"*We used it how we wanted to*": Research on Student Perceptions and Motivations in Participatory Learning Environments

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Abstract. The Social Media Classroom (SMC) is an open-source course site solution with embedded participatory media tools, aimed at facilitating social learning and student-centered environments. Early adoption of the SMC provided the opportunity to observe usage across courses at a large US research university. Our work moves away from the common 'single-tool-in-a-single-context' research approach, which often attempts to demonstrate effectiveness and generalize to a one-size-fits-all suggestion. Instead, we examine the emergent trends, individual perceptions and social complexities to inform a richer understanding of the learning space. Through observation of multiple tools in different classroom environments, we trade highly controlled comparisons for the opportunity to organically observe the complexities and nuances that make each learning environment unique. Our findings show that usage among the different tools varied within and across courses. Students weighed in on perceptions about the value of the tools and motivations for their own use. We also observed the potential for self-directed student use and learning.

Keywords: CSCW, Web 2.0, participatory media, student-centered, education technology, motivation, self-directed learning

1 INTRODUCTION

Participatory media refers to media tools that support social interaction, collaboration, participation and communication [13]. Often also referred to as "social media" or "Web 2.0", participatory media employs web-based technologies to allow users to contribute content and interact with the content and each other. These technologies are characterized by user participation, rich user experiences, openness, low barrier to entry and network effects, in that the more that use it, the more value the tool has [7]. Common participatory

tools in today's web world are blogs, wikis, forums, social bookmarking, social networking and synchronous chat.

With the rise of participatory media in the Web 2.0 world and the subsequent proliferation of participation, sharing and networking, many have begun exploring how the embedded principles of Web 2.0, such as openness and network effects, as discussed above, can be applied to traditional education axioms like learner engagement, interaction in learning, and learner ownership and management of learning [6]. As Owen et al. (2006) write, "educational agendas are shifting to address ideas about how we can create personalized and collaborative knowledge spaces, where learners can access people and knowledge in ways that encourage creative and reflective learning practices that extend beyond the boundaries of the school and the limits of formal education" [9, p. 4]. While many of these tools and their application to education are relatively new, the ideas and assumptions behind these efforts are not new and many are, in fact, foundational educational theories and works.

Pulling from Piaget's Constructivism [11], Vygotsky's Social Constructivism [14], Papert's Constructionism [10] and the learner-centered movement, the use of participatory media tools in education is typically geared towards creating a more student-centered, collaborative environment where learners can contribute to the course material, formulate and express their own insights and opinions, construct their own understanding of material and learn from one another.

Thus, the ideas behind participatory media for education are far from new. Yet, even with this underlying foundation, the understanding of how to use these tools is still relatively unclear. The existing research is often focused on demonstrating effectiveness or 'success', which typically requires a very context-specific approach. This research often demonstrates that participatory media can have compelling positive effects on learning and the learner experience in highly specific circumstances. However, when the same participatory tools are examined in less constrained contexts, results sometimes indicate lower usage and effectiveness. For example, existing research has found that blogs can facilitate development of students' unique voices by empowering them to assert their ideas and opinions and encourage them to think critically [8, 17]; and by giving students more time to reflect and articulate ideas, blogs can lead to more effective debate discussions and collaboration than face-to-face [5]. However, other studies have shown that these results are not the same for all students: the effects of blogs can differ based on learning style [15], student familiarity and preferences [2], and student willingness to accept the tool [12]. Also, the often public or open nature, as well as the permanence or record-ability of blogs can intimidate students and discourage use [6].

These types of results are seen in the literature dealing with other social media tools as well. Often the very features that can add educational value in one context are the exact features that are limiting in other contexts. For example, the informal and synchronous

nature of chat can level the playing field and lower the barrier to participation for students [1] and lead to more in-depth discussions [4], especially in some foreign language classrooms where conversation is critical. However, those same features - the immediacy and informal nature - can lead to overlapping messages and discussions, which can undermine language and communication skills development [3], and the informality often translates as lower quality which can encourage poor grammar, gossip and non-educational use [4, 6].

The inconsistency of findings is not surprising since every classroom is distinctive and made up of a different combination of course structures, instructor styles and student needs. For this reason it is difficult to make generalized statements about effectiveness, or to generate a universal list of 'best practices'. However, much of the existing work tries to do this, often declaring direct implications for general future use from findings within a single context. While useful as case examples, these studies ignore the many complexities and social forces (e.g., instructor and student expectations, perceptions and motivations) that interact with our observations of effectiveness and use.

Given the emerging nature of the space and the complexity of each learning environment, we feel that research should focus less on defining a particular approach or demonstrating effectiveness in a single context, but instead on improving our understanding of usage patterns and perceptions across courses and contexts. Identifying and analyzing these trends can help us to recognize where these tools are successful and where they are not, both from a usage perspective (How did instructors scaffold the use of the tools, if at all? Did students use the tool? How did students use the tools?), but perhaps more importantly, from the perspectives of the instructors and students themselves (Why did they use it? What did they think of the value added? What do they expect in future courses?).

This paper provides a brief overview of our research on higher education courses using the Social Media Classroom (SMC) as the dedicated course site. The SMC is an open course site solution, developed by Howard Rheingold, which is built around five embedded participatory media tools - a blog, wiki, forum, chat and social bookmarking tool [16]. Early adoption of this system provided us with the unique opportunity to observe the usage across different courses and contexts, and analyze student and instructor usage patterns, perceptions, expectations and motivations.

