An academic home for play: games as unifying influences in higher education

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Abstract

Purpose – This paper aims to address opportunities and tensions when creating game-based learning practices in higher education. By detailing examples from a university in the Southeastern USA and the communities it serves, we suggest game-based research and learning be approached as a unifying influence adaptable across contexts.

Design/methodology/approach – We use a working example methodology where someone with expertise “works through” a well-known issue while making the thinking overt. In this manner, we reveal processes, successes and challenges infusing game-based learning in higher education to deepen understanding between fields and encourage research and practice with games across disciplines.

Findings – The working example demonstrates that games served as a unifying influence in three primary ways, which included redesigning courses and implementing programmatic changes; using existing programs to promote interdisciplinary teaching and research; and increasing outreach and partnerships. In each example, games served to strengthen or support the initiatives.

Originality/value – This paper extends literature on the value of games to promote research and learning. Significantly, it provides an example for others in game-based learning fields to consider when building similar programs in higher education.

Keywords Game-based learning, Higher education gaming programs, Working example

Paper type Case study

Introduction

There is little doubt games have influenced the research and game-based learning (GBL) agenda in higher education as evidenced by the proliferation of large research-to-practice hubs such as Games+Learning+Design (www.gameslearningdesign.org), The Center for Games & Impact (http://gamesandimpact.org) at Arizona State University and MIT’s Education Arcade (http://education.mit.edu), all focusing on designing games and simulations with educators in mind. These institutions build research-based games to teach content such as civic engagement, ethical issues, programming, biology and literacy practices to name a few, and promote GBL in research and classroom experiences for undergraduate and graduate students. Additionally, the newly created Higher Education Video Game Alliance (HEVGA) aims to provide a platform for higher education leaders to consider the “cultural, scientific, and economic importance of video game programs in colleges and universities” (HEVGA website, 2015), demonstrating there is great interest in expanding GBL in higher education. GBL has been described in a variety of ways, but includes using video and online games to design or enhance learning experiences and deliver instruction (Wiggins and Simkowski, 2014); it also includes the application of learning principles and social interactions facilitated by games and used by the community (Squire, 2011).

The Horizon Report: 2014 Higher Education Edition (Johnson et al., 2015) listed games and gamification as likely to impact university classrooms within two or three years, noting the portable, motivating and engaging nature of gaming as conducive to military, business and
educational training. They further suggest higher education classrooms should capitalize on using games as tools to hone productivity and creativity while incentivizing learners through rewards and badges. The research hubs and predictive reports believe games can serve to change learning in higher education and the communities they serve.

However, despite this interest, broad institutionalization of GBL across colleges and universities remains, for the most part, at the experimental stage and slow adoption rate described by Epper et al. (2012, p. 3). The authors noted six trends that would drive the adoption of GBL in higher education as: student expectations, integration of games and simulations, data analytics, badges for learning, mobile devices and increasing prevalence of social media. They also discussed “several significant factors continuing to inhibit rapid, widespread adoption”, suggesting that:

- many educational games are designed for a specific purpose and are not easily adoptable in institutions;
- combining highly engaging game design with learning objectives is challenging, game development requires multiple competencies (not just content);
- finding a game and figuring out how to incorporate the game into classrooms can be prohibitive;
- accessibility issues and cultural barriers for faculty pose challenges; and
- the cost of developing a game-based course can be prohibitive for many universities.

Researchers point out that higher education lags behind K-12 in terms of adopting GBL approaches (Moylan, Burgess, Figley and Bernstein, 2015) because they lack resources to make serious games aligned with pertinent academic content and the appeal (presentation and functionality) of popular commercial games.

Jason Seitz, a professor of political science using GBL to deepen understanding of how political systems work, identifies students as the biggest challenge to shifting pedagogical approaches to integrate games-based learning (Communications Team, 2015). He cites initial resistance by college students who are accustomed to attending lectures and passive learning rather than active, experiential learning. However, he is quick to point out that students become comfortable with GBL and develop deep insights into the content they are learning.

That said, the promise of GBL in higher education is convincing, likely because the culture that surrounds games serves to significantly support learning and problem-solving, and games are seen as tools that can have a huge impact on the world. Gee (2003, p. 48) reminds us:

> [...] games situate meaning in a multimodal space through embodied experiences to solve problems and reflect on the intricacies of the design of imagined worlds and the design of both real and imagined social relationships and identities in the modern world.

