Using Linked Courses in the General Education Curriculum

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Recent interest in learning communities indicates appreciation for the value of interdisciplinary study. Learning communities are "supportive settings which require students to share the experience of learning with others" (Tinto, 1998). Research suggests that learning communities are useful for several reasons. They result in more intellectual interaction among students and between students and faculty members. They increase student involvement and create a sense of community. The programs show impressive results in terms of student academic achievement, student intellectual development, retention, and student motivation. Learning communities increase curricular coherence and provide ample opportunities for the integration and reinforcement of ideas. They promote an understanding of complex issues that cross disciplinary boundaries (Smith, 1991). One type of learning community is that created through linked courses.

What Are Linked Courses?

Kellogg (1999) states that linked courses put together

> a cohort of students with two common courses. One course is typically content-based (science, math) and the other is an application course (writing, speech). The faculty of each course may teach independently or together and coordinate syllabi and assignments so that the classes compliment each other. The Linked Courses Model provides a shared experience for students that focuses on a content-based course that is actively supported by a skills course.

Links have been formed between many kinds of academic disciplines: ESL and Speech courses (Mackler and Savard, 1997); Basic Writing and Photography ("Syllabus," 2001); Chemistry and Composition (Dunn, 1993); Anthropology, Rhetoric and Writing, and Speech (Thompson, 1998); Math and Composition (Szydlik and Hill, 1998), and others. Zawacki and Williams (2001) mention that at George Mason University, which has used a linked courses approach since 1992, first-year composition courses have been linked with introductory courses in psychology, sociology, anthropology, philosophy, engineering, government, history, and others. Of course, links need not necessarily follow the "content-based"-"application course" dichotomy above; a link might also consist of "content-based" courses.

In the fall of 1999 we initiated a pilot project using linked courses in the general education program at the University of Wisconsin-River Falls, a comprehensive state university. The program covered one semester, and it involved two English Department faculty members linking their Freshman English courses with introductory science courses. The rest of this essay explains the project, considers some challenges one faces

in developing linked courses, and makes observations regarding assessment of the experience.

The Courses We Linked

We linked introductory courses from the general education curriculum. One pair of faculty linked Freshman English and Biology. I and another colleague linked Freshman English and Introduction to Environmental Studies. We linked these general education classes because we believe that students sometimes do not perceive a connection between the large number of courses (in many disciplines) they are required to take. We wanted to create a bridge between two areas of study--humanities and social science, in my case--that may be considered separate and unrelated.

Faculty who are considering developing their own linked general education courses should keep in mind that their enrollment will depend on the courses they link together. This may seem like an obvious point, but it is worth mentioning. For instance, because not all students are required to take Introduction to Environmental Studies, I ended up with an entire class of students majoring in Agriculture, in one aspect or another. My colleagues who linked Freshman English and Biology, courses required for a greater number of students, had an enrollment much more representative of the student body in general. Either type of link will work, but faculty who want a broad cross-section of students may want to link classes that will offer that type of audience.

Goals of Linked Courses

The practice of linking courses together is a way to practice writing across the curriculum. It is consistent with the notion of a liberal education, which I once heard described as the practice of "reducing our uncritical dependence on authority figures." Dunn (1993), too, states that one of the goals of linked courses is to "disrupt students's pattern of unquestioning acceptance of the authority of the published text and believing everything they see on the printed page." Along the same lines, McLeod and Miraglia (2001) argue that when learning communities are used, "in many cases . . . the teacher moves from being the sage on the stage to the guide on the side, as students learn together and from each other."

