

Collaboration in Context: A Working Example for Connecting University Stakeholders in Digital Media & Learning

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Abstract: Research and teaching concerning Digital Media & Learning (DML) should not be the sole responsibility of one university department or program. Developing effective programs must be a partnership between various stakeholders seeking to design coursework, spaces for interaction, and collaborative projects. Recognizing that the undertaking must acknowledge individual situations and contexts, we explore the viability of our collaborative, interdisciplinary venture to build a comprehensive DML program at a traditional university. Research, models of DML across the country, previous experience integrating digital media for learning, and consciously navigating the reality of culture, policies, and challenges in education informs our work. In this working example we detail the existing structures, institutional offerings, nurtured relationships, challenges and early successes from our endeavor. We invite critique and scholarly conversation towards considering similar models across institutions, disciplines, and settings.

Initializing and Investigating

Creating interconnected opportunities for coursework and research in a university setting can be a daunting challenge. Institutional barriers, unintentionally placed, yet deemed administratively necessary, often run counter to modern narratives of cooperation and interdisciplinary studies. Resources, infrastructure, mandates and requirements complicate transformational efforts in schools (Collins & Halverson, 2009; Klopfer, Osterwiel, Groff, & Haas, 2009). Supporting various university stakeholders to bring their interests, voices, and strengths to a collaborative endeavor is a complex problem that may be best solved via understanding best practices and being mindful of individual contexts. The first section of this paper looks at the ideas and inspirations behind creating a comprehensive digital media and learning (DML) program in a School of Education (SoE), consequently leading to understanding the influence of past practice and existing culture. We continue by discussing the “participatory culture” (Jenkins, Clinton, Purushotma, Robison, & Weigel, 2006) purposefully being cultivated to support the design and development of collaborative DML research, projects, and spaces. We conclude with a discussion of our initial challenges and successes, inviting scholarly critique.

The Context

Our work begins at a large four-year, public university with high research activity. The institution has the elected classifications of curriculum engagement and outreach and partnerships (Carnegie Foundation for the Advancement of Teaching, 2013). Undergraduate studies include professional programs in addition to the arts and sciences, and many graduate programs at the doctoral level have a strong STEM basis. Currently, the university is engaged in restructuring the SoE to become a stand-alone entity within the university focusing on regional and national issues of policy and practice related to P-20 Education.

Within the SoE, the Educational Foundations department is leading transformation efforts in the approach to how modern technologies are used with teaching and learning. New faculty hires in the area of DML have led to updating curriculum, a renewed commitment to faculty learning, and a concerted effort to create research and teaching partnerships across the university. Initially, this work has resulted into collaborative research between the SoE and School of Computing (SoC), as well as connections with Architecture, Business, and Communications. To that end, this panel joins two DML faculty in the SoE and a SoC Distinguished Professor and Chair of Human Centered Computing using the working example model (Barab, Dodge & Gee, 2009; Gee, 2010) to detail the idea, inspiration, question(s), and determination of “knowing success” (Working Examples, 2013), while building a comprehensive DML program.

The Idea

The overarching idea is to build and support continuing relationships between faculty, students, and related stakeholders around issues of teaching and learning with digital media. Whether the initiatives translate to stimulating student use of digital technologies in pre-professional coursework in Teacher Education, or as a way to examine users interactions with robotics in Human Centered Computing is not a primary concern; the broad goal is to create an environment for successful collaboration that includes physical spaces, virtual communities, trans-disciplinary

coursework, and interconnected research while reaching out to a range of stakeholders interested in DML.

The Inspiration

The impetus for this work began with hiring new faculty in the SoE who started their work with two significant challenges: to build a research and teaching laboratory focused on Digital Media & Learning, and to engender a cultural shift evidenced in changes to curriculum, pedagogy, and perspectives. While the former seemed to be a question of physical space and programmatic decisions, promoting a participatory culture among faculty, students, and administrators soon became the overriding theme related to both challenges. Unsurprisingly, implied and imposed paradigm shifts in research and teaching with DML have caused tension, both positive and anxiety provoking, for many stakeholders and educators. While university administrators agree Internet technologies are shifting practices in higher education, they are generally unsure of the scope and magnitude of change (Anderson, Boyles & Rainie, 2007), which further complicates efforts for DML initiatives. To that end, accepting change as an unstable and uncertain - yet motivating and challenging way forward shaped by participation, guides our work (Thomas & Seely-Brown, 2011).

