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CHAPTER SIX

ANGEL IN THE ARCHITECTURE: COURSE MANAGEMENT SOFTWARE AND COLLABORATIVE TEACHING

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In retrospect, it seems like common sense. Art history professors often bemoan the quality of students' papers, yet class time is too precious to spend working on writing, and in any case they aren't trained to teach writing. Composition teachers commonly wish that they could spend more time working on writing, but good writing depends on well-developed ideas, so significant class time has to be spent discussing those ideas. If we connected the courses, students could develop paper topics and discuss ideas in their art history class then extend and refine those ideas through intensive focus on writing in their composition class. This would allow teachers in both courses to spend more time on what they are trained to teach, improve students' writing, and deepen learning in both disciplines. These were our goals when we began our project. We did not expect technology to play an important role in our project, but a seemingly minor administrative decision transformed our teaching in ways that were not only central to our success, but showed us that these goals merely scratch the surface of what is possible.

The Project and its Goals

Our project arose from a student comment. Carroll overheard a Santa Clara University junior say to a first-year student, "You know, of course, that everything you've learned in this class applies only to English classes. Only an idiot would write this way in another class." This led to conversations about students' tendency to compartmentalize what they

learn, about how traditional ways of designing and teaching courses encourage this tendency, and about how students might apply the skills and concepts they acquire more holistically.

We thought that linking an art history course to a writing course would increase students' ability to think across disciplinary boundaries and help them see how applying concepts and skills they learn in one class (especially writing classes) to other disciplines could help them learn. Our primary goal was to accelerate and deepen students' learning. Current research suggests that learning consists of creating connections—neurological and metaphorical—that organize information into meaningful, retrievable patterns (Bradford 2000; Zull 2002; Lakoff and Johnson 1980). Asking students to think about how the things they were learning in their classes are related, we theorized, would help students create more—and more diverse—connections between ideas and disciplines. This would enhance their learning by helping them build more inclusive, more meaningful patterns, more quickly. Research also suggests that students only retain what they learn if they integrate it into recurring practices; connections fade if they don't get reinforced regularly. Likewise, learning only lasts if it gets meaningfully integrated into students' practices (Mentkowski 2000; Zull 2002). So increasing the integration of our teaching should increase students' ability to use and retain what they learned. Asking students to consciously integrate their learning across two classes should also help them become more intentional in the ways they learn—which research tells us should help them learn faster, in more depth and with greater retention (Bransford 2000; Zull 2002).

These aims dovetailed with our common disciplinary goal of increasing student's interpretive prowess. Introductory art history and writing courses often focus on making students more conscious of the ways they interpret objects (visual and textual) by asking students to explain how concrete, observable features of the object being studied support their understanding of it. Usually, as students become more aware of their interpretive processes, their interpretations become richer, more critical and more intentional. This affects learning at every level of Bloom's taxonomy: it makes students' observations more self-aware and directed; it shows them how they can use what they already know to make sense of new situations (making them conscious of their own learning processes and how they create new knowledge); it encourages deeper analyses of objects, interpretive norms, and students' own interpretive filters; it demonstrates that synthesizing multiple interpretations increases knowledge and meaning; and it exposes the constant need for evaluation.

We thought that focusing both classes on interpretation and its connections to these trans-disciplinary modes of thinking would help students transfer what they learn across course boundaries. By showing them how to think outside of the usual boxes, we aimed to encourage more critical and creative thinking and to inculcate a habit of integrating their learning that would last throughout students' lives.

We had the usual course-specific goals. The art history curriculum required that students master a certain body of content and become proficient at visual and historical analysis. The composition courses aimed to help students more consciously develop complex purposes in their writing, become more aware of their audience, and select arguments and writing strategies appropriate to their purposes and audiences. They also sought to inculcate a habit of writing as a means of learning, using formal structures such as enthymemes[1] and outlines, constant feedback from multiple sources, and repeated revision to demonstrate to students that writing helps them discover, define, explore, change, develop and refine their ideas. We all wanted to improve students' writing (processes and products), and we wanted the arguments in their papers to become deeper and richer.

