Online Education in the Visual and Performing Arts: Strategies for Increasing Learning and Reducing Costs

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Abstract

The appropriate use of technology to enhance learning and reduce costs has become a focal point in the discussion of online learning. Significantly, the use of robust teaching and learning platforms, along with videoconferencing and other technological tools, allows for a wide variety of course redesigns that range from the incorporation of online materials into traditional courses to teaching courses fully online.

The purpose of this paper is to discuss the use of technology in general education introductory arts and arts appreciation courses, with a particular focus on increasing learning and reducing costs. We describe the successful redesign of a required general education course entitled *Understanding the Visual and Performing Arts* into a fully online course. Several unique characteristics of the course such as the use of an alternative staffing model, of computer graded practice tests, and of computer graded short essays were particularly effective in the redesign and could be duplicated in other courses even outside the arts. The paper concludes with a discussion of the improved learning that has occurred since the redesign was completed.

Introduction

The use of technology, and particularly the development of online materials to assist in instruction, has increased significantly in higher education over the last ten years. According to the National Education Association, 90% of NEA members indicate that distance learning courses are currently being offered or are being considered at their institutions (A Survey of Traditional and Distance Learning Higher Education Members, 2000). Similarly, the National Center for Education Statistics found in their 2000-2001 study that 56% of all two and four year institutions offered distance classes, and that another 12% of institutions planned on offering distance classes within the next three years (Distance Education at Degree-Granting Postsecondary Institutions). Several projects have recently been launched, such as the Roadmap to Redesign (R2R) project from the National Center for Academic Transformation, with the intent of increasing the use of technology in teaching and learning (The Roadmap to Redesign).

The forerunner of the R2R project, the Program in Course Redesign (PCR) from the National Center for Academic Transformation, is a prime example of the inclusion of technology into course redesigns in order to increase learning and reduce costs, and indicates the way in which much of the development of online teaching and learning has been in areas outside of the arts. In the PCR program, 18 of the 30 course redesign projects were in the sciences and mathematics, 6 were in the social sciences, and 5 were in the humanities (Program in Course Redesign). Only one, the redesign project described in this paper, was in the area of the arts. As Bender indicates, the arts continue to focus on studio based instruction rather than delivering instruction online (2005). The purpose of this paper is to discuss the development of online materials for education in the visual and performing arts that enhance student learning of specific learning goals while also decreasing the costs of delivering the course. Because arts appreciation courses are generally taught face-to-face, this paper will offer an alternative way of thinking not only about courses such as this but also other courses that faculty might not generally consider for online design.

Enhancing Learning with Limited Resources

A recent article in the *Chronicle of Higher Education* indicates that spending at the state level fell 3.3 percent in the first three years of the twenty first century, with large cuts in higher education ("Better Off Financially," 2005). At the same time, colleges and universities have seen

an increased expectation in accountability, with a special emphasis on documentation of student learning, as is seen in almost all accrediting bodies in the United States. For instance, the Southern Association of Colleges and Schools, the accrediting body for colleges and universities in the south, in Principle 3.4, requires universities to identify learning outcomes for all educational programs, assess whether students meet these learning outcomes, and use the results of the assessment to improve programs (Principles of Accreditation, 2001). Similarly, the North Central Association of Colleges and Schools states that all programs must develop learning outcomes and an assessment plan that determines whether or not the school is meeting those outcomes (Standard and Criteria, 2005). On a state level, similar expectations are beginning to appear. For instance, the state of Florida has recently mandated that all universities must develop Academic Learning Compacts between the programs and students that describe the learning outcomes and assessment practices of each program (Division of Colleges and Universities Policy Guideline, 2005).