The work is further inspired by similar university programs and emerging P-12 initiatives from innovative educators seeking to remain relevant while meeting the needs of their changing student populations. University sponsored programs, centers, and research-to-practice focused organizations such as Arizona State University's Center for Impact, MIT's Media Lab, The Institute of Play, and University of Wisconsin Madison's Center for Games+Learning+Society, and Stanford's d.School offered ideas, models and research to draw upon. Additionally, we looked towards innovative teachers in P-12 successfully using digital media and gaming platforms in school, such as Google Apps for Education (<http://www.google.com/enterprise/apps/education/>) mobile devices, augmented reality games, World of Warcraft (Blizzard Entertainment, 2001), Minecraft (Mojang, 2009), Kodu (Microsoft FUSE Labs, 2009), and GameStar Mechanic (e-line Media, 2010).

While models, experiences, and instances of integrated DML are emerging, the limited presence of spaces promoting DML in Schools of Education and libraries highlights the lack of university preparation to meet current needs and provide the type of leadership and foresight necessary to promote research and teaching in higher education.

The Questions

The general question is, "How can universities create a participatory culture that values interdisciplinary approaches and supports investigations related to DML, and joins educational institutions while connecting informal and formal learning?" Of course, this brings to mind the sort of wicked problem (Buchanan, 1992) that too often results in fragmented attempts and competing goals, leading to unintended outcomes as lethal mutations (Brown & Campione, 1996). To guard against these results, focusing on *process* becomes as important as steering toward product. The specific question then becomes how to support an ideal of collaboration *in context* ensuring that a range of stakeholders has avenues for success within collective work.

Knowing Success

Fashioning a template for participatory culture, subjecting individuals to predefined roles, and publicizing idyllic perspectives will not result lasting, organic, or progressive success. In fact, prescribing specific models runs counter to a "participatory culture" (Jenkins et al., 2006). Our focus is long-term, using a design-based approach where iterations of reflection, revision, and implementation require stakeholders to examine themselves, their roles in collaborative work, and the system as an interconnected whole. Success will not come in the form of one metric, but will be seen in the portrait created by related examples of cooperation in research, teaching, and outreach across and beyond the university.

Contemplating the portrait is an ongoing process. Our challenge is to examine each component for value as an independent project while contextualizing and considering its overall place. In addition, generating a shared vision for a participatory culture in which stakeholders see the value in collaboration and know how to work toward this perspective of success is an important and ongoing goal. In the next section, we highlight the steps we have taken, and plan to take, toward realizing this shared vision.

Designing and Developing

As previously mentioned, we developed our working example from a variety of existing models: projects from P-20 schooling and informal educational settings (ChicagoQuest Schools, 2013; DMLcentral, 2013; Quest to Learn, 2013), reports from university and foundation researchers (Arizona Board of Regents, 2013; Institute of Play, 2013; The John D. and Catherine T. MacArthur Foundation, 2013), and existing models of environments

where a participatory culture has supported work with digital media in teaching and learning (Digital Youth Network, 2013; DML Research Hub, 2013). To enhance collaboration in our local context, we have looked outside our university for ideas, perspectives, and products that have helped other organizations to sustain productive efforts in curricular revision, pedagogical transformation, research adaptation, and policy reform.

Preparation

Upon being hired as Assistant Professors of Digital Media & Learning, we focused on understanding structural considerations of the university as well as logistical constraints for the planned work. As part of this investigation, we have gathered a group of interested parties including new and existing faculty in the SoE and SoC. Administrators from both schools are additional stakeholders, as are individuals from university-level executive and academic administration. Other partners include professors and students from programs in Architecture, Business, and Communications. This has created a multi-leveled, multi-faceted network of communication and participation. For example, early work to create and offer cross-listed doctoral courses pairing SoC and SoE majors serves to (1) provide a foundation in computing, design, and the learning sciences; (2) build collaboration, peer apprenticing, and collective intelligence; and (3) offer students and faculty avenues of learning and scholarship that may have not been previously or easily explored.

Our connected framework is developing. Our goal is to solicit input, build collective understanding, and forge opportunities for participation. Sharing objectives originating with our core group, we have begun an ongoing conversation about communal goals for ourselves and for our external partners in schools, corporations, and government.

