The ability to contribute to discussions after class, or from home, provides a much broader opportunity for participation than the traditional class discussion. Students with different contribution styles, or who process information over time, are now more participative.

Proactivity. Web 2.0 inherently rewards the proactive learner and contributor. My wife and I (both first children ourselves) raised our oldest child to succeed in the world in which we grew up, which rewarded being a good, quiet follower, who would work for someone who would tell her what to do and how to do it. But the world has changed, and employers want and the world needs students who have learned to participate actively and independently. The “spirited” child (our second daughter) is much more likely to be able to work on things she likes and is good at because of her willingness to be proactive.

Critical Thinking. The vast amount of data on the Web requires more critical thinking than was needed when I was growing up. In my era of “trusted authorities,” Time Magazine told me most of what I needed to know about the news. There was actually a lot more diversity of opinion on most topics than I was exposed to, which quickly becomes evident when you drill past the first page of a Wikipedia article and look at the discussion and history tabs. Unlike the previous traits of Web 2.0, I think this one really requires good adult mentors, so let’s finish this list for now and get to that.

One of the amazing impacts of Web 2.0 is watching long-time educators have their own personal learning transformed by these new tools of Web participation—especially as they discover professional development venues on the Web that help to release the inclinations to help others that often prompted them to become teachers. Their own experiences with Web 2.0 in this regard dramatically shape new expectations for what opportunities they are going to provide their students. But other educators are understandably afraid: of the learning curve, of the changes taking place, and of their own ability to play a valuable role in an educational world shaped by the individualized learning and “unlimited” content and opportunities. Used to being the provider or dispenser of knowledge and the authority, they are unsure of the role they would play in a world of Web 2.0 education. They are also, and often rightly, concerned that academic rigor is being lost in a world of easy creation and limited constraints.

I think it helps to remember that most of the character traits of Web 2.0 mentioned above are significantly enhanced, if not dependent on, devoted adults helping to mentor and guide students. Having ready access to information does not make one a scholar, but it is scholars that we must help to create. A new favorite poem of mine follows:

ABOUT CROWS

by John Ciardi

The old crow is getting slow;
the young crow is not.
Of what the young crow does not know,
the old crow knows a lot.

At knowing things, the old crow is still
the young crow's master.
What does the old crow not know?
How to go faster.

The young crow flies above, below, and rings
around the slow old crow.
What does the fast young crow not know?
WHERE TO GO.

(Thanks to Sarah Hanawald and Google Answers for this poem!)

This vision I've presented of Web 2.0 in K-12 education is not with its hurdles. Again, not exhaustively, but for discussion.

First: we've developed a negative cultural impression of social networking that comes out of the very power that will makes it such an effective tool for education. Fundamentally answering a human need to connect, create, and express ourselves, the immense popularity of some early social networks have showcased garishness and vulgarity that aren't inherent in the technology, but became an early part of it because of the very absence of influential adults. I can use the same raw building materials and tools, say, to build a casino or a school. If the casinos got build first because of the financial potential, that doesn't mean that I don't use building materials now to build the schools. Personal profile (portfolio!) pages, discussion forums, video and photo repositories, messaging, and other social networking functions can all bring real pedagogical value if we can get past our knee-jerknegative reactions to social networking.

Second: we won't be able to implement Web 2.0 expansively without ubiquitous computing, and so its use and adoption in schools will not be even or equal. This is a real issue, without easy answers, especially with the added challenge of having more and more personal phones and devices require networks which can accomodate them all.

Third: Teachers will need time and training to learn to use these tools in the classroom, and we're notoriously bad at spending time or money on this. Even if most of us were all to agree that Web 2.0 is the dramatic revolution that I'm making it out to be, there are still incredibly challenging demands on teachers' time that will make it hard for them to learn about these things. And because we're not likely to agree across the board on how important Web 2.0 is in education, adoption by teachers will also not be even or equal. Nor would we want it to be--sweeping educational practices need to be challenged and to survive those challenges in order to separate the wheat from the chaff.

Fourth: the legal liabilities that schools face because of concerns about a) student exposure to inappropriate material and b) exposure of students to potential predators will not be easy to overcome.

Fifth: information revolutions don't come with a manual, and we surely can't foresee many or most of the implications of what's taking place and how to integrate it into education. It will take time to build new "playbooks."

