

Game Design as a Writing Course in the Liberal Arts

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Abstract - *The School of Computer Science, Telecommunications, and Information Systems (CTI) is a technologically-focused college within DePaul University. While DePaul CTI has a large number of technical degree programs, DePaul University is a liberal arts institution and one that is increasingly focused on improving the writing skills of its students. It can be difficult to create courses that cover necessary technical material while requiring writing as a major part of the assessments. In this paper we discuss GAM 224: Introduction to Game Design, a required course in one of the specialized degree programs at DePaul CTI that involves writing in a significant way.*

Keywords: Writing in curriculum, expanding CS audience

1 Introduction

The School of Computer Science, Telecommunications, and Information Systems (CTI) is a technologically-focused college within DePaul University. While DePaul CTI has a large number of technical degree programs, some of them highly specialized [9], DePaul University is a liberal arts institution and one that is increasingly focused on improving the writing skills of its students. This new emphasis on writing skills has produced a number of changes at DePaul. A new Center for Writing-Based Learning [1] has been created at DePaul to oversee the efforts to improve writing throughout the curriculum, and at the end of the 2005-2006 academic year the faculty involved in overseeing the Liberal Studies Program at DePaul produced a set of writing expectations for each course in the general education program [2]. DePaul CTI faculty participate in the oversight of the Liberal Studies Program and are interested in contributing to the development of student writing. However, it can be difficult to create courses that cover necessary technical material while requiring writing as a major part of the assessments.

In this paper we discuss a course in one of the specialized degree programs at DePaul CTI that also involves writing in a significant way. GAM 224: Introduction to Game

Design is a course in the Computer Games Development major that is also approved for credit in the general education program at DePaul University. GAM 224 is a course in the Arts and Literature domain of the Liberal Studies Program, and it satisfies the same requirement as courses in the departments of Art, English, Communication, Modern Languages, and Music [2]. It involves a significant amount of writing, while covering material necessary to introduce students to the concepts of game design. In the remainder of the paper we describe the structure of GAM 224 and discuss how it serves both majors and non-majors as a writing course in the liberal arts.

2 The Liberal Studies Program

The Liberal Studies Program is the general education program required of almost every undergraduate at DePaul University [2]. The exact number and mix of courses taken in the program varies by college within the university [3], but the requirements are separated into two major groups: the common core and the domains. The common core includes courses that cover basic writing skills, mathematical and technical literacy, an introduction to the urban and Vincentian aspects of the university, multiculturalism, and experiential learning. It also includes a capstone that is typically taught in the students' major field. The domain courses are the conventional breadth courses found in many general education programs. Students take courses in six learning domains, which are Arts and Literature, Philosophical Inquiry, Religious Dimensions, Scientific Inquiry, Self, Society, and the Modern World, and Understanding the Past [2].

The Arts and Literature Domain of which GAM 224 is a part requires students to expand their knowledge of the arts while developing critical and reflective abilities [4]. In Arts and Literature courses, students interpret and analyze creative works and investigate the relationship between form and meaning [4]. While courses in the domain focus on works or art or literature, the analysis process may include social and cultural issues [4]. Courses in the domain include Animation, Art, English, Digital Cinema, Modern Languages, Music, and Theater [5].

3 The course

GAM 224 is a required course in the Computer Games Development major, recommended as one of the first courses taken by freshman. It has no prerequisites and does no computer game development. Instead it considers the study of computer games from three angles: as examples of media that can be analyzed and critiqued for their thematic elements, formal structure, plot and interactive appreciation, as complex software artifacts subject to technological constraints and the product of a labor-intensive design and implementation process; and as a cultural artifact with behaviors and associations comparable in import to other popular art forms. Students in the course study the principles of game design and use them both to analyze existing games and to develop their own original game ideas [10].

The course uses a game design textbook that studies games using three different approaches: formal aspects (rules), experiential aspects (play) and cultural aspects (culture) [8]. Each of these approaches is exemplified by analytic schemas that can be applied to understanding games: there are 17 such schemas, far more than can be covered in a ten-week quarter. The instructor typically picks a few of these analytic ideas to cover in the three weeks allotted to each unit. Table 1 gives an example of a week-by-week schedule for the topics and readings in the GAM 224 course:

Table 1 : Topics for GAM 224

Units	Week	Topics	Reading
Rules	1	Introduction to the course; Meaningful play, interactivity, and other core concepts in game design; The magic circle and the lusory attitude; Schemas for understanding games: rules, play, culture; An introduction to rules for games	<i>Rules of Play</i> : Chapters 1-10; <i>The Escapist</i>
	2	Rule systems and their properties: constitutive, operational, and implicit rules; Complexity and emergence in rule-based systems; Information: economies of information, hiding and revealing strategies	<i>Rules of Play</i> : Chapters 11-14, 17; <i>The Escapist</i>
	3	Cybernetics and	<i>Rules of</i>

		concepts of feedback: positive and negative feedback loops; Conflict: systems of conflict, managing difficulty; Breaking the rules: types of players, degenerate strategies	<i>Play</i> : Chapters 18, 20, 21; <i>The Escapist</i>
Play	4	Play and experience: experiential aspects of game design, qualities of play activities, defining the core mechanic	<i>Rules of Play</i> : Chapters 22, 23; <i>The Escapist</i>
	5	Narrative play: games and stories, cut scenes, characters, plot; Simulation: games as simulation engines, scripting versus simulation; immersive fallacy	<i>Rules of Play</i> : Chapters 26, 27; <i>The Escapist</i>
	6	Social play: the play community, player roles, rule making and breaking, forbidden play	<i>Rules of Play</i> : Chapter 28; <i>The Escapist</i>
Culture	7	Culture: games as culture, the context of game creation and game play, cultural interactions in games, rhetorics and politics of play, the “New Games” movement	<i>Rules of Play</i> : Chapters 29, 30; <i>The Escapist</i>
	8	Gender in games: imagery, symbolism and media	<i>The Escapist</i> regular weekly issue and issues 17, 50
	9	The game industry: dominant business models, impact on game design and production, mainstream and independent game production	<i>The Escapist</i> regular weekly issue and issues 8, 9, 37, 38
	10	No lecture – design presentations and quiz	

3.1 Writing requirements

GAM 224 requires a significant amount of reading and writing. The reading requirements for the course include the 600-page textbook supplemented by articles in the online magazine *The Escapist*, which consists of short journalistic articles on games, but with considerably more depth than standard mass-market publications. Prominent game designers are also contributors [7]. Students are required to complete a variety of assessments, including reaction papers, design projects, analysis papers, in-class activities, and quizzes. Each instructor assigns a "game syllabus" that all students must play to build a common base of game-play experience. Reaction papers are brief (1-2 page) papers describing their interaction with these assigned games and relating the games to the ideas discussed in the course. Design projects are completed by groups of students and have included creating complete cards games, designing a map for a level in a computer game, creating a character for a computer game, and designing a new level for an existing game. All of the design projects are written documents, as students cannot be assumed to be able to code their designs. The analysis project requires students to play a single computer game for the entire quarter and write several longer (approximately 5 page) papers analyzing the game using one of the schemas from each of the units ("rules", "play", "culture") in the course. The focus in the analysis project is constructing and supporting a thesis about the game with respect to a particular textbook schema. In-class activities are completed by groups of students and are designed to engage the students actively in the material covered by the lectures. In-class activities have included re-designs and analysis of existing games as well as brainstorming on themes common in computer games. Quizzes are designed to assess whether the students have completed the required reading for the course.

While GAM 224 is not primarily a writing course, it does require students to spend a significant amount of time honing on their writing skills. The required minimum 20 pages of written work in GAM 224 far exceed the standards (5-7 pages) for inclusion into the Arts and Literature domain. The type of writing performed in this is quite different from writing expectations in other CTI courses, which usually emphasize technical writing in an expository vein. The learning objectives for the course call for writing that is interpretive: "Students will be able to comment on the relationship between form and content in a work....What are the generic expectations of a particular form? How does an artist complicate, enrich, or subvert such expectations?" [4]

The course purposely requires a variety of writing, emphasizing to the students that there are multiple forms of writing relevant to game design. Even the quizzes in the course are typically short-answer and require the students to integrate the information they have seen in the lectures,

read in the text and online sources, and experienced when playing the required games. By placing the writing in a context they understand and enjoy, students are motivated to work at improving their written skills, as shown by the substantial improvement in students' work over the course of one quarter. Mastering of writing skills plays an important role in the assessment of the student's performance in the class. Students are given specific feedback on their writing, are encouraged to consult with DePaul's Writing Center and are, at times, given the opportunity to submit multiple drafts of their work.

3.2 Enrollments

GAM 224 was first offered in the Spring 2004, and there have been 25 sections of the course taught since that time. The following table lists the number of sections offered and the total number of students in all the sections combined each quarter since the course was first offered:

Table 2 : Enrollments for GAM 224

<i>Quarter</i>	<i>Number of sections</i>	<i>Total students</i>
Spring 2004	1	20
Winter 2005	1	35
Spring 2005	2	69
Fall 2005	4	160
Winter 2006	3	103
Spring 2006	4	123
Summer 2006	1	10
Fall 2006	5	187
Winter 2007	4	117

Part of the rapid growth in enrollments is attributable to the growth in the Computer Game Development degree, which currently has 133 students. But increasingly a significant audience for the course is non-majors taking it to fulfill the Arts and Literature requirement. For the first time in the Winter 2007 a section was offered at the Lincoln Park residential campus, rather than the Loop campus which is the home of DePaul CTI. This section serves primarily non-majors and is nearly full with 38 students. Another section at Lincoln Park has been added for the Spring

2007. Sections are also regularly offered in the evening, which serve adult students outside of CTI who have difficulty finding Arts and Literature courses. The importance of the course for non-majors is discussed in the next section.