At Florida Gulf Coast University, which opened in 1997 as the tenth institution in the state university system, faculty members collaborated in the development of a common set of university-wide undergraduate learning goals that would provide a foundation for all programs, including the General Education program. This process resulted in the creation of nine undergraduate learning goals, each fleshed out with statements of the knowledge, skills, and attitudes that students would need to demonstrate to meet the goals. In order to assist students in meeting the learning goal of Aesthetic Sensibility, which is defined at the university level as the ability to "know and understand the variety of aesthetic frameworks that have shaped, and continue to shape, human creative arts; analyze and evaluate the aesthetic principles at work in literary and artistic composition, intellectual systems, and disciplinary and professional practices; and collaborate with others in projects involving aesthetic awareness, participation and/or analysis" (Student Learning Goals and Outcomes), faculty members created a required course in the general education program entitled Understanding the Visual and Performing Arts. Three years after the university opened, due to unexpectedly high enrollment of first year students and sagging funding, we experienced course drift, losing coherence in this course which was increasingly taught by part-time faculty without any coordination or oversight.

Fortunately, the university was successful in its application for a two-year grant from the Grant Program in Course Redesign from the National Center for Academic Transformation which emphasized the use of technology to transform high enrollment courses to increase learning and reduce costs. Our redesign project used proven instructional design principles such as those noted by Gagne, Briggs and Wagner (1992); in particular, the course integrated the time tested-learning principles of contiguity, repetition, and reinforcement (Gagne, Briggs, & Wagner, 1992, pp. 7-8). The design also applied online curriculum development strategies such as building small learning communities, viewing the role of faculty as facilitator, and creating positive learning (Porter, 2004). The first goal of the Understanding the Visual and Performing Arts redesign project was to provide coherence to the course making certain that all students would move towards attaining the university undergraduate learning goal of Aesthetic Sensibility. The second goal was to reduce the cost of offering the course in order to plan for future growth. After our redesign project was concluded, we found that the new course enhanced other learning goals as well, including especially Technological Literacy, which is defined as the ability to "develop knowledge of modern technology; process information through the use of technology; and collaborate with others using technology tools" (Student Learning Goals and Outcomes).

The faculty members in the Division of Humanities and Arts who participated in the project were adamant that the students learn the content knowledge and develop the skills that we had developed for the course—which meant retaining three exams covering the content material and four essays that allow students to develop the skills for actively engaging works of art. As will be discussed later in this essay, through extensive assessment, we have been able to demonstrate that students are learning at a higher level in the redesigned course than they did in the traditional course—and that the costs to deliver the course have been greatly reduced. Once the redesign project was complete, we only offered the course in the online format.

The Course Redesign Project

We assembled a team of faculty members from the humanities and the arts and staff from the Office of Course and Faculty Development to redesign Understanding Visual and Performing Arts into a fully online course. What follows is a description of the key elements of the redesigned course:

- Assignments linked to clear learning goals;
- An alternative staffing model that allows us to deliver the course to increasing enrollments; and
- The use of an essay grading software, the Intelligent Essay Assessor.

We conclude with a comparison of the learning in the traditional and the redesigned courses, describing the enhanced learning that has taken place as a result of the course redesign.

Designing Assignments: Meeting Student Learning Goals

In order to develop a successful online course, it is essential to carefully (re)design all of the assignments so that they work effectively within a web-based environment (Carr-Chellman & Duchastel, 2000; Duchastel, 1997; Savery & Duffy, 1995). For the redesigned online version of the Understanding Visual and Performing Arts course, students are given a series of integrated assignments to help them achieve the learning goals established for the course. The first and most important of these is to print and carefully read the syllabus, schedule, and various assignment pages from the course web site and then complete a quiz covering the information in these materials with a perfect score. As the course is self-directed, students are strongly encouraged to plan their calendars in advance in order to successfully complete their assignments on time.

Course assignments are divided into three main "modules" covering visual arts content (three chapters), performing arts content (three chapters), and arts contexts (two chapters). These subjects progress sequentially, corresponding with required readings from the course textbook. Each module includes practice tests, module exams with objective questions along with short essay questions (in modules one and two), and web board discussions. The first two modules also include two longer critical analysis papers.