But even with that daunting list, I remain an optimist. The historic changes in information are going to drive historic changes in teaching and learning, and therefore in the institutions dedicated to education. We're long overdue for a really good discussion about the purpose of schools, and I believe that Web 2.0 will give us that opportunity. I believe that the long-term outcome will be a system of learning that is much more productive for our youth, and for their teachers, than currently exists.

Other Posts in Forum

Forum Participants:

- **Michael Wesch** / Post: "A Vision of Students Today (& What Teachers Must Do)"
- **Mark Bauerlein** / Post: "Turned On, Plugged In, Online, & Dumb: Student Failure Despite the Techno Revolution"
- **Steve Hargadon** / Post: "Moving Toward Web 2.0 in K-12 Education"
- **David Cole** / Post: "Why I Ban Laptops in My Classroom"
- **Michael B. Horn** / Post: (title to come)
- **Dan Willingham** / Post: "Web 2.0 Will Not be the Future of K-12 Education: A Reply to Steve Hargadon"

Respondents and Commentators

- **John Seeley Brown**, [writer/scholar](#) on innovation in education & other fields
- **Karin Chenoweth**, [The Education Trust](#)
- **Kevin Hogan**, Editorial Director, [Technology and Learning](#) magazine.
- **Kathy Ishizuka**, Technology Editor, [School Library Journal](#).
- **Joanne Jacobs**, author, education blogger, [joannejacobs.com](#).
- **Tim O'Brien** Online Editor and Author with [O'Reilly Media](#).
- **Howard Rheingold**, [writer, speaker](#), and observer of all things digital, author of countless books, including [Smart Mobs](#).
- **Joyce Kasman Valenza**, librarian, writer of *School Library Journal's* [Never Ending Search](#) blog

Among many others ...

You may also enjoy:

- [Why I Ban Laptops in My Classroom](#)
- [A Vision of Students Today \(& What Teachers Must Do\)](#)
- [Why Web 2.0 Will Not be an Integral Part of K-12 Education: A Reply to Steve Hargadon](#)
- [Howard Rheingold's Post on Monday: "R.I.P.: Lectures, Notes, and Tests \(Scrapping the Old Ways\)"](#)
- [Turned On, Plugged In, Online, & Dumb: Student Failure Despite the Techno Revolution](#)

Posted in [Brave New Classroom 2.0](#), [Media](#), [Education](#), [Technology](#), [Society](#)

Share this post: 

25 Responses to "Moving Toward Web 2.0 in K-12 Education"

1. *Mark Bauerlein* Says:

October 22nd, 2008 at 9:18 am

You have identified the precise problem with Web 2.0 for youths, Steve:

"First: we've developed a negative cultural impression of social networking that comes out of the very power that will makes it such an effective tool for education. Fundamentally answering a human need to connect, create, and express ourselves, the immense popularity of some early social networks have showcased garishness and vulgarity that aren't inherent in the technology, but became an early part of it because of the very absence of influential adults."

True, the idiocy isn't inherent in the technology, but we can't disengage the technology from the natural inclinations of adolescents to be adolescent. The absence of adults in social networks of kids means that peer connections, and peer pressures, are growing ever more powerful and insulated. How can adults enter these zones? How can they keep up with the kids when the tools and practices change so rapidly? Wherever the adults go, the kids will avoid, and they have the tools to do it.

2. *Nathan Says:*

October 22nd, 2008 at 9:42 am

"But I would submit that, as happened in our business culture 20 years ago, a set of technologies that actually transform our traditional methods will become the driving catalyst for ubiquitous access to computers at school."

And the transformation of business practice over the past 20 years ago has really been good? Any danger of a similar "bubble" being created in the educational world due to a lack of consideration about how these tools make it easier for persons to take the easy "more, fast, fun" road - whether it be in taking advantage of consumers in the business world or those in the education world? Anyone, anyone?

I don't deny these tools are great (I read and comment on blogs after all) but... judgment (and morals) seem to be going more and more out the window these days...

3. *Nathan Says:*

October 22nd, 2008 at 9:46 am

"When the world's knowledge doubles in short periods of time, the incentives or rewards for keeping information proprietary significantly diminish, and the resulting willingness to share presents great opportunities to learn and to participate."

Its statements like this that scare me. Where is the critical thinking here? What does it mean to say "the world's knowledge" doubles?

Check this out:

http://andrewkeen.typepad.com/the_great_seduction/2008/08/technology-and.html

Also, I recently read in a tech ed magazine about a young person telling a panel of teachers: "For you technology is a tool, but for us it is a foundation" (the magazine didn't question such enthusiasm).