Specific Goals

The primary goal for our core group is to promote a participatory culture that draws interested stakeholders into developing work with DML. At different times and places, this takes on different meaning, but strengthens connections supporting work in diverse topics associated with teaching, learning, and researching with digital technologies. Currently, this primary goal has prompted two specific undertakings: the creation of a campus lab for research and teaching with DML and the promotion of collaborative research project that spans disciplinary divisions. Although the Digital Media & Learning Lab will be physically located in the main School of Education building, our plan is for it to be open and accessible to individuals and groups across campus as a tool-infused space for digital media projects.

These two actions lead into our long-term goal of a cultural shift in that they model the types of activities that colleagues can use in their own teaching and research. Workshops, coursework, organizational gatherings, and research projects function under the ethos of collaboration, communication, construction, and critical thinking vital to work with digital technologies. For instance, interdisciplinary researchers and university students organize media creation or design experiences in P-12 schools and then invite involved teachers to co-teach workshops to peers, university students and faculty. In this way, educators in the broadest sense learn from one another, while considering one another's realities and contexts. Akin to the conceptual and operational themes of DML, process and product have a reciprocal influence encouraging a participatory culture.

Methods

If *leave no stone unturned* can be called a method, then, in spirit, that is our beginning. In fact, we have relied heavily on the combination of individual stakeholder experience and collective expertise from our colleagues in similar situations at other universities. While our core group is not designed to be static and exclusionary, we have a strong cohort of participants, including faculty, students, and schoolteachers, who are all part of the initial venture. We rely on the breadth of experiences each bring to this process, and look to the reported results of others in their related attempts toward cultural shifts in an academic setting. We continue to investigate similar projects in a range of settings, and transfer what is contextually applicable to our situation. We have brought a collective appreciation for design-based methods into our planning, so that design thinking informs the iterations of development that make up the move from early preparation into realization.

Implementation

Community members are creating places to support an array of activities. Communal involvement includes considering construction details, fostering collaborative networks, creating places for investigation, and designing experiential spaces for gameplay. We have begun to plan for workshops and gatherings in the lab, inviting everyone from teachers coming for professional development to students ready for gaming to be a part of our programmatic offerings. We are pursuing funding through a variety of sources, including external grants and corporate partners, to help construct the initial lab and look ahead to upkeep and future modifications to the space.

Spaces. Currently we are in the midst of designing two locations comprising the physical space that will become the Digital Media & Learning Labs. *The Incubator* is a large room with four inter-related breakout rooms allowing collaboration with App and Game Development, Collaborative Writing, Video Production, and Audio Production. The Incubator allows access to games, production tools and platforms. *The Basement* is a “gaming in the wild” space. Its primary purpose is for experiential, social, unfettered game play. Gaming in *The Basement* may involve gamers participating in tournaments, online multiplayer games and exergaming using various platforms, devices, and gaming systems. This space focuses on play experiences, in-game decisions and choices, preferred environments, and modes of engagement that will inform research and practice within both labs. (Lab spaces are detailed at <http://www.clemson.edu/centers-institutes/dmll/dml-labs.html>).

Collaboration. We have begun developing research and curriculum projects that will use the offerings of the lab and extend our programmatic themes into other campus spaces and external environments such as schools and libraries. Collaborative research projects are underway between the Schools of Education and Computing, with plans to develop more partnerships in the future. For instance, a current interdisciplinary project involves faculty and graduate students from both schools considering how to merge design and development of games with learning theory.

Rethinking teaching and research. We have implemented undergraduate curricular changes that will take effect in the fall semester of 2013 and are in the planning stages of graduate coursework that will result in specialized degree offerings in areas of game design and digital media. We have found initial success in creating coursework and research projects related to DML with plans to grow. One of our core group members has offered a special-topics graduate course on games, social media, and digital technologies that will become a regular course in future semesters. “Games for Learning” and “Graduate Design” courses, pairing faculty with graduate students to design digital media integrated with pedagogy and curriculum, are in the works. We have revised the offerings for Teacher Education undergraduates from the previous one-credit courses focused on instructional technology training on a set of tools, to a more connected approach that considers pedagogy and tools related to creation, collaboration, communication and interest-driven participation. In the area of research, we have started a computational thinking project working with faculty in Human Centered Computing, to study at-risk middle school students using MIT App Inventor MIT App Inventor (<http://appinventor.mit.edu/>) as a means of promoting computational thinking. Similarly, in another project, we are using Alice, a 3-dimensional programming environment developed at Carnegie Mellon University, to support the development of computational thinking by allowing girls to program dance characters. Both of these endeavors have received internal grant support requiring collaboration across colleges. A grant awarded for creative inquiry of undergraduates supports student involvement from Architecture and Communications designing inviting, appropriate spaces and programs in the emerging DML lab, as well as helping with outreach across campus.

