INTERDISCIPLINARY TEAM TEACHING
NEGOTIATING PEDAGOGICAL DIFFERENCES

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Abstract. Four different team teaching experiences are described with collaborators from a variety of disciplines. The pedagogical differences between the teachers created unique challenges. A description of each collaboration is provided, followed by an analysis of the four experiences. An examination of the challenges that arose are summarized to facilitate planning for teachers who might be considering team teaching.

A recent article on team teaching likened the experience to a white water rafting expedition (White et al. 2002). The metaphor seems especially apt due to the inherent dangers in any team teaching experience, especially an interdisciplinary collaboration. The reason one embarks on a rafting adventure is that navigating danger provides a sense of accomplishment; embarking on an interdisciplinary collaborative project holds the promise for pedagogical thrills that result from successful navigation of treacherous water.

In the past decade, pedagogical literature has been replete with articles describing a shift from teaching to learning (Barr and Tagg 1995; Bransford 2000; Gardiner 1994; Weimer 2002). A recent study by Ken Bain examined sixty-three outstanding college teachers and identified many commonalities among those teachers. One important commonality was that outstanding teachers continue to learn, themselves (Bain 2004). Team teaching provides an opportunity for colleagues to model learning for students because in the best team teaching experiences colleagues continue to learn from each other, about both content and teaching. Team teaching can provide a means of focusing more on the process of learning instead of only on accumulating content knowledge.

Collaborative teaching holds the promise of continued learning about interesting subject matter with engaged colleagues. Four team teaching experiences are described in this article, each with a different level of success. Although not all experiences described in this article fulfilled the promise, in the best cases teaching with a colleague was a transformative, exhilarating experience. I have tried to provide honest critical, reflection in the hope that my own experience will assist others who want to embark on a team teaching adventure.

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Team Teaching: Theory and Practice

Team teaching has been examined in a number of different ways in the pedagogical literature. One study examined both inter- and intrapersonal knowledge as important considerations in team teaching (Collinson 1999). Understanding interpersonal limitations can help improve the team teaching experience, such as the team teaching of a senior course in business designed to integrate the business curriculum was recently described as a way to maintain enthusiasm for teaching (Hartenian, Schellenger, and Frederickson 2001). Faculty members in the study were described as having a “high level of internal motivation,” suggesting that the experience was undertaken by instructors with a strong desire to learn from each other. Although many teachers have internal motivation, encouraging teachers to consider team teaching experiences can serve as a means to motivate their professional development (Sandholtz 2000).

Whatever the reasons for team teaching, articulation of learning objectives for the course seems to enable collaborators to plan more effectively. The discussion of learning objectives facilitates exploration of pedagogical differences in four distinct areas: planning, content integration, teaching, and evaluation (Davis 1995). The most challenging, and, in keeping with the rafting analogy, most thrilling, collaborations involve success in each of the four areas, although not all areas are equally
important for a successful collaboration. The level of collaboration in each area will ideally depend on the perceived needs of the learners. In the cases described below, a high degree of planning was the most essential element of each collaboration. Careful planning, however, as demonstrated by the learning community example, is not a guarantee of success.

The integration of content was considered explicitly in each of the cases described in this article. Pedagogical differences deserve careful attention as well, because negotiating differences in teaching styles in front of the classroom is ill-advised. An interesting philosophical question is whether differences between teachers are a result of disciplinary conventions or true pedagogical differences. A well-planned course can help resolve the teaching issues—whether disciplinary or pedagogical—before they ever arise. Assessment of student learning requires continual attention planning after the course is under way. A collaborative course is rarely designed around assessment measures, rather, the assessment measures are designed to monitor student success in meeting the learning objectives. In the case studies described in this paper, Davis’s four areas of collaboration provide a window through which to view the studies (1995).

During the planning stages of a team-taught course, three explicit areas should be considered: lesson objectives, turn-taking, and resolution (Wenger and Hornyak 1999). The team-taught course is usually being taught collaboratively for good reasons, so the collaborators need to make explicit these reasons and how the collaboration meshes with the learning objectives for the course. Turn-taking refers to the minute-to-minute exchange of leadership roles within the classroom. Collaborators should be as clear as possible about how the classroom dynamics will play out. Frank discussions about classroom expectations can obviate the need for discussions in front of a classroom of learners. Resolution involves the quality of any effective lesson: ending the class on time with a few minutes reserved for recapitulation of important concepts from the lesson. In all the case studies described in this paper, the success of the course seemed to depend on how well the collaborators were able to negotiate pedagogical differences during the planning stages.

Four Trips: Case Studies of Interdisciplinary Teaching

Four different team teaching experiences—between myself (a chemist) and colleagues from other disciplines—are described in this paper. Two experiences only occurred once, one experience was canceled, and one experience has resulted in a sustained collaboration. All involved a high degree of collaboration in planning, teaching, integration, and evaluation. The experiences provide a microcosm in which to explore the intricacies of team teaching.