Not good, methinks.

4. *Digital Ethnography » Blog Archive » Kilpatrick on Education as Life Says:*

October 22nd, 2008 at 10:04 am

[...] Willingham has an interesting response to Steve Hargadon today in the Britannica Forum

(I highly recommend both articles) in which he references an article [...]

5. **Karin Chenoweth** Says:

October 22nd, 2008 at 2:02 pm

I don't want to bring the conversation down with a bump, but schools really struggle with the technological support needed to keep computers running with fast Internet service. I have seen kids take the laptops out of the cart, find that the batteries are low, search for power cords, plug in the computers, wrestle their way onto the Internet and search around for a few minutes, only to be told to put the laptops away. That's computer use in an awful lot of classrooms. It's not horrible, because it gets kids familiar with and using an important tool. But right now it is not able to support the kinds of uses that are being envisioned. And I would prefer to have evidence of effectiveness of classroom 2.0 before spending the kind of money that would be needed to provide it within schools.

6. **Steve Hargadon** Says:

October 22nd, 2008 at 5:06 pm

Through a fluke in timing with the timing of this blog forum, I'm traveling today and tomorrow with limited time or Internet access! But I am paying attention, and will try to respond with additional thoughts and comments soon!

7. **Crimson Wife** Says:

October 22nd, 2008 at 8:20 pm

Dr. Clayton Christensen of the Harvard Business School recently wrote a very interesting book on this topic called "Disrupting Class: How Disruptive Innovation Will Change the Way the World Learns".

Dr. Christensen revisits the argument from his earlier book "The Innovator's Dilemma" that "disruptive innovations" don't initially compete directly against the current market leader's product but rather against non-consumption. For example, in the '70's Digital had a very successful market for \$200k minicomputers. Apple couldn't directly compete with DEC's minicomputers because their personal computers weren't good enough at the time to solve the problems that DEC's customers had. So Apple marketed its IIE PC as a relatively affordable toy for kids. Kids were non-consumers so it didn't matter to them that the Apple wasn't as powerful as the existing DEC minicomputers. A few years down the road, however, improvements in PC technology rendered DEC's minicomputers obsolete.

Dr. Christensen argues that the traditional government-run education system will in the near future be "disrupted" by the innovation of computer-based learning. At first, online learning will compete against non-consumption by offering classes in subjects where there isn't enough demand in any given school to justify offering a traditional course (such as a very advanced math one or an unusual foreign language). But eventually, he believes that the technology will improve such that computer-based learning will render the traditional model of education obsolete.

It's an interesting argument, but what I would like to see discussed is whether or not it is good for children's developing brains for schooling to be mostly computer-based. Dr. Jane Healey wrote a very interesting book about a decade ago called "Failure to Connect" about some worrisome research findings on the negative impact of computer use on young children. Has more recent research allayed or deepened those concerns? Before our society makes the shift predicted in "Disruptive Class", shouldn't we be examining this very important question?

8. **sylvia martinez** Says:

October 22nd, 2008 at 8:51 pm

Steve - I think you built a great case for students doing creative and constructive work on a very narrow ledge called Web 2.0. It's like arguing for writing by calling it "book".

Does a movie have to be on YouTube to be creative? Does a piece of art have to be online to be meaningful? Why is the learning potential of video games any different than any of the items you've posted here?

Web 2.0 facilitates a small range of creative possibilities, even narrower than simply using a computer. The focus on information and communication excludes too much of what students need to be doing, especially in math and science.

I agree that the main implication of Web 2.0 may be to disrupt the closed, isolated classroom. But beyond that, I think you've claimed a lot of pedagogical territory that doesn't fit under a Web 2.0 label.

9. [Online Creative Communications Blog » Blog Archive » So what is the role of web 2.0 in the future of education?](#) Says:

October 23rd, 2008 at 11:46 am

[...] Extremely relevant to the thoughts being articulated by our panel at Education Unbound, here are some posts that are well worth reading: Steve Hargadon: Moving Toward Web 2.0 in K-12 Education [...]

10. *Steve Hargadon* Says:

October 24th, 2008 at 12:08 pm

@Mark: I'm not sure it's true that the kids will go where the adults are not. Maybe for some things, but for engaged learning, if that's where the learning is taking place, it seems possible (and I think is being corroborated by good teachers) will appreciate it more by being in a participative environment. Sure, my own kids want to have peer conversations outside of adult eyes, but that's not an excuse for not using the same good tools for the educational activities.

