Work in Progress - Building a Learning Community using Computer Gaming

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Abstract – Many universities are interested in integrating interdisciplinary programs. Perhaps a first step is to implement interdisciplinary learning communities into existing curricula. Learning Communities can provide senior level students with pre-professional experience through interdisciplinary projects. Furthermore, seniors are more engaged in their disciplines and capable of the critical thinking required. Several senior classes are currently participating in building a multi-user networking game. Gaming is an ideal theme because it is fun, cross disciplinary and has real-world application. All of the major games currently released are the product of large, multi-disciplinary teams. Nicholls anticipates that replicating that team in a university setting will motivate students and increase learning. Students and faculty will decide the nature of the game, the goals for the class, and boundaries of the assignment. This paper describes current work and plans, so that future educators can replicate and improve upon these processes.

Index Terms – Computer Gaming, Interdisciplinary Studies, Learning Communities, Theme Based Learning

Over the past century and a half, higher education has become increasingly specialized, leaving little room for interdisciplinary research and teaching. These ‘silos’ of education often leave students on their own to identify the importance of and connection between courses in the curricula and often produce narrowly focused graduates.

Educators are rethinking these divisions and the value of interdisciplinary education with significant support from policy makers, employers, and voters, all of whom argue that overspecialization has led to an unprepared workforce that threatens America’s competitiveness in the global economy [1]-[4]. In fact, 99% of voters agreed in a 2007 poll that the skills most critical to America’s success are interdisciplinary ‘21st century skills’: critical thinking, problem-solving, communication, and self-direction [1].

The same sentiment was expressed in a report published by the American Association of American Colleges and Universities (AACU). The report summarizes a litany of evidence indicating that students are not performing well in basic academic areas, as measured by standard tests and employer feedback. They say, “The major problems of our time…transcend individual disciplines” [2]. At the graduate level, the Council of Graduate Schools notes that America has already fallen behind in the STEM fields based on publication of original research [3].

While all of these sources indicate that flexibility, problem-solving, and inquiry were among the greatest benefits of interdisciplinary education, some also note that there are costs involved in creating these programs [4].

Educators who are constrained by lack of resources and budget cuts, or who simply want to start slowly, can still move in the direction of interdisciplinary programs by implementing learning communities. Learning communities are used in many universities and are supported in the literature for many benefits. Because they are interdisciplinary and interactive, they expose students to multiple perspectives, encouraging greater critical thinking and contextual learning [5]. When courses are organized around a common theme, they appear more coherent and cohesive rather than as an unconnected assortment of topics. Furthermore, students involved in these communities develop strong social alliances and a sense of belonging, which often lead to a greater sense of responsibility for the coursework [6]-[8].

Shared Theme/Project Approach to the Learning Community

Nicholls State University centered its learning community on computer gaming because this topic spans the interests of freshmen through graduate-level students. Freshmen can relate to gaming through personal and cultural experience, and graduates will find a course of study that is highly relevant in today’s marketplace: The gaming industry is a $50 billion industry worldwide. Furthermore, gaming is an ideal theme because game production involves the collaboration of many areas of expertise, including, but not limited to, business, writing, programming, music, and art.

Getting Faculty from Other Disciplines Involved

The substantial data that supports interdisciplinary education is a strong motivator for administrators and educators to get involved. But it is not enough. The university had to show commitment to interdisciplinary collaboration by providing strong leadership for the project, opportunities for communication and brainstorming between faculty, and value for faculty involvement by way of evaluations.

The university appointed a learning community committee, chaired by Dr. White. Dr. White presented the topic in as many venues as possible, including the faculty newsletter. In faculty development workshops, Dr. White...
led sessions with participants to brainstorm the applications of gaming within their disciplines and specific courses. Thus far, faculty from the following subject areas have committed to the project: creative writing, technical writing, finance, computer networking, software engineering, operating systems, and computer gaming.

As faculty see tangible benefits of participating, we believe more will want to be involved. Faculty who are participating experience increased collegiality, and the collaborative effort renews enthusiasm for teaching. Research and publication opportunities also arise from the project. Beyond the intrinsic value, all of these activities have extrinsic value in the evaluation process, counting in service, teaching, and research categories.

We also believe that early success will have a far-reaching effect on faculty and student enthusiasm for the learning community, which is why we chose to start at the senior level. We wanted students to participate in projects that build not only social networks and a sense of belonging but also recruitment tools and portfolio samples. To do this, participants need to have some matriculation in their curricula. By implementing at the upper level, educators can make the most of the pre-professional experience and skills of students working on interdisciplinary projects.

**THE PLAN**

Those faculty involved in the initial implementation decided that the students would determine the nature of the project. At the beginning of the semester, the technical writing, creative writing, and computer gaming classes met in one room to brainstorm the type of game that they wanted to create, and that would satisfy the requirements of all the classes involved: for example, each course had to have projects that met the course goals and could be assessed.

With very little faculty input, the students immediately gravitated toward projects that would gain administrative support and reflect well upon them in the eyes of potential employers. They decided to create a virtual world that will entice new students to come to Nicholls and help existing students choose a major in a fun and interesting way. We cannot emphasize enough the importance of allowing the students authority in this process.

Given the scope of the project, it was also important to help the first group of students in the learning community rethink production. The project they defined is highly involved and will require several years to develop, so, just as in the real workplace, they could not short change the planning process because they have only four months. Instead, production for the first semester is largely dedicated to vision and storyboarding.

A secondary ‘product’ for the class was related to project management: solving logistical issues of collaboration, defining the workflow, and assigning work by expertise. Because each class met at a different time in a different place, a wiki was created that allowed the students to communicate virtually. With the aid of the instructors, work was identified and assigned according to expertise; however, students and instructors had to be open to having a less-than-scripted and followed syllabus. For example, our initial research yielded information that changed our direction more than once. This experience offered several teachable moments about real workplaces.

Although students often felt they were speaking different languages, conversation always returned to the common goal. Students were excited to interact with students outside of their discipline, a rare opportunity at the senior level. They were also excited to discover connections between seemingly unrelated courses.

**FUTURE PLANS**

Starting at the senior level was easiest for the many reasons outlined above, but interdisciplinary education and particularly learning communities benefit all students. Next semester, we will coordinate dual enrollment in Freshman English and Computer literacy classes focused on gaming as a theme for reading and exploratory print and visual essays.

Moving up from senior level projects, Dr. White envisions an interdisciplinary gaming minor or major and possibly master’s level program as a valuable addition to the computer science degree program at Nicholls.

**REFERENCES**


**AUTHOR INFORMATION**

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