GBL is recognized as a way to teach and assess twenty-first century skills (Miller, 2012). McGonigal (2011, p. 10) suggests games have a tool and a grammar to articulate new ideas and solve important problems. She sees game developers as engaged in “remarkable world-changing work”. And, games have assisted in solving real problems of great importance. Consider the case of Foldit (University of Washington, 2008), an online puzzle video game, in which players’ collective work outperformed computer algorithms; in 2011, its players were able to produce an accurate model of an AIDS-causing monkey virus in just 10 days (Cooper et al., 2010) – a problem scientists had been unable to solve in 15 years. Zooniverse (Citizen Science Alliance, 2009), a citizen science project with quests, puzzle and research to encourage exploration and problem-solving has been equally successful with its users analysing images and classifying and transcribing data that significantly and efficiently speeds scientific processes. Zooniverse participants have even discovered two new planets during their work in Planet Hunters (Morris, 2011).
Furthermore, interest in gamification, or the idea of rewarding players for participating in non-game like tasks, has increased in education and daily life as participants seek:

[...virtual rewards such as points, payments, badges, discounts, and ‘free’ gifts; and status indicators such as friend counts, retweets, leader boards, achievement data, progress bars, and the ability to level up (Anderson and Rainie, 2012, p. 2).

In fact, the above Foldit example is credited with motivating crowd-sourced players to engage in high-level gamified problem-solving to achieve team rankings, scores and badges.

Inexplicably, we live in an age where game designers, scientists, educators, artists, and policy-makers have a seat at the table to talk about the power of games. Games bring a level of interest and engagement to get real-world work accomplished while serving as unifying influences to seemingly disparate groups.

A majority of technology stakeholders believe game elements, mechanics and tools will increasingly influence education, healthcare and industry (Anderson and Rainie, 2012). Knowing this, it is unsurprising that institutions of higher education are interested in games as tools to hone literacy, conduct research or solve problems. Predictably, these same universities face difficulties when moving GBL into higher education classrooms where cultural norms and organizational structures, at times, act antithetically to learn through games. Thomas and Seely Brown (2011) point out that our educational institutions have not adapted to the world of knowing, making and playing that learners freely enter to construct knowledge in contexts which are present-focused (versus learning “just-in-case” knowledge) and provocative. Instead our institutions are mired in approaches that often treat students as passive agents who need to learn content matched to school disciplines, organized through curricula. This runs counter to the applied literacy skills and fluid knowledge-building which is found naturally in games and enhanced by digital media (Collins and Halverson, 2009). This mismatch of the academy increasingly adopting a vision towards new programs of study and support for game-based teaching practices, while entrenched in institutionalized paradigms of traditional schooling presents new opportunities and, admittedly, creates new tensions.

A working example of cultivating game-based learning

This paper addresses these opportunities and tensions through examples from a university and the communities it serves by suggesting game-based research and learning can be approached as a unifying influence adaptable across contexts. Using a working example model (Barab et al., 2009), where someone with expertise “works through” a well-known issue while making the “thinking, practices, and values of a discipline overt and public for newcomers” (Gee, personal communication as cited in Herro, 2015), we provide an exemplar. Our intention is to purposely reveal processes, successes and challenges infusing GBL in higher education to deepen understanding between fields and encourage research and practice with games across disciplines.

In The Anti-Education Era, Gee (2013) discusses the necessity of providing context and sharing experiences to make associations when moving forward with innovation. He reminds us that digital media and games are novel areas of research with few real experts and proposes that we:

[...] treat each as students working over problems as if they were well established even if they are not, so we actually know concretely what each other think and value, as a starting point, not as a finished point (Gee, 2010, p. 51).

Thus, in our approach we use Clemson University’s efforts towards digital media and learning (DML) housed within a newly created Learning Science program in the School of Education (SoE) to describe how games and play brought together students, programs, research, partnerships and outreach efforts. Our discussion is predicated by the knowledge that context matters when considering or scaling innovation (Dede, 2012), so
our end goal is not to suggest similar programs, courses, structures or partnerships that will thrive elsewhere. Instead, this article aims to broaden the discussion and provide a starting point or platform for others to consider based on their context. Specifically, the questions we explore are:

What are the structures and practices Universities might support to encourage successful game-based learning and research? How might games function as unifying entities providing an academic home for play?