11. *Steve Hargadon* Says:

October 24th, 2008 at 12:13 pm

@Sylvia: "Does a movie have to be on YouTube to be creative?" No, but look at how much easier (and cheaper) is it now to actually make that movie, have an audience, and get real feedback when using YouTube or a similar tool than when using previous technology.

"Why is the learning potential of video games any different than any of the items you've posted here?" I definitely, as you have noticed, trend toward the liberal arts rather than the sciences when I'm thinking about school (something I need to work on), and it's the creative/constructive aspect, that I like so much.

"Web 2.0 facilitates a small range of creative possibilities, even narrower than simply using a computer." Is it a small range? Why? From mashups and mapping to video to international collaboration—seems pretty broad to me. And it's also *visible*.

"But beyond that, I think you've claimed a lot of pedagogical territory that doesn't fit under a Web 2.0 label." I'm not sure making the tie between Web 2.0 and the pedagogies "claims" them. I think it is recognizing that Web 2.0 can magnify and enhance them in significant ways.

As always, I love getting comments from you!

12. *Doris Molero* Says:

October 24th, 2008 at 5:20 pm

Dear, Steve and participants in this forum.

I am an EFL professor from Venezuela that loves learning and is passionate about teaching. From reading all your comments and opinions I find that there's a lot of resistance to the idea of just integrating technological tools that will improve learning in our classrooms...

Traditionally, we've used paper and pencil... it works well for most things we do in the classroom but we can also use a great number of artifacts that will help our students learn and take advantage of the times they are living in a creative way. In my experience on integrating these tools to my blended classes of English as a Foreign language at university level, I have seen how students from different ages have benefit from it. New generations are more used to them, older generations find them difficult and strange but once they discover that they can participate in the world of today, they play along with them and enjoy learning and creating. I see technology and web 2.0 tools as helpers or instruments that will give our students more opportunities to find solutions to real problems, It's not a black and white world we are living', the world is not that simple... Technology and web 2.0 tools allow our students to see the world in technicolor. It gives us teacher and students the opportunity to learn together. Students are not ready for them.. teachers are not ready either. It will take both to learn together, web 2.0 are just tools you take with you on that learning journey.

Thanks Steve for I know how you dedicate your time and efforts to help other teachers around the world to integrate technology in the classrom not to substitute the role of the teacher in the classroom but as tools to enhance the learning process.

A hug from Venezuela and hope you keep on shining Love and Peace.

13. *Dr. Sanford Aranoff Says:*

[October 24th, 2008 at 7:26 pm](#)

We have to know how to use the web. More important, we must focus on fundamental principles, not isolated statements as can happen in the web. Basically, to teach we must understand how students think. See "Teaching and Helping Students Think and Do Better" on amazon.

14. *admin Says:*

[October 24th, 2008 at 8:33 pm](#)

Howard Rheingold, pioneering tech writer and critic, will add a post to this forum on Monday called:

"R.I.P.: Lectures, Notes, and Tests (Scrapping the Old Ways)"

Tune in and tell us what you think ...

15. [Support for Innovation in Schools | An Expat Educator in Asia](#) Says:

[October 24th, 2008 at 11:40 pm](#)

[...] excellent debate raging on the Brittanica Blog and begun by Steve Hargadon of the classroom 2.0 ning is also bringing the issues of trying to make a more relevant education [...]

16. [Sui Fai John Mak](#) Says:

[October 25th, 2008 at 9:31 am](#)

Dear Steve,

I echoed with your view and insights: "I believe that the long-term outcome will be a system of learning that is much more productive for our youth, and for their teachers, than currently

exists.”

I am optimistic about the use of Web 2.0 too. I think it’s imperative that our teachers could incorporate such technology (as learning enabler) in their teaching and learning to enhance their students’ learning. It may take some time before educators and administrators in K-12 are convinced on its benefits - especially when it comes to the cost/benefits to education and society.

I think a wider consultation and discussion of those issues with stakeholders concerned are deemed necessary to assure a sound educational solution is developed with the use of Web 2.0 as part of the teaching/learning practice.

I have been using some of the Web 2.0 tools for sometime and could see the benefits of them for me and my students. I have adopted a blended learning approach for some of my classes, with great success and positive feedback from learners.

You are welcome to visit my blog: <http://suifajohnmak.wordpress.com> for comments.

Renewed thanks for this great blog.

Cheers.