Our project had a number of goals. In addition to creating connections across disciplines, we wanted our students to strengthen the skills developed in both classes: we wanted them to become better readers and writers, and (in my case) we wanted them to increase their awareness of environmental issues and their impact. We also wanted to improve the retention rate of Freshmen, which has been a particular goal of our university for the last few years. At UW-River Falls, a significant number of students are the first in their families to have attended college, so we wanted to try to increase the odds that they would succeed. We hoped that giving students an increased sense of community, both socially and academically, would make them want to remain throughout their college education. Zawacki and Williams (2001) state that the desire "to increase first-year student retention by creating a comfortable, less isolating learning environment" is one of

the main reasons the Arts and Sciences Dean at George Mason University funded their linked courses program. Finally, like any faculty, we wanted to have a lively, engaged class who, because they felt comfortable with each other, would be active and enjoyable to work with. The goals described above are consistent with the principles of an effective general education program, according to the Association of American Colleges (1994): "strong general education programs continuously strive for educational coherence" and "require and foster academic community."

The students' self-reported motives for enrolling in the linked courses varied. When asked at the beginning of the semester what she hoped to gain, one student wrote that science and English were her two favorite subjects, so she thought it would be interesting and enjoyable to connect them. A more typical response was that they hoped to improve their reading and writing skills by concentrating on an area in which they were already interested. As one student put it, "I enrolled in these linked courses because I thought it would bring something I like [science] into something I dislike [writing]." Students also mentioned the social aspect, remarking that they hoped to find new friends through the experience.

Preparing the Classes

Teaching linked classes successfully requires significant preparation. In our case, the four of us involved in the links met together several times before the classes began to discuss many issues including pedagogy, goals for student learning, and possible obstacles, as well as more practical concerns like how our syllabi would work together. My colleague and I linked our syllabi so that students covered similar material simultaneously (or nearly so) in each class. Generally, we tried to arrange it so the material was introduced first in the environmental studies class, and subsequently covered in English class. We believed that would be preferable so that a grasp on the content of the material would precede consideration of the challenges involved in writing about that material. In practice, the courses did not always work out this way. For example, the faculty member I paired up with adjusted his syllabus at one point, so that the two classes were not always synchronized as well as they might have been. Instructors considering linking their courses should discuss their teaching styles previous to teaching. Some instructors doggedly stick to schedules they have set up, while others like to be free to adjust to allow for more time on a given topic.

How the Links Worked

Students enrolled in the linked course met for Freshman English twice a week (75 minutes for each class) and for Introduction to Environmental Studies once a week (about 2 hours for each class). In English class, they used Melissa Walker's *Reading the Environment*, their environmental studies text, and additional handouts, reading essays about various issues. For example, students wrote a position paper on overpopulation based on a discussion question in their environmental studies text: should a population control policy (similar to the one used in China) be adopted? That is, should the government allow each family one child only? Since our discussion occurred during the

semester in which the world population topped 6 billion, we were also able to bring in newspaper articles. Students read and discussed arguments on the issue. In one session of the environmental studies class I attended, they watched a video in which various scientists (including one they had read about in English class) presented their views on the issue. The professor in the environmental sciences class helped students understand the assumptions and the perspectives from which the scientists argued. The topic itself allowed students to consider the issue from a scientific as well as humanistic and cultural point of view, since they had to acknowledge fundamental differences between U.S. and Chinese notions of government and individual freedom. In another essay, students compared and contrasted two authors' views about problems related to endangered species, a topic also discussed in their environmental studies class. Finally, they wrote a research paper focusing on a particular endangered species.

In the Environmental Studies course, one of the assignments asked students to write an environmental advocacy letter and send it to a newspaper, politician, business etc. Writing such a letter involves many of the same techniques or strategies one would use in writing a position paper, such as using facts and information to support an argument, being aware of one's audience, maintaining a fair-minded tone, and responding to the opposing view. In this sense the two courses could be considered complementary; activities, assignments, or lessons in each course reinforced those in the other one.

In addition to the three linked writing topics, students wrote two other essays not related to environmental studies. Thus, the courses were not linked for the entire semester, but only at certain points. We did this for two reasons: first, Freshman English requires us to teach many different aspects of writing, and we wanted to make sure we covered all of the necessary material; second, but no less important, we did not want the students to "burn out" by having to spend too much time on one topic. This proved to be a sound approach. In their evaluations of the linked courses, some students remarked that even though the courses were linked only part of the time, they sometimes felt a little overwhelmed by spending so much time on the topic of the environment. Linking together all of the classes would likely have been a little too repetitive. Hill and Szydlik ("Integrating Mathematics and Writing Instruction," 1998) make a similar observation in their report about linking and English and Math classes. The students, not math majors, "felt that two courses consisting almost purely of mathematical content was too much."