For each chapter read in the textbook, students complete multiple choice practice tests which prepare them for the first part of the corresponding module exam. Students may take the practice tests as many times as they wish, receiving for each the best score from all attempts made, in order to see as many questions in the test bank as possible. Each practice test includes ten

questions from a test bank of fifty questions; students have ten minutes to complete each practice test. By the third week of the course, each student is placed in a six-person Peer Learning Team (PLT) under the supervision of an assigned Preceptor. Within their PLTs, students participate in web board discussions designed to prepare them for writing their short essays as part of the first two module exams and their longer critical analysis essays.

At the end of each course module, students take a timed online module exam. The first two module exams are comprised of two parts: a section of multiple choice questions based on those found in the practice tests, and a short essay question in which they are asked to critically analyze an artwork or performance based on the skills they developed in their PLT discussion group assignments. Each module exam is a major assignment, and may be taken only once. The third module exam on the arts contexts includes only multiple choice questions. The objective portion of the three module exams includes fifty questions drawn from a test bank of one hundred and fifty questions; each student gets a randomly drawn set of questions, so it is unlikely that any two exams are the same (though statistically similar given the random selection of questions). While the questions on the exams draw on the same information in the practice tests, they have been reworded in order to test the students' understanding of the material, as opposed to their recall of the questions. Students have forty-five minutes to complete the module exams, slightly less time per question than on the practice tests.

One of the most unique and successful aspects of the course are the web board assignments. We created two "exploded" essays—one an "A" paper and one a "C" paper—for the students to read; each essay has a series of pop-up dialogue boxes that explain the particular strengths (in the "A" paper) and weaknesses (in the "C" paper) of each essay. Through exposure to a question that is very similar to the question that they will receive on the exam, and through their analysis of the strengths of one response to this question and of the weaknesses of another response, students come to understand not only how to write the short essays but also how the content information they have been learning can be applied to works of art. Students then read another pair of essays which are not labeled and must correctly identify the stronger and weaker essays and explain why one is stronger and the other weaker. In this web board discussion, students interact with each other as they explore further application of the content information and develop their

critical thinking skills. In particular, we ask students to discuss the thesis or main point and the development of the essays they analyze. (See Appendix A for links to the web board discussions.)

Additional major assignments include writing two longer Critical Analysis Essays, in which students are asked to view and analyze artworks or performances found in the local community. Requirements for these 750-1000 word essays are spelled out on the appropriate assignment pages, and students are offered possible activities that they can engage through email postings. As with the short essays, students prepare for the Critical Analysis Essays by analyzing sample essays within their PLT discussion groups, including a pair of exploded essays and a pair of essays that are not labeled. Together, these assignments are designed to assist students in achieving the course goals of developing heightened aesthetic sensibility.

Alternative Staffing Model: A Central Key to the Redesign

Alternative staffing models can be perhaps one of the greatest cost-saving techniques in course redesign, sustaining technology-infused learning communities that involve faculty, students, and staff in coherent pursuit of learning goals (Dwyer, et al., 2001; Mize & Rogers, 2002; Williams, 2003). While faculty members often find their roles uncomfortable at first, once trained, the new role that they take on frees up their time for appropriate tasks (Kurtz, Beaudoin, & Sagee, 2004). All students in the redesigned Understanding Visual and Performing Arts enroll in one of two large sections, taught by a full-time faculty member with a full-time course coordinator and a group of preceptors.

The faculty member provides intellectual leadership to the course, reviewing and updating all course materials before the semester begins. Working closely with the Division of Instructional Technology, the instructor modifies the online course materials accordingly. Once the semester begins, the instructor is busy with basic duties mandated by initial student registration and technological difficulties. During the course of the semester, the instructor is available on a daily basis to respond to email inquiries from students concerning course content and information on practice tests and exams. Web board queries are redirected to the preceptors. Questions about technical difficulties are also fielded, answered directly when applicable, or redirected to the

coordinator or appropriate Instructional Technology specialist when necessary. The instructor mass-emails notice of upcoming arts events and/or course deadlines to the students as well. The course, even though it is a large enrollment course, counts as a single course in the faculty member's teaching load because of the assistance received from the coordinator and the preceptors.