John Mak

17. ***Math + Red Sox = The Perfect Equation : Two Roads*** Says:
October 25th, 2008 at 11:06 am
[...] Moving Toward Web 2.0 in K-12 Education Steve Hargadon writes: "one of the amazing impacts of Web 2.0 is watching long-time [...]"
18. ***Thing 7a: The Feeds | Learning Web2.0*** Says:
October 25th, 2008 at 10:42 pm
[...] found one blog about Web 2.0 of interest by Steve Hargadon, Moving Toward Web 2.0 in K-12 Education and several replies to his blog including Daniel Willingham’s Why Web 2.0 Will Not be an Integral [...]"
19. ***PDWimalasiri*** Says:
October 26th, 2008 at 4:20 am
I enjoyed your article and gained a knowledge about web 2.0
20. ***Internet Goodies for Sunday, October 26th 2008 | Semantic Drift*** Says:
October 26th, 2008 at 1:02 pm
[...] Moving Toward Web 2.0 in K-12 Education | Britannica Blog [...]"
21. ***Christine*** Says:
November 3rd, 2008 at 5:00 pm
Steve Hargadon gives many reasons why incorporating technology in the classroom is not only helpful, but will eventually be necessary. He says that “Web 2.0 will be a significant part of the future of learning.” I would have to agree with this statement because of all the advancements in computers and the internet that have created a new type of student that lives in a digital world. He says that not only are students part of an “audience” in the classroom and on the web, part are also participants and contributors to the wealth of information in the public domain. It allows for creativity to flow more independently and gives the students the ability to not only interact with each other, but with others around the world, on topics that they are passionate about or have an interest in. The web has become a way to communicate openly and is not as one-sided as it used to be, with students having access to more open software and applications than ever before. With advancements in the

creation of blogs and web pages like Myspace and Facebook, anyone can create a personal portfolio online and can publish it to the World Wide Web. In the past, one would have had to have extensive knowledge of HTML and web page design in order to do these things. The structure of the educational system is also changing because most of the students are more technologically savvy than their teachers. In order to create a better learning environment, I feel that it is the responsibility of the teachers to keep up with technology in order to produce students that can not only function successfully in a digital world, but so that the teachers themselves can continue to expand their knowledge of new and innovative ways of teaching. Hargadon lists many reasons why Web 2.0 in the classroom is a good idea. They are engagement, authenticity, participation, openness and access to information, collaboration, creativity, passionate interest and personal expression, discussion, asynchronous contribution, proactivity, and finally critical thinking. In his experience, he feels that all of these ideas not only promote productive individuals, but also promote self-awareness and motivation within the learning environment. Although I am not yet a teacher myself, I would have to agree with his list of reasons why Web 2.0 in the classroom is an important tool. As a future English teacher, I hope to be able to engage my students in creative, collaborative and authentic ways. I think that by using the web and allowing my students the freedom to explore ideas and opinions other than those discussed inside my classroom will allow them to become more open and more critical thinkers. I want my students to be able to express themselves freely, and for some shy students, that may be quite hard to do in a class with 30 others. The web (blogging and webpages) allows these students to open up without fear of rejection because they could ultimately do these things anonymously. I think that Web 2.0 is not something to be feared, but is something that we as educators need to see as an opportunity to enhance the educational experience for not only our students but for ourselves as well.

22. [eportfolio » Conversar](#) Says:

[November 18th, 2008 at 3:19 am](#)

[...] més, Steve Hargadon, també veu la web 2.0 com una eina per a [...]

23. [Brown Bourne: Brown Bourne](#) Says:

[December 8th, 2008 at 9:00 pm](#)

[...] <http://www.britannica.com/blogs/2008/10/moving-toward-web-20-in-k-12-education/> [...]

24. [Jeunghee Ahn](#) Says:

[January 24th, 2009 at 1:37 am](#)

I agree your Third thing. We used traditional method for many years. It is not easy to suddenly change own teaching method. Additionally, it requires time, money and strong patience. Marc Prensky said "If it's the way we want to learn, and the way we can learn, you should let us do it " in Young Minds Fast Times paragraph 1 3. That is, if educators try it, they can find the way everywhere.

25. [Publishing to a wide audience « edNOLOGY](#) Says:

[February 23rd, 2009 at 2:53 pm](#)

[...] came across an article on the Encyclopedia Britannica Blog where writer Steve Hargadon in Moving Toward Web 2.0 in Education writes about how Web 2.0 tools [...]

[Feedback: blogs@eb.com](mailto:blogs@eb.com)

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