Challenges In Developing Linked Courses

Time Commitment

The time commitment necessary to teaching linked courses effectively may be one of the reasons so few faculty become involved. Teaching linked courses is stimulating but also challenging. They require more effort from faculty than do standard classes, because each faculty member must learn about a different subject and find ways to incorporate that subject within his/her own course. Moreover, it takes time to coordinate syllabi and writing assignments. Indeed, in a study of linked courses in seven community colleges, Perin (2000) writes that increased faculty workload was "by far the most often mentioned

drawback." Some faculty also grade or respond to writing collaboratively (Hill and Szydlik, 1998), which could, considering the logistics involved, require even more time. Finally, visiting each other's classes requires additional commitment. It is important to schedule courses so that faculty can visit each other's classes. There are practical reasons for these visits, of course, such as learning the material in the other class, but they also strengthen the sense of community. Moreover, discussions between faculty members may help identify students who are struggling and then give faculty an opportunity to intervene. Students also like to see faculty appearing in both classes. In our pilot project, scheduling prevented us from doing this very often, and many students commented that having faculty sit in on each other's classes would have improved the experience. For the faculty members, too, it can be enlightening. One learns something about the pedagogical style of another instructor, which can help one understand the behavior of one's own students in class. In my case, the colleague I linked up with created a rather relaxed class atmosphere, similar to the one I try to create, so in that respect our classroom styles meshed well. In any case, faculty would likely find it enlightening to observe each others' classes: following their probationary period, in which they may be observed a number of times, many instructors know about only their own teaching, unless they are involved in evaluating junior or adjunct faculty. To observe another professor, especially when s/he is teaching one's own students, can be very enlightening. One learns, not only about how another person teaches, but sees how one's own students behave in the classroom.

Institutional Obstacles

We were fortunate to have received a grant from our university to pay for course materials and to allow each participant a stipend. We also got scheduling help from the Registrar's Office and our individual departments. Instructors who plan to link courses should work with their registrars to make the process of enrolling a smooth one. We closed a specific section of Freshman English and a section of Introduction to Environmental Studies. We handed out add cards to keep track of enrollment. My partner and I both signed 25 cards, then distributed them to advisors before they met their incoming freshmen. (It is important to explain to the advisors themselves what you are doing and why you are doing it, so they can inform their advisees. I learned that many of the students who enrolled in the classes learned about them from their advisors.) We then collected the unused cards from the advisors after each registration period.

We did encounter a couple of obstacles in putting the courses into action. For instance, the size of the classes should be considered when deciding which courses to link. In our university, each Freshman English class has 25 students. However, each Introduction to Environmental Studies class has about 75 students. We considered various ways of managing the disparity. One way was to have 25 linked and 50 non-linked students in Environmental Studies. We decided against this, since we thought it would be contrary to the sense of community we were trying to achieve.

An additional problem here was that there seemed to be no one to appeal to about this "differing numbers" situation. My partner's department needed to have all its courses staffed and thus could not simply offer to release his responsibility to teach a 75-student

class. If they had the time and resources, they perhaps could have hired an adjunct faculty member to teach the 50 students. However, over-dependence on adjunct faculty is already a problem in many universities. For example, during the fall of 2001 in our department, 44% of the Freshman English classes were taught by adjunct faculty. An additional consequence of this overdependence on adjuncts is that faculty are then required to sit on more committees, making them, in all likelihood, less interested in assuming the additional burdens involved in teaching. We didn't want to increase the number of adjuncts, particularly for introductory courses. Consequently, in order to teach a linked class, my colleague had to divide his 75-student class into a 50-student and a 25-student class. This meant he had to teach an extra class, a tall order at our university, where each full-time faculty member already teaches four courses each semester. If institutions want to encourage faculty to teach linked classes, they should be prepared to adjust class sizes, teaching schedules, and perhaps course loads and/or offer additional compensation to departments or to participating faculty who are required to teach the course as an overload.

