Web 2.0 Tools in the Classroom

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*Introduction*

When one heard the term “traditional classroom” 20 years ago, they probably thought about desks, pencils, papers, and teachers writing on the chalkboard. In today’s world the traditional classroom definition has drastically changed from that once ubiquitous perspective. Now when someone thinks about schools and the classroom, they should be relating it to technology, computers, the internet, and more recently Web 2.0 tools. Web 2.0 tools are loosely defined as a set of technology tools that provides users with a way to collaborate and interact with each other, in order to share and discuss information and experiences (Nelson & Rosen, 2008; Drexler, Baralt & Dawson, 2008). These tools include software like wikis, blogs, photosharing, social bookmarks, and more (O’Reilly, 2005 as cited in, Fahser-Herro & Steinkuehler, 2009). Schools are starting to integrate these new technologies into their classrooms to foster students’ learning, however some teachers are uncomfortable with the unknown and do not know how to use these Web 2.0 tools in their teaching (Franklin & Pan, 2011; Fahser-Herro & Steinkuehler, 2009). Educational methods are shifting with the constant escalation of technology, and teachers need to be prepared for what is to come in the future. Therefore, with the emergence and continuous development of Web 2.0 tools, teachers need to seek out professional development opportunities that will help them explore and properly implement these technologies, in order to engage and motivate students in learning and promote their students’ academic achievement.

Before Web 2.0, there was Web 1.0 which is often described as the “read-only” web (Nelson & Rosen, 2008). Now, Web 2.0 has emerged, and is considered the “read-write” web, enabling users to not only read information on the internet, but to write and share their knowledge with other users too (Nelson & Rosen, 2008). With Web 2.0 tools like Storybird (an online story creation website), Wikispaces (a collaborative information-sharing website), Glogster (an interactive online poster board creator), and countless others, students and teachers can not only explore their content accommodating their own unique learning styles, but they can share information and learn from their peers locally or across the world. These tools open up the doors to a new kind of pedagogy that enables extensive collaboration, authentic learning and creation, and important technological principles and skills to be discovered, that are crucial for 21st century students to acquire for their future in this technology-driven society (Fahser-Herro & Steinkuehler, 2009).

*Current Issues*

Web 2.0 tools are quickly emerging all over the country and educators can now implement them into their teaching, but will they? Research shows that there is a large gap between teachers and their students, using and being comfortable with technology (Project Tomorrow, 2010, as cited in Pan & Franklin, 2011). O’Reilly (2005, as cited in Atkinson & Swaggerty, 2011) agrees and found that that although teachers are aware that students are using these technologies more and more, they still teach “traditionally” using “textbook-driven approaches.” As a result, students are suffering and not getting the full learning experience they deserve that comes from these Web 2.0 experiences. Atkinson and Swaggerty (2011) state that students have to be able to make knowledgeable decisions about which tools to use, to help them critically analyze and sort through the abundant amount of information that is prevalent on the web. Without the teachers’ guidance with these tools, those skills will not be easy to obtain. Surprisingly, it was found that teachers are well aware of the benefits of Web 2.0 tools and they have positive perceptions about using them in the classroom, however only 10%-20% of these teachers that were surveyed, by Ajjan and Hartshorne (2008, as cited in Chi-Yin Yuen, Yaoyuneyong & Yuen, 2011), actually used them in their teaching. Therefore, if teachers are mindful of the fact that Web 2.0 tools are proven to be advantageous for students’ learning, then why aren’t they implementing them into their classrooms?

Crook et al. (2008, as cited in Chi-Yin Yuen, Yaoyuneyong & Yuen, 2011) surveyed teachers about why they were apprehensive to use these tools in the classrooms and found that they were afraid the implementation would be time-consuming, they did not want to become reliant on using technology due to technical failures, and they thought students would become too distracted and get off-task from their learning. Additionally, teachers can get frustrated with the overload of information about using these technologies and the pressures on implementing them in the classroom, especially with many veteran teachers who would prefer to continue with their comfortable and traditional teaching methods (McClay & Mackey, 2009, as cited in Atkinson & Swaggerty, 2011). When this occurs, teachers can quickly try to solve the problem in order to meet standards and please their administration, but many of them do not implement these tools accurately. Atkinson and Swaggerty (2011) assert that teachers that are unsure about how to implement technology, will use random or unsuitable technology to go along with a previous lesson plan and the tools used, do not match the assignment s or tasks that are asked of the students. As a result, students' learning can be greatly diminished and some believe that other, non-technology related reforms would be better for the learners (Cuban, 2003, as cited in Downes & Bishop, 2012). Therefore, it is crucial for teachers to learn how to implement these essential Web 2.0 tools into their classrooms efficiently and effectively, or their students will suffer as a result and not be able to explore the benefits that these tools have to offer.