Beyond our goals for our courses and our students, we set some goals for ourselves. We wanted to learn more about what expectations were put on students in each other's fields, how to better coach students through the writing process (art history) and how to improve our individual and group pedagogy. We also strove to advance certain goals of the university: fostering writing across the curriculum, enhancing the effectiveness of the Residential Learning Communities (RLCs), and promoting faculty development at our institution.[2]

Design

We decided that the best way to achieve our goals would be to connect our courses in a way that would *show* students how to effect this transfer of

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[1] The enthymeme is the most commonly used form of argument, both in writing and in everyday conversations: it consists of a statement (conclusion) with a logical reason attached to it. *Smoking cigarettes kills people because it (smoking cigarettes) causes lung cancer*, is an enthymeme. *Grades inhibit education because grades increase anxiety* is also an enthymeme.

[2] Santa Clara University's Residential Learning Communities are self-selecting cadres of students grouped according to interests. Students select a RLC during the freshman year and remain in the community throughout their time at the university.

knowledge and tools. The primary design feature and key selling point of the link was a major paper assignment each quarter that counted toward their grade in both courses. Thirty-six incoming first-year students agreed to participate in our two-quarter-long experiment. Each was enrolled in Pappas' introductory art history sequence and in one of two first-year composition courses—taught by Carroll and laGuardia. We had no TAs or graders.

The art history courses were the second and third of a three-quarter sequence covering material from about 1200-2000. They fulfill a portion of the university's Western culture requirement, so the course is already more interdisciplinary than a standard survey although it does use *Gardner's Art Through the Ages* as the backbone textbook.[3] These courses also introduce students to research tools such as the Art Index and BHA/RILA.

Composition I and II aim to increase students' proficiency with rhetorical concepts and composing processes as a way of improving critical thinking, reading, and writing. Both focus on argument: the first course teaches critical reading and rhetorical analysis of others' arguments; the second course prepares students to participate in academic discourse by teaching them to synthesize research findings, critical analysis and their own opinions into appropriately formatted original arguments. Typically, readings bearing on social or cultural issues generate conversations; students respond by writing—everything from reading-response journals to fully-developed research papers. Textual evidence provides the framework for their understanding and analysis of an issue. The linked courses added visual evidence to their toolbox: students were encouraged to apply the techniques they used to interpret a painting or piece of sculpture to a written document (poem, essay, novel, etc.) and vice-versa.

Our courses supported the link in several ways. We integrated content, focused on the same themes, and regularly connected class discussions to what was happening in the other class. We paid special attention to developing students' interpretive skills—visual and textual— in class discussions and in the paper assignments. We made the joint paper assignment the centerpiece of our activities. Each quarter, the paper assignment was scaffolded so students worked on it all quarter in both classes. Students visited a local museum, chose an object from a predetermined list, wrote a reaction paper, developed a project proposal,

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[3] This book is used by the art history faculty for all their Western Culture sections.

created an annotated bibliography and wrote at least two drafts before submitting their final paper.

In addition to the common assignment and common texts, we developed a common vocabulary for discussing writing and learning. The enthymeme provided the foundation for this vocabulary and served as our fundamental pedagogical tool. Although our pedagogies differed in other areas, as did some of the course material and assignments, the focus on the enthymeme helped create a common set of expectations and helped us execute our shared pedagogical goals

We used Santa Clara University's standard course management system—Angel—to support the link.[4] Our decision was initially motivated by a desire to save paper and reduce administrative overhead, but we also thought it might help us share class resources. Angel is very easy to use and can enhance instruction without becoming part of its focus. We posted all our course materials and used Angel's monitoring features to see who read what and when. We required students to submit assignments via Angel's drop-boxes. This allowed peer reviews of paper drafts and facilitated simultaneous grading, allowing us to return papers to students with comments from both instructors in less than a week. We set access rights to allow each of us to see everything posted in all three courses, including each other's comments on students' work. Using Angel in these simple ways transformed communication among students and teachers, reshaping learning outcomes at all levels.