Territoriality

A final obstacle in developing courses that span academic disciplines is the tendency to protect one's own territory: that is, everyone considers his/her area of study important, and may therefore be concerned about diluting the content of a course or not being able to “cover” all of the material considered necessary. This problem can only be solved by helping faculty become more aware of the advantages in linking their courses. It is not clear that linked courses necessarily result in less material being covered. If that were true, faculty would do well to consider whether there may not be value in the trade-off: slightly less material covered, but more interest, engagement, and enthusiasm (and perhaps more learning) on the part of the students. Indeed, in *The Courage to Teach*, Parker Palmer (1998) advocates teaching based on what he calls the "community of truth," a practice potentially enhanced by linked courses. Palmer argues that "to teach is to create a space in which the community of truth is practiced": "I need to spend less time filling the space with data and my own thoughts and more time opening a space where students can have a conversation with the subject and with each other . . ." Of course, says Palmer, we all feel a responsibility to cover our own material, and although "this sense of responsibility cannot be faulted . . . the conclusion we draw from it--that we must sacrifice space in order to cover the field--is based on the false premise that *space* and *stuff* are mutually exclusive." A characteristic of the linked course is a greater amount of "space" allotted to covering "stuff" because material is "covered" in two different classrooms.

Another part of the challenge here, of course, is that writing sometimes tends to become "ghettoized" in the English Department. Faculty in other disciplines, sometimes assuming that writing should be taught by "experts," do not make writing part of their own curriculum. To paraphrase a former Dean at our university, faculty in other departments *grade* writing; English faculty *teach* writing. Here, we might also recall Kellogg's definition of linked courses (a "content-based" course and an "applications" course) to further illustrate the problem. Even though one could argue that a course like composition

has its own unique content, some consider a writing course to be merely "application" rather than "content." Thus English instructors may fear becoming servants to faculty from other disciplines.

In my own case, it was certainly easier to see how I could help the students learn about environmental science than to see how the instructor in environmental science could help students learn about writing. However, the professor who taught environmental science was interested in helping his students become better writers, too. To help students with the environmental advocacy letter assignment, for example, he put on reserve in the library a file of previous student efforts, so the students could see how other students approached the assignment. If I were to teach the linked course again, I would ask my colleague to spend time in class discussing some of those examples, focusing on how the content and style in one example was more effective than in another. In addition, when it comes to issues like global warming, overpopulation, or endangered species, professors in the sciences can help students attempt to synthesize opposing arguments, an essential component of any writing class that involves taking a position on an issue. They can also help students with APA documentation. In whatever discipline they happen to teach in, instructors can respond to brief, perhaps ungraded, writing, both to help students understand the material and to show them that writing is valued. These short assignments could be done in class (10 minutes is usually sufficient) or out of class.

Assessment

When we applied for our grant to develop these courses, we needed to think of ways to assess the outcome of the project. We considered qualitative criteria, such as faculty observations about students' classroom behavior (their degree of interest and participation) as well as student observations about the effectiveness of the curricula and the instruction and about their own involvement and learning. We also considered quantitative criteria such as comparison of final grades and retention rates for students in linked and non-linked classes. Some of these criteria and additional assessment techniques are discussed in essays by Mackay (1996), Tinto and Goodsell (1993), Brunner and Daley (1983), Perin (2000), Thompson (1998), and Zawacki and Williams (2001).