The course coordinator provides oversight of the mechanical aspects of the course, beginning with such basics as contacting the preceptors for the coming semester, checking web materials for accuracy, and updating the dates and times of all exams within the course platform. The full-time coordinator also creates special exams for students with disabilities. Three weeks into the semester the coordinator creates Peer Learning Teams (PLTs) of six students each. Once the teams have been allocated, private discussion forums accessible only to team members, their preceptor, and the instructor are set up. Another basic duty is to download the course grade book at the close of the semester, creating a final-grade spreadsheet for the instructor to use in grade submission.

The preceptors, most of whom have a BA in English, oversee 60 students per cohort and function as teaching assistants. Preceptors are responsible for interacting with students in their cohorts, which are divided into 10 PLTs of six students each, monitoring student progress and grading the two longer critical analysis essays. Preceptors monitor the three web boards discussions, stepping in only when needed to redirect off-track responses or, if participation lags, to warn of approaching deadlines, and track student participation and grades in the web board discussions. Preceptors are also responsible for posting the scores online. Because of their role in overseeing the discussion of and in grading essays, individuals with a background in English were most suited for this position. Many of our preceptors have come through our General Education program, so they have completed Understanding the Visual and Performing Arts as students, and most of them have completed our English program. They are paid $1,800 per sixty students.

Instructors, coordinator, and preceptors comprise an Alternative Staffing Model where responsibilities are well allocated; with a full-time faculty member at the helm, a full-time coordinator overseeing mechanical aspects, and a group of preceptors working with small peer

learning teams, the staffing model effectively covers all aspects of the course from large-scale design to one-to-one interaction with students. The traditional course, which was taught in sections of thirty, cost $2,200 per part-time faculty member and used an inordinate number of classrooms, which were in high demand on our small campus. We were fortunate to have the grant to pay for the increased costs in the office of Instructional Technology during the redesign, as well as to pay the costs of programming the Intelligent Essay Assessor, but once the course was implemented, the workload has been manageable for the IT staff. With the redesign, costs for the course have fallen from $130 per student to under $70 per student. We expect that the cost will decrease as we add more students to the class because we will only need to add more preceptors without adding more faculty members. Although a course of this complexity is not infinitely scalable, we do project the cost to remain similarly low in comparison with more traditional course formats.

The Intelligent Essay Assessor: The Use of Essay Grading Technology

Essay grading software has been making its way very slowly into online education over the last decade, with varying results (Burstein & Chodorow, 2002; Kukich, 2000; Landauer, Latham, & Foltz, 2000; Rudner & Gagne, 2001; Shermis, et al., 2002). As part of the first two module exams in Understanding the Visual and Performing Arts, students are asked to write short essays that are then graded by the Intelligent Essay Assessor (IEA). The IEA is a computerized grading program that is trained to score essays based upon the meaning of essay content as opposed to writing mechanics like sentence length, spelling, or key word count.

The Intelligent Essay Assessor is most effective with a very narrowly prescribed prompt, and with essays that are between 100 and 500 words in length. This fit our needs for the Short Essays on the exams, though it might not meet the needs of a Composition class or an upper level course that asked open ended questions. The prompts that were developed were tied directly to the content knowledge of the textbook that we use for the course, *Reality Through the Arts* by Dennis Sporre (2004). Within each chapter, the text offers students the opportunity to understand the various elements of the arts and assists them in exploring their response to these elements and the way in which this response creates meaning.

The IEA compares a student's essay to course content information stored in a computer. The stored information includes hundreds of previously graded essays, all course readings, and a set of ideal essays graded as benchmarks for comparison. The previously scored essays include two hundred holistically scored essays; the team of faculty members involved in the redesign used proven holistic scoring methods to generate the initial scored essays (Cherry & Meyer, 1993; Williamson, 1993; Williamson, et al., 1999). The stored information is used to create a mathematical multidimensional space where words and phrases of the content are plotted in relation to their meaning in the collective content; that is, their location in an established semantic space (Landauer, Laham, & Foltz, 2000).