Extending the vision. Still in the early stages of our collective endeavor, we continue building on our preliminary plans and negotiating new issues and hurdles as they arise. Initially, we relied on internal audiences to share our vision, inviting administrators and faculty to join our discussions of DML in the context of their professional work. For instance, a recent reading and discussion group included Jenkins et al., research on new media literacies and potential impact on practice. We have hosted workshops, held planning retreats, and sought out every opportunity to meet with faculty and students external to our core group. Sharing this working example is one of our first opportunities to present our ideas to a group of colleagues with the hope of fruitful discussion and productive feedback about our plans and progress.

In addition to discussing our work with like-minded colleagues and stakeholders within and beyond our university, we hope to join the ongoing conversations about Digital Media & Learning, Connected Learning, Participatory Culture, and related topics by sharing our work through social media channels and a contributory web presence.

Reflecting and Looking Forward

In this final section, we present some of our initial reflections and our future plans. Significant factors contributing to challenges and successes are outlined as a means to offer suggestions, pursue input from interested colleagues, and consider alternatives through solicited constructive critique.

Realizations and Unanticipated Challenges

We are working within the framework of a public, land-grant university that has a long and complex history and vital connection to its region. Institutional structures have developed over many years and traditional patterns of engagement by faculty existed prior to the arrival of many of our core group members on campus. Understanding the impact of these factors to instill change and foster a cultural shift has been an important part of our acclimation

to this context. To that end, we have come to know the related stakeholders and have made a concerted effort to learn their roles in the university hierarchy, their perspectives on interdisciplinary collaboration, their dispositions toward DML, and their propensity for change. While none of these points can be considered earth-shattering realizations, we have a newfound respect for understanding context and the accompanying limitations present in any new environment.

Although we anticipated the typical challenges related to negotiating funding, infrastructure, and human capital, we were somewhat unprepared for some pockets of resistance from members of the university community. This has served to remind us of the importance of creating a shared understanding and being prepared to defend the importance of our mission through data and exemplars. For example, an unexpected change in administration impacted initial plans for the Digital Media & Learning Lab forcing us to return to our proposal and provide supporting documentation and requisite rationalizations for decisions. Demonstrating in-progress, authentic examples from P-12 educators using innovative pedagogical approaches supported by technology, along with connected learning (Ito et al., 2012) approaches at similar universities has served to broaden perspectives.

Overall, and fortunately, our setbacks thus far have been minor and have all served to strengthen our ideas, remind us to consistently reflect on our plans, and develop important connections within and external to the university community.

Initial Success and Continued Learning

We are in the planning stage of our physical space, and will undergo construction in Summer 2013. We have started several research projects with more to follow, we have laid plans for new course and degree offerings, and we have engaged faculty members from diverse academic areas in our work. We taught and will teach courses focused on DML and have implemented changes to pre-professional curriculum that are in place for the next academic year. These initial successes have provided us with important lessons about our work and a great deal of excitement moving forward.

For those looking to undertake similar endeavors, we have relied on work from the Digital Media & Learning Research Hub, James Gee, Henry Jenkins, and the Connected Learning Research Network, as well as other work supported by the MacArthur Foundation. We appreciate their contributions to our field and ongoing role in our current endeavor.

Invitation

As a working example, we invite your participation in this ongoing work. Our continued commitment to the field includes connecting with others physically and virtually via shared discussions, workshops, events, and coursework. Further sharing and communicating via images, documents, and short participant videos will be offered as “plausibility proofs” (Barab, Akran, & Ingram-Goble, 2012) on the Working Examples website (<http://www.workingexamples.org/>). We began our long-term undertaking by attempting to learn from those who have done similar work before us, and by inviting a broad range of interested people from a broad range of academic backgrounds to join our conversation. Extending our work to scholars and practitioners within and beyond the DML community for continued involvement, critique, and participation is both welcome and necessary.

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