It is difficult to assess a pilot project such as ours, though overall it appears to have been a success. Students responded favorably in writing to questions about the experience. The grades were slightly, but not significantly, higher in the linked section of Freshman English than in a non-linked section. Comparing retention rates is problematic. On the evaluation form they filled out at the end of the semester, students were asked, "Has this course in any way influenced your decision to remain at or leave UWRF before graduation?" Most students, in both the linked and non-linked Freshman English class said that while their Freshman English experience was generally positive, it did not influence their decision to leave or stay. A few did say that their Freshman English class had convinced them to remain at our university. However, several (again, in both linked and non-linked classes) commented either that they had already planned to transfer before the semester even began, or said that they would be influenced more by the totality of

their college experience (relationships with others, experiences in other classes) than by this single experience. Thus it seems unlikely that retention rates will be an effective way of assessing the courses at this point. It might be useful to hear from the students later in their college careers in order to get a sense of how they believe the classes affected them.

Students' Perceptions of the Linked Course

I asked students in both my linked and non-linked classes to respond to questions about three areas: course learning, writing experience, and experience with faculty. Overall, the responses were similar, except in a few areas. Students in the linked class more often reported that they had worked on a project or assignment with other students outside of class. In addition, they were more likely to have applied material learned in class to other areas of life, whether these were other classes or discussions with family or friends. They were more likely to have tried to explain material from the course to someone else. Finally, students in the linked course were much more likely to have met with the instructor outside of class. Out of 21 respondents, seven reported they had "often" visited their instructor during office hours. In the non-linked class, only one student said s/he had "almost always" visited the instructor and only one said s/he had "often" done so.

Students in the linked class overwhelmingly found the experience positive in two aspects. First, they said that reading and writing about environmental issues in English class was helpful. Many students used the word "interesting." Additional comments follow: "it was like learning two things in one class"; "it made English more understandable"; "it helped me better understand the information I was learning in Environmental Studies"; "Writing about environmental issues made it easier to write papers, because we could relate to what we were writing about"; "It makes writing a whole lot easier and more fun."

Second, students appreciated the social aspect; they enjoyed getting to know a particular group of people because it made them feel more comfortable in and out of class. Feeling comfortable may translate into increased engagement and participation. One student said: "You become a little 'family.' Everyone is concerned about the others if they are not in class." Indeed, the attendance in the linked class was very good throughout the semester. When asked, "Would you take another set of linked classes?" students overwhelmingly said they would. Some said it would depend on which courses were linked. Only one student said no.

Students' perceptions about their own effort also differed somewhat between the linked and non-linked courses. I asked them whether they had worked harder as a result of feedback from the instructor. In the non-linked class, one student said "almost always" and 12 students said "often." In the linked class, four students said they had "almost always" worked harder while seven reported they had "often" done so. In one way, these results are quite similar: approximately a dozen students in each class reported working harder from the instructor's feedback. It seems worth noting, however, that in the linked class, more students reported working harder "almost always." It may be that the linked class helped some students be more interested, more enthusiastic about learning.

Conclusion

The advantages of linked courses appear to be a greater sense of community among the students and additional contact between students and instructor outside of class. It is not clear from the data whether or not students in the linked course actually learned more about writing or became better writers, but increased interaction among both the students themselves and with the faculty member offers the opportunity for increased learning. The benefits of these courses for faculty, too, should be considered. The interdisciplinary experience offers faculty the opportunity to increase their knowledge of a discipline outside their own and perhaps broaden their pedagogical strategies as well. Zawacki and Williams (2001) acknowledge that while many composition instructors tend to be non-tenure line people and therefore may be "further subordinated when they teach in linked arrangements," the opposite seems to be true; "more often these instructors say they feel they have a more visible--and valued--role in learning communities than they do when they teach in isolation." Finally, faculty in different disciplines seem to have few opportunities to interact. It seems likely that interdisciplinary efforts like linked courses may have the additional effect of helping to improve the campus climate.

On our campus, the English-Biology link will continue next year. Because of the class-size problem described above and other commitments by the Environmental Sciences faculty member with whom I worked, the original English-Introduction to Environmental Studies link has not continued. I do intend to attempt to reestablish the linked course, however, perhaps with a different faculty member.

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