The benefits of IEA use in this course are both practical and pedagogically sound. From a practical perspective the IEA transfers the work of many graders to a technology system that is seamless and effective. This saves hundreds of hours of labor and frees human graders to focus on other course elements such as monitoring course discussion and providing feedback to students. Pedagogically the IEA is a key component of the course. Without the IEA it would not be possible to assure that writing remains an important learning experience in a very large enrollment course such as Understanding Visual and Performing Arts. In a very direct way the IEA has enabled a richer learning experience for students because it has freed the faculty member to focus on email discussions regarding content information rather than the more mechanical aspects of the course.

Assessment of Learning: Increased Scores in Content, Skills, and Attitudes

The aim of Understanding the Visual and Performing Arts is to develop the content knowledge of the visual and performing arts, the skills necessary to analyze a variety of art forms, and a willingness to attend arts activities. In order to assess the effectiveness of the redesign project, we tracked student success in traditional sections and in the redesigned course through analyzing test scores and student responses to course evaluations. Both the traditional and the redesigned courses used the same syllabus, text, exams (with objective questions that came from the same test banks and the same short essay questions), pre- and post-tests, and student evaluations. The key difference between the two courses is the efficiency of the online course, which led to increased feedback given to students. In the traditional course, a faculty member lectured on the

course content; in the online course, students take practice tests that provide immediate feedback on their answers, and they take these practice tests repeatedly, thus learning by doing. While the part-time faculty members who were teaching the course in the traditional format could have given multiple quizzes to prepare the students for an exam, this would not have been the best use of seat time and would have greatly increased the faculty members' work load. Of course, moving mechanical aspects to an online environment could happen in a hybrid environment as well.

In our assessment of the content knowledge, we tracked the grade breakdown of the first part of the module exams, the objective questions, given in the traditional course and the redesigned course and found that students succeeded at a much higher level in the redesigned course than they did in the traditional course. Table 1 shows the results of 555 exams for the traditional course.

Table 1: Grade Distribution for the Traditional Course (n = 555)

Grade	Breakdown
Grade A or B	208 (37%)
Grade C	134 (24%)
Grade D or F	213 (38%)

For the redesigned course, we gathered 2272 exams that had the grade breakdown shown in Table 2.

Table 2: Grade Distribution for the Redesigned Course (n = 2272)

Grade	Breakdown
Grade A or B	1744 (77%)
Grade C	289 (13%)
Grade D or F	239 (10%)

The difference in grade distribution is statistically significant ($\chi^2 = 355.11$, $p < 0.0001$), indicating a notable effect on grades due to features of the new format. When we consider the

overall success rate on exams, defined as the percentage of students achieving a grade of C or better, students in the new format performed significantly better than in the old ($Z=16.05$, $p<0.0001$). We attribute the higher success rate in the learning of the content knowledge to the students' ability to take practice tests leading up to the exams multiple times. A random sampling of 30 students demonstrated that students who received an A or a B took the practice tests an average of 11.87 times; those that received a C, D or F took the practice tests an average of 5.66 times. In addition, and perhaps more importantly, we discovered that students who received an A or a B spread their practice test taking over a longer period than their counterparts; in general, students who received an A or a B took the practice tests over a 7 to 10 day period, while students who received a C, D, or F took the tests over a 3 to 4 day period. Again, online practice tests could be used in a hybrid environment and should not be considered exclusively for fully online courses.