Science and Philosophy: Construction of Scientific Concepts

The first team teaching experience in which I participated resulted from a friendship between a philosopher and me. We had had several informal conversations about philosophy and decided to look for a course to teach; an introductory philosophy of science course. The course was a moderate success, but frustrations surfaced early on, making navigation more treacherous. The reasons for the frustrations now seem obvious, but the importance of the experience was never clearly in view.

Despite several planning sessions, neither of the collaborators had a clear idea about how the teaching responsibilities would be shared. Both of us entered the classroom each day unsure of what the other was thinking, were often at cross-purposes concerning the approach to the subject matter on any given day, and did not think the turn-taking would be an issue. When difficulties arose that threatened to capsize the boat, the assumption was that the problem would be short-lived and that if the boat just kept moving forward the vessel would right itself. The collaboration was unsuccessful because of poor planning, poor content integration, and little attention paid to turn-taking. The lack of careful attention to grading criteria also seemed especially important. Because of failure to plan properly we changed the grading policy halfway through the course, much to the displeasure of the students. Students’ learning was diminished and the experience was frustrating for both teachers.

Science and Kinesiology: Philosophy of Science

Sometimes a collaborative course seems to emerge serendipitously. A kinesiologist with whom I had had very little contact was mentioned to me by a teacher of a graduate level philosophy course. The kinesiologist and I shared a passion for philosophy and decided to offer a second-year course in philosophy of science. Since we knew each other only slightly, we thought working together would provide an opportunity to learn from each other while getting to know each other better. We approached the subject with some humility and neither was quite sure how much the other knew about the philosophical readings selected for the course. The comfort level was increased by the third or fourth week of the course when both of us realized that we were on fairly even footing regarding an understanding of the texts. This equality helped to model a genuine exchange of ideas for the students and provided ballast for the team-teaching raft we were navigating.

The decision was made to take turns leading the session; while one of us taught, the other contributed to the discussion from a desk situated near the front of the room. If one of us was drawing a diagram on the board, the other would often raise questions about the diagram. Although students in the class were interactive and relaxed seemingly from the first day, the ease with which the two teachers criticized each other seemed to relax the classroom atmosphere even further, thus encouraging a considerable amount of student participation. Students realized that criticism was never personal but was aimed at further understanding a particular philosophical stance, and this knowledge seemed to encourage students to proffer their opinions on a regular basis.

Unlike the science and philosophy collaboration previously described, both instructors in this course carefully planned most aspects of the course, including evaluation. This advanced planning, combined with continual refinement through discussion during the semester, was critical for success. Although negotiation of turn-taking during class time
still occurred to a small extent, frank discussions regarding turn-taking helped to smooth difficulties encountered in any given class period. Although separating the grading of student work detracted from the total integration of the course, students knew which instructor would be assessing their work prior to completing the assignment. The grading policy did not have to be altered during the course, another benefit of prior planning. The planning, ongoing negotiation outside of class, and separation of evaluation duties all contributed to the success of the collaboration.

Chemistry, Biology, and English: A Learning Community

The most demanding collaborations described in the literature are paired or clustered learning communities (Shapiro and Levine 1999). A biology professor, an English professor, and I agreed to design a learning community that combined a composition course and an introduction to bioethics course. Because all three collaborators understood the importance of planning, the team began to meet eight months prior to the beginning of the course. The collaboration made tentative progress for three months but an unexpected disagreement revealed underlying philosophical differences. The differences surfaced as we entered a critical phase in the planning. Because of the differences, each member of the team seemed to be paddling in different directions so when we hit some rough water, the raft turned broadside and capsized.

Although the team arrived at a mutual decision to discontinue the learning community, the tension caused by the failure of the course during the planning stages still lingers. Taking on a challenging collaboration is like tackling a more challenging river: the potential thrills are greater because the possibility of capsizing is greater. The learning community proved to be too imposing for the team and we risked being drowned when thrown from the raft.

Chemistry and Biology: Introduction to Bioethics

The biology professor and I decided to team teach a bioethics course without the extra burden of creating a learning community. Challenges still arose, but our philosophical differences were minor: we both believed in an extensive syllabus that contained a schedule for the entire course including reading assignments, agreed on the value of group discussion, assigned many small writing tasks during the course, and focused on learning rather than teaching. The biologist and I met several times over lunch to talk about the details of a collaborative course. The more we discussed our respective teaching philosophies, the more we realized how much we had to offer each other in a mutually supportive way. Neither of us felt confident teaching about ethics ourselves yet we both felt a strong need to engage students in ethical arguments about science early in their careers. We therefore found that collaboration provided a means for us to navigate the rapids successfully.

We are preparing to teach the course for the fourth time, and the collaboration continues to strengthen. My colleague and I evenly divide the topics of the course while collaboratively agreeing on the readings for each section. We discuss all pedagogical methods that will be employed in the course, and we meet on a regular basis during the semester. The turn-taking within the course has been the most challenging aspect of our collaboration, but we continue to improve the longer we work together. We are in the process of writing a manuscript together that fully describes the course, because we think the course, which also counts as a first-year seminar for science majors, provides scientists with an example of how combined talents can help colleagues teach a course that neither alone might feel qualified to teach.