Context

Clemson University is a mid-sized public University in rural South Carolina flanked by huge lakes and the Blue Ridge Mountains. Currently in the middle of a major reorganization, the University has traditionally functioned as five colleges focused on Agriculture, Forestry and Life Sciences; Health, Education and Human Development; Architecture, Arts and Humanities; Business and Behavioral Science; and Engineering and Computer Science. It enrolls approximately 21,000 students with 4,200 in graduate programmes of study. The SoE was formerly housed in Health, Education and Human Development, but recently became its own unit, The Eugene T. Moore School of Education. It has more than 80 faculty members and enrolls approximately 600 undergraduate and 600 graduate students. Its teacher education undergraduate programs lead to licensure in early childhood, elementary and secondary English, mathematics, science and social studies. The school also offers programs in agricultural and special education. At the graduate level, there are six education-related masters programs and at the doctoral level, degrees are offered in Curriculum and Instruction, Educational Leadership, Learning Sciences, Literacy, Language and Culture and Special Education. The school is known nationally for its America Reads and Call Me MISTER programs. Like many universities, Clemson has historically offered a high quality, yet traditional education programme; however, the explosion of Internet technologies and digital media production is shifting its vision and beliefs about learning innovation.

The opening of two new spaces Digital Media and Learning Lab and Gaming Lab in the SoE was an initial step to bring GBL to education students. Interestingly, the labs cultivated a culture that assisted in supporting an increasingly game-based teaching and research agenda for the University. This agenda grew from a broad understanding of the potential of GBL to shift practices; it was not simply inserting games into classroom curricula that transformed practices. As detailed in the sections below, GBL was appropriately integrated in program changes, courses and opportunities to bring multidisciplinary students together and build partnerships.

We discuss significant components of building GBL at Clemson University by detailing the major shifts in practice, describing how games served to unify this new teaching and research agenda and revealing tensions or challenges which surfaced.

Games as unifying tools to enact vision

The purposeful hiring of two assistant professors in the SoE with a background in games for learning was a starting point to accomplish the vision of increasing relevant technology offerings in teacher education programs. Administrators had a vision for rethinking the traditional computer labs within the SoE, even mentioning game research as an option; however, with expertise outside of the field of technology and education, they were understandably unclear about how to realize the vision.

Within weeks of beginning their DML appointments, a plan was formulated to build interest-driven open spaces for students to play games, make media, work on collaborative projects or simply hang out (Figure 1). Emulating Jenkins et al. (2006, pp. 5-6) model of fostering a “participatory culture” including “relatively low barriers to expression, strong support for creating and sharing with one another, informal membership in which
experience is passed to novices, and members believing their contributions matter”, the two traditional computer labs were converted to Digital Media and Learning Lab and an old storage space was remodelled to create a Gaming Lab (Figure 2 and Figure 3 below). The initial vision to increase relevant technology offerings shifted from updating the current instructional technology program to creating a culture supporting GBL. A few junior
professors believed this could be accomplished through spaces, gaming and mindsets embracing “learning in the collective” in which “there is no sense of core or center” and “participation may vary based on topic, interest, experience, or need” (Thomas and Seely Brown, 2011, p. 53).

Programmatic changes: games as unifying influences in learning and research

Undergraduates working together with digital media and games

Significant programmatic and course changes moved game-based teaching forward. First, an undergraduate course required for all pre-service teachers was redesigned and opened to all students on campus to connect games and digital media environments to learning. Foundations of Digital Media and Learning takes a broad look at media, including games, within societal and educational contexts and joins students from diverse disciplines. The attention to GBL has attracted students majoring in computer science, electrical engineering, parks and recreation, business, sociology and political science. The non-education students learn alongside of, and collaborate with, future teachers to explore digital media and gaming environments for learning. Final projects involve their collective expertise designing an activity based on solving an authentic problem, connected by games and digital media, to demonstrate learning.

Game-based graduate courses

Three elective graduate courses were added to the Department of Curriculum and Instruction including Digital Media, Games and Emerging Technologies, Theoretical Foundations of Games for Learning and Research and Development of Games for Learning. In one graduate course, Theoretical Foundations of Games for Learning, students are asked to connect concepts in games research to practices in formal and informal educational settings. The course attracted doctoral students majoring in Engineering, Computer Science, Curriculum and Instruction and Educational Leadership. Together, they explored GBL environments through educational theory and principles of game play and design addressed through playing and deconstructing assigned games. Then they chose more complex games aligned with their diverse backgrounds, learning style and various levels of gaming experience. A variety of game interpretations surfaced through game play and analysis and was reflected in rich class discussions.