2 METHODS

We observed usage of the SMC in four graduate courses at University of California – Berkeley over the 2009-10 school year. We used a combination of techniques including direct observation and quantification of use to analyze usage patterns and differences within and across courses. We also administered pre- and post-semester student surveys to

examine familiarity, perceptions of value, expectations and motivations. Finally, we interviewed students and faculty to gain deeper insight into the affective and subjective components. We discuss some of our findings below, particularly from the student portion of our research. Please see our longer report[1] for more information on our research and related literature.

3 DISCUSSION OF FINDINGS

As we expected, student usage differed across the courses in our study. Despite access to five participatory media tools, usage in all four courses was focused within a particular tool. Furthermore, the favored tool(s) differed across courses. Student perceptions of tool value mirrored the usage in the course – the tool that was most used was rated the highest for each course. Similarly, expectations of tools in future learning environments changed from pre-semester to post-semester, and also reflected the experience in the course. For example, for one course which had high blog usage, very little forum activity and no chat usage, expectations for a blog in future courses went from 48.9% to 77.8%, whereas forums decreased from 68.9% to 44.4%, and chat from 33.3% to 0%. Thus, it seems that student use of a particular participatory media tool within the learning environment can lead to perceived educational value of that tool, as well as expectations of having that tool in future courses. While these usage patterns are interesting observations in their own right, we also wanted to understand the student perceptions around why those trends emerged in each course.

One motivating factor that students reported was instructor influence. Much of the existing research focuses on situations where the usage is highly scaffolded and directed by the instructor. The assumption is that the key driver for tool use is the instructor, or more specifically, the 'do whatever I have to do to get the grade' student mentality. We did observe that the instructor can have a strong influence on behavior. In one course the instructor made an in-class announcement that student participation on the site was being tracked and graded. Unsurprisingly, usage on the blog spiked that same day. Students commented, "explicitly saying it was graded definitely turned up the pressure for me" and "it moved it up my priority list." Yet, even though the instructor later changed his message and said the usage was *not* going to be graded, students continued to use the blog at a high rate. When asked why blog use was very high, a number of students indicated that at some point, the blog became "a habit" or "a way of thinking" and they used it for their own value. One student said that because of the inconsistent instructor messages, "we used it the way we wanted to." Another student said, "I think the more that I would go in there and read the posts and try to put in my own two cents, the more I wanted to

[1] For the full report, visit the Center for Next Generation Teaching and Learning: http://ngtl.ischool.berkeley.edu/initiatives/participatory-media-for-education

use it because there were some cool things that people were putting in there…things that I never even thought of or would have connected."

This potential for student self-directed tool use and learning was a compelling observation. As previously mentioned, much of the research in the space of participatory media for education focuses on environments with high instructor influence. Often, a common barrier to entry to using these tools is the assumption that instructors must significantly change the way they teach in order to support and influence the use of these tools. However, our observations point to the potential for students to 'take over' tools and use them for their own value and self-directed learning. Thus, while instructors can have a great deal of influence on the system, this does not appear to be the whole story in all cases. In some cases, participatory media can afford students the opportunity to participate in a community of learning and take responsibility for their learning.

That said, while student self-direction can be a powerful catalyst for social media use in a course, our research implies that an initial push from instructors may be necessary to kick-start usage. Another course in our study had the same students as the course mentioned above, but this instructor explicitly said upfront that usage of the site would not be graded. In this latter course, several students interviewed commented that they participated less and were less engaged with the SMC because there was not an initial instructor message that tied the social media tools to clear, well-defined outcomes such as grades. This is especially interesting since the same students had been using the same tools frequently in the earlier course.

In addition to instructor directives and grading, there were also other influencing factors that students reported, such as social norms or bandwagon effects among students, as well as personal preferences. When asked why they used a particular tool, many students commented on the critical mass nature of the tool – once there were a significant amount of posts and once it was clear that other people were reading it, that tool became the "obvious choice" or "it felt like the thing to use." Also, when asked why that particular tool was not highly used in another course, several students pointed to the fact that "no one else was using it." Additionally, social norms also influenced the level or quality of use; students commented that initial posts "set the bar high" and affected their own use. One student said, "The early raising of the bar in quality and quantity sort of precipitated this general sense that everyone should be doing it and doing it this way." Further, some students commented that their own familiarity with a particular tool or personal preference encouraged their own usage in the site. For example, one student said, "blogging is something I do anyway so it's just a natural form for me to kick around ideas." Also, some commented that their own individual propensity for participation or achievement drove their use.

In summary, despite access to multiple tools in the observed courses, students migrated towards a single tool in each course, and reported multiple motivations for their focus on

and use of that tool, including the instructor and grading, but also self-motivation, social norms and personal preferences. Thus, while it may be difficult to predict which tool will be more or less popular in a given course, students reliably migrate to the tool(s) that offers clear intrinsic benefits (others will read/comment on contributions) and extrinsic benefits (instructor will grade or use in lectures). Students' perceptions of value and expectations for future classes also reflected the tool usage within the course. Thus, the 'success' of the tools was dependent on much more than a simple rubric or measurement, again, reflecting the social complexities of each course environment. To understand the use of participatory media for education to the extent that we could hope to advise educators or claim 'effectiveness', we would have to have a much better understanding of all of the potential influencing factors, motivations, expectations and perceptions, and the interplay between. We hope our work will inform future similar 'under the hood' research on participatory media for education.

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