Conclusion

When the four cases are examined together, several areas of potential conflict emerge. The success of a course depends in large part on how the conflicts are handled and whether those conflicts are identified prior to the beginning of the course. The main conclusions drawn from my four diverse experiences in team teaching focus on honest exchanges, inequality of content knowledge, assessment, individual roles, and, most important, adequate time for planning.

The first time teachers work together requires a baring of pedagogical souls prior to the first class session. The first collaboration—with a philosopher—was less successful because we did not really understand each others’ underlying pedagogical views. The philosopher preferred to teach more spontaneously, whereas I prefer to have the entire schedule for the course planned at the beginning; the philosopher required only a few assessment measures, whereas I prefer frequent assessment measures; the philosopher believed more in Socratic teaching by arguing with students, whereas I prefer to take a much less confrontational approach, except where a student seemed to err about factual information. The collaboration with the kinesiologist and the biologist were more successful partly because our similar disciplinary background may have made it easier for us to negotiate pedagogical differences: we agreed on substantial advanced planning, frequent assessment measures, and a more neutral approach to teaching each topic. The English professor and I realized that despite similarities in advanced planning, assessment, and a neutral attitude, we still could not resolve a major difference in how we viewed knowledge. When discussing competing views of a democratic classroom we quickly discovered that he believed in accepting all student answers as equally valid, whereas I would correct students if they seemed to miss an author’s main idea. Learning about potential conflicts is much easier to handle prior to the start of the course rather than during the course. If the potential collaborators identify too many conflicts they may opt to forgo the collaboration. Planning also helps to provide momentum at the start of a course, although if you have a collaborator who does not want to plan you may immediately discover a major pedagogical difference.

Judging by the cases described in this paper, inequality of content knowledge may be the least important area. Perhaps content integration is a nonissue because genuine knowledge does not reside within one discipline. As in many areas of higher education, the tendency to focus only on content knowledge must be guarded against when planning a team taught course. Another possible reason for the relative unimportance of content integra-
This paper involved conventional discipline-based courses. A critically important consideration when planning a team taught course is assessment. The actual assessment instruments (quizzes, exams, papers) may only represent the tip of a pedagogical iceberg: 90 percent of assessment issues are buried below the surface. Too often in a course students feel that they must negotiate “teachers games” (Nelson 1994, 173). Teachers need to work diligently to make assessment practices more transparent so that students know why the particular assessment instruments have been chosen. In a team taught course the philosophical differences between instructors, such as the frequency of assessment and what kinds of assessment best reflect student learning, may make understanding the assessment practices especially cloudy for the students. If colleagues are not clear about assessment, students are forced to learn the rules to several games at once. Both teachers being present in the classroom each day helps alleviate some of the student assessment issues that may arise from tag-team teaching. Even with the continued presence of both teachers in the classroom, however, assessment issues may be unclear to students and this confusion can lead to unnecessary anxiety.

Another conclusion from my experiences is that the teachers need to find roles that are acceptable to them. Bess (2000) suggests a reconfiguration of a teaching team where each member handles a particular pedagogical duty, such as advising students, staying abreast of the content, or leading discussions. This division of labor seems impractical for most team taught courses. A more realistic approach is to choose individual tasks for each instructor especially when considering grading. My collaboration with the kinesiologist worked well primarily because a clear delineation of roles was addressed: we discussed all grading policies but ultimately each of us took responsibility for a specific aspect of assessment and the person responsible then made clear to the students why that assessment was chosen.

Above all else that I have learned from six years of team teaching is that if you want to attempt to teach collaboratively, you must provide ample planning time. Potential collaborators should be chosen based on their willingness to invest the time necessary to make the course successful. The best intentions of collaborators cannot compensate for pedagogical differences. The learning community that disbanded did not work for the three collaborators because we realized that negotiating our differences would require more time than any of us were willing to commit. The negotiation of rapids requires excellent communication, patience, and compatibility of the collaborators. Most important, the collaborators must be willing to work through differences. Team teaching can be thrilling for both the teachers and the students, but only if the teachers have planned as carefully as possible to assure a safe ride for everyone.

From my own experience I have learned not to give up collaborating just because of a few bad trips. In many ways, learning to work with collaborators has made me a better teacher, and I am convinced that the benefits of team teaching far outweigh the negatives. Not only am I continuing to team teach the bioethics course, but I am planning to teach a course titled “Philosophy of the Mind” with a colleague next year. Teachers are continually learning; collaborating seems an ideal way to continue the learning process. Some collaborative trips will proceed more smoothly than others—and some may result in getting pumped out of the raft—but the journey itself is edifying. If learning is of paramount importance to a college teacher, then all teachers should seriously consider embarking on a collaborative teaching trip.

Key words: team teaching, pedagogy, collaboration

REFERENCES