For example, one student chose *Skyrim* (Bethesda Game, 2011) for extended play and analysis. Complex games like *Skyrim* provide an active, experiential learning environment where the mechanics and dynamics of the game frame problems and goals for the player. While playing the game, the student discovered, explored and critically analysed options...
in response to the game challenges. The game environment allowed her to creatively solve problems and accomplish individual goals. Through gameplay, the student was able to discuss the discrepancy in many traditional higher education classrooms, which often honour lecture and passing exams, versus learning in games. Using social-cultural theories of learning as a lens, the student experienced and then discussed her success in 

Skyrim.

She referred to her learning as developing creative and innovative problem solving, thinking critically and systematically, analysing large amounts of data, collaborating with NPCs (or teammates), forming strategies, making complex decisions and embracing failure while making adjustments based on results. At one point, she described the emotional connection with her avatar allowing her to construct a narrative, which led to self-expression and a more meaningful learning experience. Figure 3 illustrates her avatar and learning environment.

Another course, Research and Development of Games for Learning explores collaborative efforts towards research, design and development of a game for learning. The class is offered to undergraduate and graduate students, and recent teams were composed of students from multiple disciplines across program areas in education, computer science, human-centred computing, mathematics and statistics, and graphic design. Students bring their individual expertise as they contribute to a group project and learn from other disciplines. The course highlights designing games with projects drawing on management, research, learning theory, subject expertise, computer programming, user interaction, graphics design and user testing – all within an iterative design model. In one semester, five project teams designed research-based games while supporting learning goals and embedding analytic tools. Two projects are continuing their development work through Creative Inquiry (CI) (detailed below) and Independent Study course-based structures.

A new learning sciences PhD

An important contributing factor enabling a game-based teaching and research agenda was the creation of new Learning Sciences (LS) PhD program (fall, 2015) housed within the SoE. The LS recognize the interdisciplinary nature of learning in variety of environments with multiple subject domains. The use of media to accomplish cognitive tasks or create innovative environments is inherent in the LS; therefore, the program is appealing to those interested in studying gaming literacies, design, mechanics and communities of practice (Wenger and Lave, 1991). Unlike most PhD programs housed in schools of education, the LS will prepare PhD students for careers that may or may not involve academia or traditional education settings. Graduates with LS degrees seek employment in industry, the military, research and development, schools, digital media or online development and game design.

In this case, the sanctioning of the LS PhD program legitimized a games teaching and research agenda for faculty and students shared between disciplines. For example, a LS graduate student with career goal of being an academic in a mathematics department, who is also interested in exploring the impact of computational thinking through game design might take courses in the computer science department to explore computational thinking and design, in the psychology department to better understand motivation and cognition and in the education department to increase knowledge about mathematics, educational theory and learning. Similarly, a graduate student pursuing the design and impact of learning by diverse populations in online environments might take courses from departments spanning education, online learning, graphic design and sociology.

When considering typical higher education classrooms and programs, the LS PhD program courses are highly innovative. They allow students to individualize their learning trajectories based on their interests and goals, and the media and games course work extends traditional lecture and writing papers to playing, making, prototyping, iterating and deconstructing. While the LS PhD program involves much more than a game-based or game-focused program of study, games are serving as the unifying influence for students
from multiple disciplines, perspectives and research areas to engage in their intellectual work together.

**Utilizing existing programs**

Existing programs can be used as another avenue to create a “space” for game-based learning. CI is an undergraduate research program that has existed at Clemson University for more than five years. Interest-based research, in which students take ownership of projects to solve real-world problems under the guidance of faculty, has been the tenets of the successful program. Course credit is given for projects that often span two-four semesters, and students gain valuable critical thinking, teamwork, problem-solving, research, presentation, creativity and writing skills. Game-based research became the focus of numerous CI projects bringing together students and faculty across campus. For example, in one CI, an undergraduate student majoring in computer science who was interested in programming games and virtual reality worked with professors studying earth science and GBL to use game design for learning by first examining and then creating Web-based serious games as tools to enhance environmental and STEM education for middle school students. CI has also provided pre-service teachers opportunities to explore digital media and games as learning tools, design methods of integrating games and media in classrooms (e.g. use of commercial games and supporting resources to teach concepts aligned with standards), work with practicing teachers to investigate their effectiveness and present their claims and findings.

