Using Web 2.0 Tools to Increase Student Engagement, Motivation, Collaboration, and Retention

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Introduction

In order to have a successful personalized learning environment (PLE) in a classroom, motivation, engagement, and collaboration was necessary to increase retention of materials taught in the classroom. In order to have this successful environment, Tu, Blocher, and Roberts (2008) suggested that a Web 2.0 environment must be identified and implemented. Web 2.0 technologies allow students to create an alternate identity used in blogs, wikis, social networks, web homepages, and more. These technologies allowed students to create a personal web environment where they interacted with it, rather than just reading or looking at it (Drexler, 2010, p. 369). Web 2.0 environments “are frequently referred to as a collaboration Web,” (Tu et al., p. 264).

A literature review was conducted to explore how Web 2.0 technology tools are being used in traditional K-12 institutions to increase student engagement, motivation, collaboration and retention by creating personalized learning environments, and the role teachers play in this personalized learning model.

Web 2.0 Created Personalized Learning Environments

Web 2.0 tools were used to help design a student’s personal learning environment. These tools are utilized to create assignments tailored to the student’s needs, as well as their desires. Walters, 2008) stated that personalized learning environments could not function without Web 2.0 tools - tools that are found and used solely on the web. In addition, PLEs allows students to monitor themselves in their performance, and Drexler (2010) and Hawryszkiewycz (2007)
believed it was necessary for students to self assess themselves in order to be successful in their personalized learning. The vary nature of PLEs, requires the classroom to be student-centered.

Drexler (2010) and Tu, et al. (2008) agreed, but added that teachers in the K-12 setting faced the challenge of facilitating the personalized learning in their classroom because it was self-directed.

Wang (2006) reported that in order for a student-led classroom to work, the teacher had to take the role of a coach or mentor and be more supportive, while the students collaborated and interacted in their own way (as cited in Drexler, 2010). “Personalized learning suggests learner autonomy and increased self regulation” (Drexler 2010, p.370). Tu, et al. (2008) identified web tools as those that allowed students to organize their own learning structure and become more independent of their teacher (p.262).

Drexler (2010) focused on creating a model for student construction of their personal learning environment that balanced teacher control with increased student autonomy. This test case occurred with 15 students in an independent K-12 school over the course of nine weeks. It was the first time these students were exposed to learning in a virtual environment, which resulted in a large learning curve for the students (p.374). Drexler outlined two groups in the case test, networked teachers and networked students – both made collaborative connections with their respected peers. In this case test, Drexler noted that student motivation increased because students chose their topic, and all 15 students who participated finished their assignments and produced a personal learning environment (p. 380). Concerning the teacher, Drexler (2010) discovered that the teacher needed more training with the Web 2.0 technologies, and he/she spent most of their time troubleshooting the technologies, and one on one with certain students instead of being able to help all who needed it (p. 382). “Teacher beliefs about the value of technology as a teaching tool may determine effective integration…” (Drexler, 2010, p. 382).
Web 2.0 Tools Increased Student Engagement and Collaboration

When students and teacher’s work together to create a PLE based on the student’s needs and desires it is only natural for that student to become more engaged and motivated in their learning. Hawryszkiewycz (2007) defined student engagement as students working together for a common goal, and more importantly, learning from each other. In addition, being in a student-led environment, students engaged more in metacognition, which impacted how they interacted with the Web 2.0 environment and it is these environments that are necessary for collaboration. Montgomery & Whiting (2000) agreed that collaborative learning can greatly enhanced student interest and motivation, and added that this enhanced student interest lead to great and faster acquisition of technology skills. Mastering technology skill is important because it is a natural part of today’s middle grades students (Taranto, Dalbon, & Gaetano, 2011, p.12). “By incorporating an academic social network as part of the classroom experience, collaboration and active learning take on new forms, and a transformation from passive learning to active learning may occur” (Taranto, et al., 2011, p.18). Slavkin (2002), added that the assignments found in students’ PLE should be organized around real-world practices this improved motivation, increased knowledge retention, improved the authentic nature of the learning material, and reduced boredom in students. These real world learnings must be integrated in such a way that allowed students to show what they know, and collaborate with others in order to build upon their knowledge and learning over the school year (p. 23-25). “If brain-based pedagogy could be summed up in one sentence, it would be, knowledge should be socially created,” (Slavkin, 2002, p. 25).
In a study conducted by Clayton, Blumberg, and Auld (2010) the authors examined the types of motivation and learning strategies reported by undergraduate and postgraduate students who preferred either online, hybrid or traditional classroom environments and their reasons for those preferences. Although this was not done in a K-12 setting, the outcomes showed similar results and beliefs with Tu, et al. (2008) in that students must be self-regulated and students needed to use metacognition in order to be successful in an online learning environment (p. 351).

**Web 2.0 Tools Required Teachers to Implement Brain-Based Learning Techniques**

When teachers create a PLE tailored to the students’ needs and desires, the teacher must implement brain-based learning (BBL) strategies that utilizes the whole brain and recognizes that not all students learn in the same way. Directing different styles in student learning to common aims, means establishing strategic structures and activities that provide individualizing the lessons with the students because this type of learning required a more systemic way of understanding how learning takes place and how to facilitate it. (Özel, A., Bayindir, Özel, E., and Çiftçioğlu (2008). In a brain-based learning environment, Thompson, Jungst, Colletti, Licklider, and Benna, (2003) stated that teachers must enrich their classroom environment to include physical, emotional, and social aspects, while focusing on student learning rather than their teaching (p. 35). Kaufman, Robinson, Bellah, Akers, Haase-Wittler, and Martindale (2008) added that students experienced both positive and negative emotions when discovering new knowledge for the first time. Therefore, it is necessary for teachers to promote positive experiences and emotions for their students because negative emotions caused students to downshift and not be engaged and motivated. By creating lasting emotional connections for students, teachers utilized BBL strategies (p. 51). Duman (2007) believed that to hold students
attention teachers must; “1. Integrate strong and reformist emotional connections with learning, 2. Use humor, 3. Allow movement, 4. Be aware of internal and external attention,” (p. 347).

Conclusion

Teaching Web 2.0 tools was necessary to create a personalized learning environment, which led to an increase in student engagement, motivation, collaboration, and knowledge retention. In order to create a successful PLE, teachers needed to create a student-centered classroom that focused on real-world problems. Teachers also needed to implement Brain Based Learning strategies.
References