*Potential Future Directions*

Unfortunately, many “educational reformers” assume that teachers will automatically know how to incorporate technology into the classroom, however as earlier research shows, that is an inaccurate assumption (Downes & Bishop, 2012). One of the proven ways to increase teachers’ beliefs and use of integrating technology tools, like Web 2.0 tools, in the classroom is by providing them with professional development (Overbaugh & Lu, 2008, as cited in Pan & Franklin, 2011). A study conducted by Overbaugh and Lu (2008, as cited in Franklin & Pan, 2011), involving 377 K-12 teachers that participated in professional development focusing on technology tool integration, found that as a result, teachers’ self-efficacy and confidence increased and they began integrating more technology tools in their classrooms. Pan and Franklin (2011) also found this to be true as a result of their study, and proved that with the increase of professional development came an increase in the use of Web 2.0 tools in the classroom.

Although research shows that professional development is a great way to help teachers, there are often not a lot of opportunities to participate in these professional development meetings, due to time constraints or the fact that the school simply does not offer many of them (Drexler, Baralt & Dawson, 2008). One solution to this problem is to create an online learning community where teachers can conveniently use a Web 2.0 tool, like a Wiki, in order to discuss experiences and integration methods with Web 2.0 tools in the classroom. The Teach Web 2.0 Consortium is a great example of an online professional development Wiki, where teachers from all over the world, whenever they have some free time, can collaborate from wherever they have access to the internet, to improve their development with these emerging technologies (Drexler, Baralt & Dawson, 2008). Learning from their peers greatly influenced the teachers that participated in this consortium. It allowed them to discover more about Web 2.0 tools, enabling them to have more confidence when implementing them in their classrooms. Drexler, Baralt and Dawson (2008) reported that the majority of the 84 teachers that participated, all agreed that they learned more about the value of the tools and were able to successfully implement at least one of the tools they learned about, into their classrooms. Participates also found that when they implemented the Web 2.0 tools, their students greatly benefited from their use, therefore Drexler, Baralt and Dawson (2008) encourage and recommend that teachers either join this learning community or create their own Wiki for their schools.

Professional development is a key component and catalyst for teachers implementing Web 2.0 tools in the classroom effectively. In order to have successful professional developments, one must consider the most important aspects to focus on and to instill in teachers concerning these tools. One aspect is to ensure that teachers are aware of the technologies that are out there and to help them learn how to evaluate them for “strengths, weaknesses, opportunities, and threats” in order to determine if a certain Web 2.0 tool is appropriate for them, their students, and their lesson (Drexler, Baralt & Dawson, 2008). Additionally, teachers should be informed on how to use these technologies to differentiate instruction in the classroom, to aid and foster students at all levels and with different learning styles (Atkinson & Swaggerty, 2011). When integrating technology, teachers need to know that Web 2.0 tools should be used with an a assignment as a learning tool to accomplish the objectives and standards of the lesson. Sandy Hayes, a member of an NCTE 21st Century Literacies Curriculum and Assessment Focus Issue Group, expresses that , “employing a tool just for the sake of using technology is nothing more than empty learning” (Bass, et al., 2010, as cited in Atkinson & Swaggerty, 2011). Therefore it is imperative that teachers learn about and discuss Web 2.0 tools, in a professional learning environment, in order to use them properly.

Besides learning about specific Web 2.0 tools and how to use them in the classroom, teachers' concerns about technology use should also be addressed. As stated earlier, many teachers, especially veteran teachers, can feel anxious or fearful of using technology tools in the classroom, therefore professional development meetings should also be a time to encourage and promote implementation and assuage their fears. McCallum (2010, as cited in Atkinson & Swaggerty, 2011) states that when in the “world of Web 2.0” one should anticipate chaos and learn how to counteract it. In order to do this Hayes (Bass, et al., 2010, as cited in Atkinson & Swaggerty, 2011) suggests implementing tools and strategies that provide the students with structure, such as, “task cards, rubrics, checklists, and learning contracts.” Teachers should also be proactive and explore the Web 2.0 tools extensively ahead of time in case of access issues or technical errors (Bass, et al., 2010 as cited in Atkinson & Swaggerty, 2011). In case there is a technical issue, Hayes also recommends always having a back-up plan and to share responsibility with students by teaching them how to problem-solve these kinds of situations when dealing with technology (Bass, et al., 2010 as cited in Atkinson & Swaggerty, 2011). Finally, Hayes suggests searching out colleagues, other teachers from across the country through online communities, and even their own students, to learn more about Web 2.0 tools in order to continue their own professional development, with these ever-changing technologies (Bass, et al., 2010 as cited in Atkinson & Swaggerty, 2011).