Furthermore, the connections between students and faculty within this CI led some students to take the above mentioned course, *Research and Development of Games for Learning*, extending their expertise to other students in various disciplines, while learning from them. Games in this context serve as a unifying influence for students, community members and faculty research groups.

**Games as unifying influences for partnerships**

**Across campus: games as unifying influences for disciplines**

GBL emanating from the Digital Media and Learning and Gaming Labs functioned as a unifying influence forming partnerships across and beyond campus. The labs ethos of interest-based learning has created a mindset of “fluidity” in how the spaces are used. In turn, this has translated into groups partnering in the labs for maker-space events, a business incubator, a meet-up for Super Smash Bros, a venue to host game jams, a place to discuss or conduct media or game-based research, a place to bring undergrads from various disciplines to play or present game and media-based work, a location for professional development for in-service teachers and a space for afterschool or summer gaming and digital media camps for children.

The labs are open for sign out by both faculty and students, supported by work-study and graduate students and managed by pooled resources from the SoE and Clemson Online Learning. Future purchases (particular digital tools, games or game-making supplies) and day-to-day operations of the labs are determined primarily on the interests and needs of the student patrons versus faculty users.

** Strengthening outreach to schools: games as unifying influences for communities**

The opening of a new high-tech middle school within 40 miles of Clemson presented an opportunity to create a school university partnership offering reciprocal learning via job embedded support and research opportunities. As technology was a primary focus, the first semester-long residency was an Assistant Professor of DML. The residency included working with administrators, surveying teachers to determine needs, providing professional development, observing and co-teaching in classrooms and helping develop elective course curricula. The partnership resulted in a video game and learning course offered to
students during the second semester using Kodu (Microsoft Research, 2009), GameStar Mechanic (E-line Media, 2010) and Minecraft (Mojang, 2009) to support curricular concepts. For example, during a unit exploring threats to South Carolina’s native sea turtle population, students created a game in Kodu showing migration patterns including the life cycle of a turtle (nesting etc.) and obstacles they face during migration, including mistaking plastic bags for jellyfish, working in groups of three or four to create games. Students’ participation in learning facilitated through the video gaming course serves to legitimize GBL to teachers, students, parents and the community members invited to play their finished games.

**Playful learning summits**

In the spring of 2014 and 2015, Clemson University’s SoE and the Learning Games Network hosted two Playful Learning Summits aimed at improving local K-12 teachers understanding GBL. The events comprised keynotes sessions to orient teachers to game-based thinking, self-selected in-depth workshops geared to particular grade levels and time to reflect on the value of games for learning. The session choices included games such as Kodu, Minecraft, MIT App Inventor (Abelson and Friedman, 2010), Unity (Unity Technologies, 2005), Portal 2 (Valve Corporation, 2011), ARIS (Gagnon, 2010), iCivics (Filament Games, 2009), The Radix Endeavor (MIT Education Arcade, 2014) and Quandary (Learning Games Network, 2012).

The first Summit featured a Meet the Gamers’ panel with student-gamers ranging in age 9 to 25. The second Summit included lunchtime demonstrations by a local robotics team and six local middle school teachers showcasing STEAM (Science, Technology, Engineering, Art and Math) units implemented in their classrooms. Graduate students from *Theoretical Foundations of Games for Learning* presented their posters to the PLS participants (Figure 3). Games served to unify and broaden the educational community as evidenced by the more than 200 teachers, students (K-12, undergraduate and graduate), faculty and community members participating in the Playful Learning Summits.

**Discussion**

In the final section, we briefly summarize the opportunities presented in this working example and discuss the ensuing tensions and challenges. In this way, we hope to assist others in higher education considering GBL initiatives.

**Opportunities**

In terms of structures and practices supporting GBL and research, three primary themes were addressed in this example: programmatic changes, use of existing programs and development of new partnerships. In this case, recognizing the potential for games to build learning communities and then creating physical spaces for game play and design served as an initial step to legitimize games as powerful research and learning tools.