What Really Happened: Process

Access to each other's course materials and teaching processes created a virtual desk that we all shared. This dramatically changed the way we communicated: seeing each other's pedagogy in detail helped us understand what and how the others were teaching in a way not accessible through workshops or classroom visits. We communicated not only through our classroom materials, but also through our comments on students' work. Both helped us understand what we each were trying to accomplish. This helped break down *our* compartmentalization of knowledge and helped us develop the common language and coherent processes we needed to convince students this was a unified educational experience, rather than two classes that shared some readings and an assignment. Because we could see what the other teachers were telling our

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[4] The Angel Learning Management Suite is described and demonstrated at http://angellearning.com/products/lms/default.html.

students, we could coordinate our instruction, helping students see how the issues they were working on in the other class applied to our own class and vice-versa. This multiplied opportunities for students to make meaningful connections, integrated their learning, and helped them learn faster in both classes.

At every level—among and between ourselves and our students—this virtual desk made our communication quicker, more complete, and more productive. When most students failed the first quiz in Pappas' art history class, for example, Carroll and laGuardia knew immediately and used the quiz to practice rhetorical analysis in their composition classes. They asked students to analyze the text of the quiz: what did the words and structures used mean? What did they imply about the author's purpose? What kinds of information did the questions ask for? What kinds of information would have to be in the answer for it to count as an answer to the question? They also asked students to analyze the relationships between their writing and their audience—in this case, Professor Pappas: what had been the primary topics covered in lectures and discussions? What were the primary components of those topics? Wouldn't they expect that most of the questions would be about these primary topics and their components? These conversations helped us discover that despite the abysmal scores (32 out of 36 students earned failing grades, and many scored fewer than 10% of the available points) most students understood humanism (the subject of the quiz) and its indicators reasonably well. This discovery helped us reject the obvious assumption about why the grades were so bad—the students hadn't studied—and focus instead on the more complex real reasons for the bad grades: students didn't know how to study for quizzes, how to interpret the questions, or how to write answers that would connect their understanding of the material to the questions.

Communicating this discovery to Pappas led us devise a teaching plan that addressed the root problems. All three of us spent portions of our next class sessions teaching students how to take notes in lecture and when they read, to read for retention, to listen actively to a lecture, to sort information for what is most important, and to record it in ways that promote understanding and retention. We also spent class time analyzing the questions to bring out their rhetorical features and show students how their interpretations of the questions shaped the kinds of answers they gave. Creating these obviously beneficial connections between what we were doing in English classes and how students were performing in their Art History class reinforced the idea that what they were learning transcended disciplines and could be applied to any class and to all fields of academic study—not just writing or art history. Such spontaneous coordinations

allowed us to emphasize the coherence of the scholarly enterprise as a whole, helping students focus on common processes, not the idiosyncrasies of their professors. Crucially, because the students saw that their instructors were very different people, yet were upholding the same set of standards, the students became more conscious of their learning process. Our coordination focused students' attention on our course's learning goals, preventing them from seeing the courses as simply a series of relationships with individual instructors. Students no longer saw their classes as separate entities with separate emphases, different requirements and different standards for measuring performance. They quickly came to see that academic inquiry and the rigorous standards of interpretation in art history were very much the same as those in a composition class. This helped students understand where and how to focus their learning, made their learning more integrated, and made it more conscious.

By increasing our communication, Angel also increased communication among the students, creating a team consciousness and attitude that allowed students to create connections with each other that strengthened their learning: it encouraged them to talk to each other, to share their experiences and techniques. This made the learning done by one student available to the others—and so greatly accelerated the learning of the whole group. For instance, one student in Carroll's class discovered an interesting detail about the life of one of the artists whose work several students in both classes had selected for their final research paper. Via email and Angel's announcement function, laGuardia passed this information on to the students in her class who were researching the same topic, encouraging them to get together to explore the implications of this new information and to share their own discoveries. Most did—and the ones who did were very excited by their collaboration. The drafts of the two who didn't were significantly weaker than the others'. (One student asked if it was "fair" to share their information this way, which stimulated a discussion of the differences between plagiarism and collaboration.) Increased communication among students allowed them to integrate learning from a wider variety of sources and to take advantage of more kinds of connections. Both sped up their learning and made it richer.