In addition to learning a great deal of content knowledge, we expect students to develop the skills that allow them to apply that knowledge in analyzing works of art. A second component of the module exams are short essay questions where students are asked to analyze a work of art using the elements that they learned about in the text. The short essay questions are scored using a rubric on a scale of 1 to 4 (where 1 represents *minimally acceptable performance*, and 4 is *superior performance*). In this assessment, we holistically scored essays from both the traditional and the redesigned classes; scorers did not know which essays were from which class. We analyzed 217 essays from the traditional course, with the breakdown in scores shown in Table 3.

Table 3: Traditional Course Essay Scores (n = 217)

Performance	Score
4 (Superior)	14 (6%)
3 (Very Good)	57 (26%)
2 (Good)	100 (46%)
1 (Minimally Acceptable)	46 (21%)

By comparison, we analyzed 1371 essays in the redesigned course, with the breakdown of scores shown in Table 4.

Table 4: Redesigned Course Essay Scores (n = 1371)

Performance	Score
4 (Superior)	116 (8%)
3 (Very Good)	536 (39%)
2 (Good)	619 (45%)
1 (Minimally Acceptable)	100 (7%)

The increase in scores was dramatic in the redesigned course, with far fewer students receiving a 1 and far more students receiving a 3. In fact, there was again a significant difference in the score distribution ($\chi^2 = 41.61$, $p < 0.0001$), and in particular the percentage of students scoring a 3 or 4 was significantly higher in the new format ($Z=4.08$, $p<0.0001$). We attribute the success of the students in the redesigned course to the web board discussions where students analyze two sets of sample essays, one where the essays are "exploded," providing the students with an analysis of the strengths and weaknesses of the essays, and one where the essays are not exploded and the students must analyze the strengths and weaknesses.

Finally, we also tracked the change in student willingness to attend arts activities through analysis of questions on the state mandated student evaluation of courses. On the whole, student evaluation of the course has been positive, with slight though important gains in the redesigned course. In response to the criteria of "Stimulation of interest in the course," students during the 2002-2003 academic year rated the redesigned course at a 3.16 on a 5 point scale (5 = excellent; 1 = poor) as compared to a 2.88 average in the traditional course (313 out of 457 students in the traditional course completed the evaluation; 498 out of 925 students in the redesigned course completed the evaluation). At the end of the Spring 2003 semester, the Office of Planning and Evaluation conducted Focus Groups to gather responses to the redesigned course. On the questionnaire that was given to the students, we asked about the interest in the arts that the course generated. Table 5 reports the results.

Table 5: Interest Levels in the Arts (n = 117)

Forms of the question "This course has.."	Responses
Created a new interest in the arts and going to arts activities	25 (21%)
Renewed my interest in the arts and arts activities	34 (29%)
Not really affected my interest in the arts	49 (42%)
Had a negative impact on my interest in the arts	9 (8%)."

Thus, 50% of the students responded that the course had a positive impact on their interest in the arts and arts activities. Of the 49 students who responded that the course did not affect their interest, 14 stated that they already had a high interest (12%), thus 30% of the students did not have an interest and felt the course had no impact on their interest, while 8% felt the course had a negative impact. The reason most often given for the negative impact related to confusion in the course website and assignments (significantly, these students also stated that they did not come to the first day orientation, did not do the work on time, and/or did not complete the first assignment, which was an orientation to the assignments in the course).

Limitations

Two sets of limitations should be noted with regards to the redesign of Understanding the Visual and Performing Arts. The first relates to the course and the redesign project, which is best discussed within the context of the institution. The second set of limitations relates to some of the data that we gathered and analyzed.

As we have suggested, the redesign project depended on the team work of a wide range of faculty from the humanities and arts, as well as on institutional support from the Office of Course and Faculty Development and the university administration. The PEW Grant Program in Course Redesign provided the funding necessary for this type of large scale redesign, and our pursuit of this grant was supported by the Office of Research and Sponsored Programs, the President, the Provost, and the Dean of the College of Arts and Sciences. Without each of these pieces coming together, the course may have been eliminated from our General Education program rather than successfully redesigned.