Courses were redesigned or created to address research-based ideas of games for learning, but further served to connect faculty and students across programs and departments as the interest in GBL was a thread that ran between disciplines. Having students from multiple disciplines (engineering, computer science, education, architecture, graphic design etc.) learning and creating games together validated a model, prevalent in game and digital media design communities, that teams composed of multiple perspectives with varying skill sets can collectively build knowledge and better the end result. In these courses, and in this way, we capitalized on the interests of students and idea of learning in the collective (Thomas and Seely Brown, 2011). In essence, students brought their interest in playing, designing or programming games and participated in coursework and game design based on topics they chose, experience they brought and necessity they envisioned to solve a problem with digital media and games.
Using existing structures (e.g. Creative Inquiry) provided an avenue to conduct research, form partnerships and hone interest-based work around gaming. Again, interest in games brought students and researchers from various departments to solve problems between disciplines and extend the learning to younger students as in the case of the professors and students from earth and social sciences creating a serious game for middle school students.

Partnerships and outreach have been sustained by combining common interests in developing partnerships and GBL supported by Clemson University. The focus of the faculty-in-residence was not games, yet they served as a foundation tool to offer new curricula to students. After the initial year, Playful Learning Summits were successful and interesting enough for a local school district and city government to co-sponsor a subsequent Summit. The events allowed academics, teachers, graduate and undergraduate students common experiences to broaden each other's perspectives regarding GBL.

In sum, the examples above demonstrate that the philosophy of “learning in the collective” (Thomas and Seely Brown, 2011, p. 53) has served the students and university well. GBL allowed the instructors and students a mechanism to transcend typical or traditional pedagogical approaches and practices found in most higher education classrooms. It is situated in the larger context of a digital media culture (Jenkins et al., 2006) where contributions of interdisciplinary students and faculty matter; membership is informal and supportive; and creating and sharing ideas, games and research is encouraged. This philosophy allowed faculty, students and community members to apply literacy skills and build knowledge in a more natural way, one that is apparent in many digital media environments (Collins and Halverson, 2009).

**Addressing tensions**

This working example details the numerous opportunities GBL offered a traditional university and its surrounding communities. Admittedly, with any innovation there are challenges. We end by highlighting ever-present challenges that have not proved significant enough to derail the momentum of the work. In fact, some of the tensions are simply that, perceived tensions that fail to materialize as real obstacles or challenges, however they do slow progress.

*Institutionalized structures.* With each new course proposed or modified, curriculum committees, under the direction of faculty bylaws, suggest if and when courses are sanctioned. This assumes representative committee members have an understanding of the importance of the courses and their content. At times, changes were requested to make the courses conform to traditional methods or models of teaching and to even adhere to “preferred” course titles. This presents challenges requiring clear communication, patience with the process and consideration regarding the make-up of curriculum committees to include representation by a faculty member steeped in DML practices. In a similar vein, when proposing a new PhD program with a strong digital media and games component, the arduous process of building the program requires persistence, understanding, education and administrative support. Understandably, while creating the program, we found ourselves repeatedly delineating the difference between Curriculum and Instruction and LS programs and explaining why technology, digital media and games were often the backbone of LS programs.

*Resources and funding.* Offering new courses, building new PhD programs and supporting Creative Inquiry is predicated on funding faculty time, using university resources, and staffing and funding labs. When it comes to university resources and funding, there are no absolutes. Unless enrolments increase and other programs or courses decrease, resources must be shifted to fund and staff programs and courses. Although there was administrative and faculty support for the changes, challenges surfaced each time a new game-based initiative was proposed. To address the challenges, dated technology courses were phased out, DML faculty sought funding from student groups and the
Department of Online Teaching to equip the labs and fund a manager, new students were recruited for the LS PhD program and external grants were written using the DML and Gaming Labs as research sites to bring in revenue.

Changes in leadership and shifting priorities. Closely related to resources and funding, is the very real possibility that a change in leadership might derail the currently supported courses, models and ongoing vision. As with any innovation, there is the potential for failure (Thomke, 2003), with no truly tried and tested models to replicate. Justifiably, this makes those responsible for budgets, successful programs and public relations uncomfortable. To address this challenge, there is growing consensus that universities must consider themselves incubators of innovation wherein they allow for flexible, creative, entrepreneurial thinking and leverage technology and games to promote this culture (Johnson et al., 2015).

Conclusion

This working example demonstrates how games served as a unifying influence allowing a relatively fast rate of innovation by shifting teaching and research practices. The structures and practices strengthening the many initiatives (e.g. novel spaces, course redesign, a new PhD program, interdisciplinary teaching and research and partnerships) emanated from the strong realization that GBL is worth honing and supporting. Games were not simply co-opted to support the status quo, but instead used to transform teaching and learning. In this case games and the culture surrounding them provide an academic home for play, an effort that is likely to experience continued successes and challenges.

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