Angel created a web of communication, feedback and support that allowed us to target the weaknesses of specific students and to shape and reinforce student behaviors we wanted. Our enhanced communication improved our understanding of what students were learning, allowing us to diagnose problems more quickly and accurately, and to intervene more effectively and in a more timely manner. For example, when Pappas noted that one student never spoke up in class, laGuardia took the student aside

the next day and had a conversation about the importance of class participation. laGuardia reported the substance of the conversation to Pappas, who then made it a point to call on that student in class in the next class meeting. By the end of the term, that student was participating in class on a regular basis. Without this collaboration, she would most likely not have learned how to contribute to class discussions in her first year of college. In another case, one of Carroll's students wrote an otherwise solid paper that completely misunderstood Machiavelli's intention in *The Prince*. Before speaking to the student, Carroll discussed strategies for delivering the news with Pappas. Assured that this student could handle it, Carroll chose an aggressive strategy that emphasized how utterly wrong the conclusion was and asked the student to account for the misunderstanding. After only a few leading questions, the student experienced an epiphany and subsequently wrote one of the best papers in the class. Such constant sharing of information allowed us to guide students to richer and more timely connections, accelerating and deepening their learning.

Assessment and Outcomes

We assessed our experiment directly and indirectly: using quizzes, exams, and paper assignments as well as university, departmental and custom student evaluations. Direct assessments showed that students learned a lot:

- Their interpretations became richer, more creative, more critical, more conscious.

- Their papers became longer and more sophisticated.

- Students' writing became more thoughtful and conscious. By the end, students thought of their work as building an essay, as opposed to writing out and submitting papers.

- Students at bottom and in the middle profited the most—students at the top profited the least (in that they probably would have gotten As anyway). But they, too, increased their performance capabilities, writing more thoughtful and sophisticated papers.

Indirect measurements showed the majority of students had accelerated their learning significantly, with the greatest gains in their integration of learning and ability to apply knowledge and skills from one discipline to another. Students felt they were in a better position to learn more from

their other classes. Follow-up interviews with randomly selected students a year later revealed that they felt that the linked course, although very challenging at the time, had and would continue to contribute substantially to their success in subsequent courses. Some of the conversations we began in the linked courses have been continued in subsequent classes. One student reported using both the methodology and ideas explored in the linked class in his upper-division religious studies course. Of the thirty students who participated in the linked courses for both quarters, many have kept in touch with us, and several have declared Art History or English as their majors. One student visiting laGuardia a year later said she was still using the enthymeme/to-do list structure in her upper division business courses.

We learned a lot from each other, and we became better, more effective teachers. We had to overcome disciplinary compartmentalization and ignorance, as did the students. Our openness about this and our willingness to model it helped develop strong communication skills and interdisciplinary thinking among the students, and helped everyone make more kinds of connections among the disciplines.

Recommendations

Because communication was largely responsible for the success of our experiment, we would be remiss if we didn't acknowledge the preexisting connections between us. Carroll and Pappas had known each other for a long time and had collaborated on a linked class project prior to this one. Carroll and laGuardia had collaborated on curriculum design and other projects. We communicated often, we trusted each other and we respected each other's interests and expertise. Instructors who don't know each other very well, and who wish to use a linked class model like ours, should agree to respect each other's expertise and yield decisions to the respective disciplinary expert. Otherwise they will not learn much from each other or from the linked class process.

Conclusions

Discussion of course management and other software packages designed to support teaching typically focus on the benefit to the student and the single instructor. A neglected area is instructor-to-instructor communication and how that benefits both the students and the instructors. More could be done via Angel to support this, such as utilizing the chat room and discussion thread features for the instructors, not just students.

Had we done this, we would have created records of more of our informal interactions, making it easier for us to evaluate and learn more from our process. When, as teachers, we think about communication, we habitually put emphasis on increasing communication between the students and between the students and the teacher. What we found is that the most revolutionary change was caused by increasing communication among the teachers. Angel facilitated our openness to each other as colleagues and helped us discover, share, and develop new aspects of our pedagogy.

We by and large met our original goals. We provided content for composition classes, and better writing instruction for the art history class. We helped students better integrate and retain their learning and become more conscious, more critical and more creative learners. Along the way, we too became faster, better learners—and teachers: helping students think outside disciplinary boxes helped us to teach that way.