In addition, we must note that our comparison of the traditional course to the redesigned course suggests that the project could only be successful if the course went fully online. Indeed it may have been possible to retain a traditional, face-to-face format for the course and add online elements, such as the practice tests and exams, creating a hybrid course that might have increased learning. Because of the scarcity of teaching classrooms on our campus, however, we were forced to reconsider the course in a way that would eliminate seat time.

A difficulty that is sometimes faced with fully online courses is the loss of contact with students, especially at the lower level. Such a loss of contact can decrease students' engagement with learning and their connection to the campus and can ultimately affect retention. At Florida Gulf Coast University, such a concern is offset by a robust First Year Experience program. All incoming first year students take a required First Year Seminar; as noted in a recent article in *The Chronicle of Higher Education*, such seminars have been demonstrated to increase student engagement and retention (Hoover, 2005). In addition, we have a comprehensive First Year Reading Project and an inclusive new student Convocation. Often, we have had the author of the book selected for the reading project come to campus and speak with first year students. In the year that the First Year Experience was implemented, which happened to be the same year as the launch of the redesigned Understanding the Visual and Performing Arts course, our retention of first year students jumped from about 65% to 80%.

As we have discussed, the increased learning that we have documented in our collection and analysis of data might have occurred in a hybrid course environment and is not necessarily dependent on integration into a fully online course. An important limitation in our data is the comparison of student scores between the traditional and the redesigned courses. If, indeed, the increased learning on the first part of the module exams—the multiple choice questions—is a result of taking the online practice tests, such an activity could easily be incorporated into a face-to-face course. Similarly, the web board discussions of the exploded and the unlabeled essays could also become part of a hybrid course. With the addition of such extra work supported by technology, the time spent in class could be reduced, resulting in cost savings and a lower room utilization.

In addition, tracking student attitudes is always subject to limitations. Our data, presented in Table 5, only represents student responses to the end of the semester course evaluations for the traditional and the redesigned courses. Because our Office of Planning and Institutional Performance only gives us averages for the student responses without any further information, we are not able to determine the statistical significance of our data. A more complete analysis of the change in attitude might include tracking arts courses that students take as a result of completing Understanding the Visual and Performing Arts or tracking arts events that students attend because of an interest that was developed in the course; such information is not readily available on our campus. We also did not convene any Focus Groups comprised of students who completed the traditional course; gathering information from this group might have provided some comparison data.

Finally, the relative success of the Intelligent Essay Assessor deserves much lengthier treatment than we can provide in this essay. The reliability of computer software for scoring essays has been a topic of discussion since the 1960s (Wresch, 1993; Rudner & Gagne, 2001; Burstein & Chodorow, 2002). Within the last several years, studies similar to ours have demonstrated the reliability of such software, even while noting limitations of the various types of programs available (Kukich, 2000; Hirschman, et al., 2000; Williamson, Behar, & Hone, 1999). Within our own study, which resulted in a 54% reliability among human scorers as compared to an 81% reliability with the IEA, we began with a heterogeneous group of faculty in our scoring sessions, which generally leads to a low inter-rater reliability; nevertheless, because of the wide range of stake holders in the redesign project, we needed to include all those who were skeptical of using a software to grade essays. Finally, while we used a process validated by Williamson, Bejar, and Hone (1999) in determining the final inter-rater reliability of the IEA, the process is one that facilitates an improvement in inter-rater reliability in both humans and the computer software; clearly such a process is most desirable, but we must be aware that it can support a predetermined set of conclusions. A more detailed analysis of the IEA is underway.

While limitations exist within both the course and the redesign project and the assessment data, Understanding the Visual and Performing Arts offers a model for reconsidering teaching and learning in institutions of higher education. With the assistance of a strong community and

sufficient resources, projects that support the culture and mission of an institution offer new ways of thinking about what we do as faculty. Given our experience, we encourage cross-pollination of traditional and online materials for increasing learning and reducing costs, as well as robust assessment to capture the changes that occur as a result of any alteration in the delivery of courses.