4 Attracting non-majors

Like many computing-focused schools, DePaul CTI has seen a drop in new enrollments in some of its traditional computing programs. During 2002-2004 total undergraduate enrollments at DePaul CTI decreased 22% [6]. DePaul CTI has taken two distinct approaches to tackling this problem. The first has been to expand the breadth of its degree programs to attract students that might not otherwise consider information technology as an area of study. DePaul CTI offers 15 bachelors degree programs, including innovative and non-traditional degrees such as Computer Games Development and Digital Cinema [9]. At the same time, DePaul CTI faculty have worked to increase the number of CTI courses that can be taken by non-majors at DePaul to fulfill their general education requirements. Over 30 CTI courses are offered in all but one Liberal Studies Program domain, and there are over a dozen CTI courses in various parts of the Liberal Studies Program common core.

Courses that can serve both students majoring in a DePaul CTI degree program and students majoring in schools outside of CTI but fulfilling general education requirements within CTI are particularly valuable in these efforts. An introductory course that fulfills requirements both for the major and general education allows faculty to begin offering innovative programs before the enrollments in those programs are large. Offering such a class multiple times a year gives students who may be interested in the program, either as a major or for a minor, a chance to try out the class without risk. If the course, and the degree program in which it belongs, spikes their interest, they can then move onto other courses in that program. On the other hand, if the class is not what the student expected, the student has not lost anything since the course can fulfill a general education requirement.

The appeal of GAM 224 to non-majors can be clearly seen in the enrollment data over the history of the course. The table below lists the total number of students in each quarter, the number and percentage of CTI students, and the number and percentage of students from outside CTI.

Table 3 : GAM 224 students by college

Quarter	Total students	CTI	CTI %	Non-CTI	Non-CTI %
Spring 2004	20	17	85	3	15
Winter 2005	35	28	80	7	20
Spring 2005	69	36	52	33	48
Fall 2005	160	107	67	53	33
Winter 2006	103	51	50	52	50
Spring 2006	123	50	40	73	60
Fall 2006	187	122	65	65	35
Winter 2007	117	53	45	64	55

As is expected, students in the course prior to the redesign and acceptance into the Arts and Literature Domain in Winter 2005, were overwhelmingly from DePaul CTI. In both sections of the course offered before Spring 2005 over 80% of the students were from CTI. However, as early as Spring 2005, the course began to attract large numbers of students from outside CTI. The Spring 2006 sections were the first with a majority of students from outside CTI, including students from the Schools of Education, Liberal Arts and Sciences, Commerce, and the School for New Learning. In more recent quarters enrollment patterns show large numbers of students from CTI during the Fall quarters and large numbers of students outside of CTI during the Winter and Spring quarters. Computer Game Development majors are encouraged to take the class during the first quarter of their freshman year, hence the enrollment pattern.

Unfortunately we do not have statistics about students taking GAM 224 and then transferring into CTI, nor do we have information about students minoring in the Computer Game Development program. However, anecdotal evidence suggests that this is happening. At the very least, GAM 224 is proving to be an excellent service course for DePaul CTI, one that is very popular with students across the university.

5 Conclusion and future work

A new emphasis on writing in the curriculum at DePaul University has inspired CTI faculty to consider how to

create technical courses that involve more written assessments. GAM 224 is a course in the Computer Games Development major that is also approved for credit in the Arts and Literature domain of the Liberal Studies Program. It involves a significant amount of writing, while covering material necessary to introduce students to the concepts of game design. The course does not teach writing, but does require students to spend a significant amount of time honing on their writing skills. The number of sections of GAM 224 offered has grown significantly as the Computer Game Development program has grown. The course has also attracted a large number of non-majors taking the course to satisfy an Arts and Literature requirement. Courses that can serve both students majoring in a DePaul CTI degree program and students majoring in schools outside of CTI are particularly valuable in the efforts to handle the enrollment decreases seen across the country since 2001.

In addition to the traditional writing assignments currently part of the class, one of the authors plans to experiment with collaborative writing in future sections of GAM 224 by integrating a quarter-long group (possibly class-wide) writing assignment facilitated by the use of a wiki.

It would be interesting to find a way to track students transferring into DePaul CTI after having taken a course like GAM 224. Learning how many students are choosing a CTI minor after taking a dual purpose course would also be useful. We would like to verify the hypothesis that dual-purpose courses are, for a number of students, serving as extended advertisements for CTI degree programs.

6 References

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