

Motivation, Engagement, and Accountability with Web 2.0 Tools

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Introduction

The 21st century arrived more than a decade ago, bringing with it sweeping technological advances and most formal education institutions have been slower to embrace the innovations than the learners. According to Conrad (2008) new learners are as apt to turn to blogs and wikis as they are to their textbooks. Ninety-four percent of a sampling of students at the University of Houston report familiarity with social media (Liu, 2009). Conrad wrote that students adept within this new read-write Web want to be active participants in the learning process and want their peers to be aware of their contributions. The trend from student as passive content consumer to active content creator has presented both unprecedented opportunities and challenges for educators. Web 2.0 tools have provided new means to engage these students and Alexander (2008) concluded that educators must keep pace if they are to understand, embrace, and employ new literacies at the heart of the Web 2.0 experience. Despite this research, the move from teacher-centered information delivery to student-centered, collaborative content-creation has been slow to gain widespread acceptance.

Fostering Peer Interaction and Student Participation

According to Coombs (2010) though many students were familiar with and had been active participants in social networking sites utilizing a number of Web 2.0 technologies, they often lacked the interpersonal and socially responsible skills-sets to successfully navigate the read-write Web. This shortfall had led some students into counter-productive or inappropriate online interactions. The author argued that the introduction of Web 2.0 classroom communities allowed students to self-regulate, to decide amongst them what is and is not appropriate netiquette for varying social situations. Coombs claimed the inquiry-based process had increased student awareness of the problem without overt teacher intervention. By employing a student-centered approach, the teacher empowered the students to mold the learning process through their own trial, error, and peer-assisted discovery. Hui-Chun (2010) agreed that fostering quality peer

feedback is a critical issue for educators as these social interactions are a necessary ingredient of social constructivism but Conole (2010) pointed out that the majority of users (students) lurk, rather than participating in meaningful ways. The challenge, therefore, revolved around employing methods and strategies that motivated reluctant participants to willfully communicate and collaborate at higher levels.

Spiegelman (2009) rose to the reluctant participant challenge by employing humor and wit. In the *Grateful Dead Scientists: Battle of the Mind* game, calculus students were teamed with relevant dead historical figures like Fermat, Euler, Leibniz, and Newton. In part one of the game, students were challenged to speak for their missing teammate via blog or wiki entries in the form of a narrative resume/vitae, incorporating historically accurate personality traits of their respective mathematician partners. Spiegelman reported excellent student submissions, including some that exceeded traditional expectations. In part two, students were challenged to outline a course of study led by another team's dead scientist with the goal of creating a course that would appeal to their peers. In the third phase, students registered for their favorite dead scientist course. Bonus points were awarded to the course with the highest enrollment. Spiegelman reported that the *Grateful Dead Scientists* game succeeded in interesting students in the history and humanity of mathematics as well as fostering student-driven content creation, collaboration, and reflection. She suggested that the concept could be modified to suit others' needs by building the game around different personalities, events, or locations.

Collaborative Content Creation

According to Wang (2008) blogs have transformed online reading from the static, Web 1.0 one-way, read-only, content-consumption endeavor into a vibrant, interactive experience. The readers' role has been irrevocably altered and magnified by the read-write nature of blogs. Readers have in fact become content creators through the commenting feature on blogs. The essence of collaborative content creation is extended when readers began to interact with one another. By extension, Wang claimed that the collaborative nature of blogs have similar transformative potential when employed in the learning environment. Churchill (2009) tested this belief by conducting a study in which a group of postgraduate students spent a semester in a blog-based learning environment. A survey at the semester's end revealed 92% of the students felt the instructor was more involved in the learning experience than in other courses and 88%

felt that reading classmates' blogs contributed to their success. Eighty-three percent found classmates' comments helpful and 54% said they would continue blogging to support their own learning. Churchill reflected that though the experience of reading and commenting on students' blogs was time-consuming, the technology provided advantages not available by any other means. He wrote that other Web 2.0 tools could be incorporated to further expand and improve the learning experience.

Liu (2010) not only agreed that the inclusion of additional Web 2.0 tools provided a richer learning experience, he suggested that with demand for education outstripping finite classroom space, these new technologies offered a means to serve the needs of new learners. According to Liu, the read-write Web—social media—had only two primary applications. First, as a collaborative teaching and learning resource, augmenting current learning environments. He wrote that content management systems have been on the forefront of this trend. Secondly, and more challenging, he posited that social media might be used to extend the learning environment, providing a secondary learning channel. Drexler (2010) explored the challenges of the latter in a nine-week study that revolved around 15 high school students who built personal learning environments (PLE) to research subjects of their own choosing, compiling results using a wide variety of Web 2.0 tools. The students were introduced to the tools and strategies gradually with appropriate scaffolding. Students met rigorous demands and all completed the project on time though two required in-class intervention. Eleven of the 15 students responded positively to the experience yet 14 of the students felt they were capable of repeating the process with less teacher guidance and supervision. Drexler wrote that this student-centered learning experience had potential applications for virtually any curricular area and help students become better prepared for life-long learning in a networked world.

Assessment and Accountability

The move from teacher-centered to student-centered learning models using Web 2.0 tools has required educators to reassess the nature of assessment. Coombs (2010) wrote that students should be given every opportunity to collaborate and mentor one another. The author warned of the dangers of over-assessment as students grow to become familiar and comfortable in the new role of self-guided, self-motivated critical thinkers and content creators rather than the old role of passive content consumers. Coombs claimed that publishing student work led to learners taking

more pride and ownership in the process, knowing that others would read it. According to Johnson (2008) student-centered learning, and PLEs in particular, challenged the status quo, fundamentally shifting “the locus of control from institutional centralized delivery to learner-driven inquiry” (p. 17). If the life-long learner is inherently responsible for keeping up with the latest developments in his or her field of study or profession, why, the author reasoned, should self-assessment begin only after completing one’s formal education? Gray (2010) on the other hand, seemed less sanguine when she wrote that Web 2.0 tools in the academic setting appear to have educational merit before concluding that her research discovered few cases of substantive assessment of student Web 2.0 authoring in higher education.

Conclusion

Research has demonstrated that Web 2.0 tools provide a wealth of new options and opportunities for teachers and students to collaborate, redefining their respective roles within the learning environment. Successful teachers have embraced and employed new skills and strategies, balancing structure and autonomy to facilitate the shift from teacher-centered instruction to learner-centered knowledge acquisition. Using an array of new technologies, some teachers have become facilitators and guides, empowering students to self-organize, self-regulate, collaborate, communicate, and perhaps most importantly, become more active participants in the learning process. As learners become more familiar and adept with their new roles, research suggests that they require less guidance and direct instruction. As they become more autonomous, the traditional physical learning environment becomes less critical, extending learning opportunities to more students. Assessment has posed one of the most striking challenges to the brave new student-centered world of the read-write Web in education with controversy centered on what, if any, the learner’s role should be. Regardless, using Web 2.0 tools, early adopters have begun to transform and expand the traditional learning environment to provide a richer experience for all participants.

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