Conclusion

The successful redesign of Understanding the Visual and Performing Arts at Florida Gulf Coast University offers solutions that have relevance for art appreciation courses and others not generally considered for online design. The redesign of the course has been successful in enhancing student learning of Aesthetic Sensibility and Technological Literacy, and in decreasing the costs of delivery largely due to the team effort that went into the project and the support of a design grant. Staff from Instructional Technology, a wide range of faculty members from the humanities and arts, and various administrators were on board for the redesign project. The new course has developed its own culture on campus, and students consistently know what to expect when they register for the course. Many of the current preceptors have asked to take on additional cohorts, and a number of former students have expressed interest in serving as preceptors in the future. In addition, we have developed special assistance in the Writing Center, providing even greater help to the students for their writing assignments. Redesign has turned Understanding the Visual and Performing Arts into a technology-infused community that involves faculty, staff, and students in coherent pursuit of specific learning goals. That it has done so while also decreasing the cost of delivery from about $130 per student to under $70 per student offers even greater significance for online design of art appreciation and other courses.

This successful experience with one particular class indicates its utility as a model for assisting faculty in thinking about redesigning other courses in a wide variety of subject areas. While the redesign project described in this paper is for a particular course, many of the structural and technological features could easily be adopted in other courses, even without going fully online. The alternative staffing model, wherein a full-time faculty member directs, a full-time coordinator manages mechanical aspects, and part-time preceptors work with small peer learning

teams, creates a team approach that allows for effective course management at all levels, from overall design to interaction with individual students. Computer-driven assignments and assessments offer sound practical and pedagogical benefits. Online practice tests not only provide instant feedback, but can be taken many times to expose students to great numbers of questions, reinforcing content knowledge. Online module exams also offer immediate grading of objective questions, while the use of computerized grading software to score the short essays frees human graders to focus on other course elements and enables writing to remain an important learning experience in a very large enrollment course. Online web board discussions prepare the students for writing their essays. Together, these course elements comprise a model that could prove effective in the redesign of a wide range of courses, including those not generally considered for online design.

Further information about the course and the project can be found on the project website: http://www.fgcu.edu/hum2510.

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Appendix A

Module I: Visual Arts Sample Essays and Web Board Discussion Assignments

Below are links for sample Short Essays that are similar to the types of essays you will write for your Short Essays on the Module I Exam. Reading and analyzing these essays will help develop the ability to analyze works of art, a key learning goal for the course.

Exploded Essays

Below are links to two Short Essays, one an *upper range* essay, one a *mid range* essay, with detailed explanations of the various parts of the essay and why they are strong or weak. In addition, there is a link to sample Web Board Discussions on these essays, as well as a sample response. Review this work first before reading the essays for your web board discussions linked at the bottom of this page.

- *Exploded Short Essay on James Van Der Zee's "Couple in Raccoon Coats"* (*upper range* essay) at http://www.fgcu.edu/hum2510/manuscript/picexp1.html
- *Exploded Short Essay on James Van Der Zee's "Couple in Raccoon Coats"* (*mid range* essay) at http://www.fgcu.edu/hum2510/manuscript/picexp2.html
- *Sample Web Board Discussions and Response* at http://www.fgcu.edu/hum2510/manuscript/webboard11.html

Web Board Discussion

For your discussion, please read the essays found on the link below. As you read these two essays, consider which is the *strong essay* and which is the *satisfactory essay*. Look at the thesis (which should be at or near the very beginning of the essay): is it focused? Does it state the name of the art work? Does it state a meaning that will be explored? Analyze the development: does the writer clearly provide evidence to support the thesis? Does the writer include detailed analysis, not just description, of the art work? Remember that you must also write a response to other students' postings.

- *Girl Arranging Her Hair, Mary Cassatt*, at http://www.fgcu.edu/hum2510/manuscript/samples.html

After you have finished analyzing the two essays on the Cassatt painting, draft your Web Board Discussion and post it on the Discussion page in your PLT.