*Impact on Schools, Teaching, and Learning*

As a result of professional development opportunities, whether through schools or in online communities, teachers will learn how to appropriately implement Web 2.0 tools in the classroom, resulting in major impacts amongst their students. One of the biggest impacts that students encounter from the use of Web 2.0 tools in the classroom, is a dramatic increase in their engagement and motivation. Exemplifying these findings was an intervention program, known as I-Leap, that was conducted in three Vermont schools, where they gave students and educators one-to-one laptops, various software programs, and other emerging technologies(Downes & Bishop, 2012). In this study they found that the students were deeply engaged in their Web 2.0 based assignments and were excited to learn more about the content using technologies that they are already familiar with. For example one student proclaimed, “I’m more engaged, but also a lot of people are engaged because we have all this new technology, and we want to learn and explore, and, at same time, we’re used to it so it’s not a different thing” (Downes & Bishop, 2012). Students today, are actively using technology at home, and they are used to navigating through the Web, so using these tools in schools is not only familiar, but they are having fun while learning and exploring new content. Downes and Bishop (2012) also found that students were mostly engaged in the lessons when it involved their own construction of a project or expressing their knowledge through these technologies. For example one student confessed that they loved learning about the Revolutionary War because they were able to make a Glogster to show their teacher what they learned from the content (Downes & Bishop, 2012). In another classroom, unassociated with the I-Leap program, a classroom teacher, Maya (a pseudonym), implemented the Web 2.0 tool, Scrapblog, in her classroom, and found that her greatest expectations were met with her students’ engagement (Atkinson & Swaggerty, 2011). She reported that her students “begged” to work on their research projects and that she witnessed her students having a “passion and tenacity” for learning, using Web 2.0 tools, that she had never seen before (Atkinson & Swaggerty, 2011). A critical component to learning is engaging the students in the content, and using Web 2.0 tools can be the answer.

As a result of students’ engagement and motivation for learning, their academic achievement can be impacted, as well. Proof of this occurred in Maya’s classroom, where as a result of using the Web 2.0 tool, Scrapblog to create their own literature projects, they were able to explore content more in-depth, increasing their knowledge and achievement in and out of the classroom. By researching online and using Web 2.0 tools to be creative and to connect with peers, students were able to think more critically about their topics and obtain multiple perspectives that they would never had thought about, if they had not been exposed to this online environment (Atkinson & Swaggerty, 2011). The students enjoyed challenging themselves to learn more and enjoyed the process so much, that they decided to use Web 2.0 tools immediately as a means of, “reading, writing, and communication” (Leu, et al., 2011, as cited in, Atkinson & Swaggerty, 2011). They also chose to use them for future their projects without it being a requirement (Atkinson & Swaggerty, 2011). The students acquired a sense of ownership and accountability with their work on Scrapblog, making them dig deeper into the content and their project with a new sense of pride in their work. Maya states that her students, “routinely demonstrated curiosity, questioning, and discussion that had never been evident before.” Additionally she commented that their knowledge of using the internet and technology tools continued to develop as they completed more projects and conducted more research for the rest of their school year (Atkinson & Swaggerty, 2011).

The I-Leap program, reported similar results and their students obtained important life-long skills by using Web 2.0 tools. Downes and Bishop (2012) noted that the students use of these tools led to more collaboration, which allowed students to share their ideas and problem solve together, expanding their knowledge of other perspectives and of the content, as a result. Students also reported that using tools online allowed them to continue their work and learning seamlessly, from their school environment to their home environment using tools like GoogleDocs (Downes & Bishop, 2012). Teachers noticed that the students also became more organized by using online calendars to keep track of their assignments and due dates, and in turn, their academic tasks were completed more effectively (Downes & Bishop, 2012). Students who need extra support or who struggle in certain areas can also find using technology tools as a huge help when completing a task. One teacher commented that her student, who struggled with fine motor skills and took extended periods of time to handwrite assignments, found that they completed their work quickly and more efficiently by using technology tools, because they could type and focus more on their assignment, rather than worrying about their handwriting (Downes & Bishop, 2012). In addition to teachers, parents also noticed the difference in their children’s academic achievement, with one parent stating, “My daughter’s grades have improved…she has always had a problem focusing, but now…I have seen her sit, focused, completing her work” (Downes & Bishop, 2012). No matter what the students' individual learning style or level is like, Web 2.0 tools can greatly amplify their academic achievement.

*Conclusion*

In today’s world, students are growing up surrounded by technology at home, so integrating technology, like Web 2.0 tools, in schools seems like a natural progression, and students are more engaged and their learning is more prolific as a result. Although research shows that using these tools can improve academic achievement, many teachers are still not incorporating them in the classroom, leaving their students with a lack of important skills needed in the 21st century. Many teachers are apprehensive about straying from the “traditional” classroom, but with proper professional development, they should be able to obtain and share their new knowledge, with their students to create a new way explore classroom content. It is crucial that teachers and other school staff take the initiative to integrate and use these valuable tools in their classrooms for the benefit of their students. They should share what they know with other teachers, ensuring that “Web 2.0 tools” becomes a ubiquitous term in schools all across the country. So now I ask: how will you take the initiative?

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