This paper presents the experiences of educators at North Georgia College and State University while developing learning communities connecting the two disciplines of biology and English in the teaching of writing and editing within the scientific context. The paper states that for seven semesters English grammar and composition courses have been linked with biology courses in author-editor relationships. According to the paper, these learning communities have produced student learning opportunities that have proven their value for both the biology and English courses. It finds that the key to making the process work depends heavily on preparing each group for its tasks; the exchange process of materials between biology and English students and within each group employs WebCT (Web Course Tools), and e-mail. The paper notes that the biology students focus on scientific method, while the English students consider the task from the perspective of rhetoric. It states that in the author-editor learning community, at the student level English students review the biology students' writing, making qualitative and quantitative judgments, while biology students evaluate the feedback received and make decisions on using it. It adds that in all courses and at all levels, the evaluation collected from students demonstrates the merits of the author-editor relationship--instructors' evaluations indicate that students in both disciplines have shown marked improvements in their writing as it relates to the discipline. (NKA)
Author-Editor Learning Communities: Writing Science

by Donna A. Gessell and Irene Kokkala

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Author-Editor Learning Communities: Writing Science

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This collaborative talk presents the experiences we have had at North Georgia College & State University while developing learning communities connecting the two disciplines of Biology and English in the teaching of writing and editing within the scientific context.

For seven semesters we have linked English Grammar and Composition courses with Biology courses in author-editor relationships. To date, the courses we have connected include Developmental Biology (BIOL 4480), Cell Biology (BIOL 3430), Honors Environmental Science (BIOL 1260H), Applied English Grammar (ENGL 3050), Advanced Composition (ENGL 3100), English Composition II (ENGL 1102), and English Composition I (ENGL 1101). These courses comprise diverse student populations, representing courses for both upper and lower divisions, including those for majors and for non-majors and those with varied enrollment numbers.

Despite the diversity, each semester the course pairing has created an interdisciplinary learning community through the author-editor relationship. These learning communities have produced student learning opportunities that have proven their value for both the Biology and English courses.

• improve student learning, satisfaction, and retention,
• enrich and strengthen disciplines by linking them with each other,
• promote synergy not homogenization,
• create holistic campus experiences for students, and
• build consensus across divisional and disciplinary boundaries.

While our learning communities have achieved these goals, through our experiences we have discovered that learning communities have another equally important function: in addition to connecting students, they connect faculty members in their own learning communities to explore the scholarship of teaching.

In fact, this author-editor context for writing not only has energized students in both disciplines, it has inspired our teaching of writing. Instead of the usual frustration of asking students to produce texts sterile to their classrooms, we have provided students a realistic, hands-on experience of working with genuine manuscripts, with real audiences, purposes, and occasions.

To achieve our learning community goals, we have refined the practical aspects of the author-editor process to include the following steps:

1. We divide each class into the same number of groups, allowing students to group themselves as much as possible.
2. Each group of Biology students produces research manuscripts and submits them for mock publication to a group of English students.
3. Each group of English students reviews and critiques manuscripts, emphasizing grammar, rhetoric, and logic.
4. After receiving feedback from English students and Biology instructor, each group of Biology students rewrite and submit final reports for their instructor's evaluation of both content and use of feedback.

The exchange process of materials between Biology and English students and within each group employs WebCT and e-mail. Electronic exchange cuts down on paper use, while it guarantees anonymity between the two classes.

We have found that the key to making the process work depends heavily on preparing each group for its tasks. In addition to understanding the process, students must embrace the larger purpose of the learning community: to improve writing for both groups of students. The preparation differs by discipline. The Biology students focus on scientific method, while the English students consider the task from the perspective of rhetoric.

The English students edit the manuscripts using the rhetorical concepts of audience, purpose, and occasion. Although they are not assigned a specific rubric for grading the manuscripts, they are encouraged to develop their own rubric, one that will equally weigh grammatical, logical, and rhetorical considerations. The English students are required to give feedback useful for revision in the form of intertextual comments and corrections, marginal notes, and extensive end comments. Their comments are often based on Joseph Williams's *Style: Ten Lessons in Clarity and Grace* (New York: Longman, 2000), which explores the following concepts leading to clearer writing:

- including the subject and verb in the first seven words of a sentence;
- using characters as subjects and actions as verbs;
- keeping the order and close connection of subject-verb-object;
- observing the known-new contract;
• keeping cohesion by consistent topic strings and coherence by transitions; and
• working toward concision.

Finally, the English students assigned numerical grades to the manuscripts.

In the author-editor learning community, assessment occurs at a variety of levels. At the student level, English students review the Biology students’ writing, making qualitative and quantitative judgments. Biology students evaluate the feedback received and make decisions on using it. After the entire exchange process ends, English students write reflective essays, detailing the value of the experience in their own writing and self-editing.

The instructors assess student performance during the entire process. The English instructor evaluates the students’ criticism for each of the exchanges. The Biology instructor also evaluates the English students’ comments and, in addition, evaluates the Biology students’ content, making both qualitative and quantitative assessments.

For the end evaluation, the English instructor awards a grade to each group, based 50:50 between the criticism they provided for the Biology students and the reflective essay. Likewise, the Biology instructor awards each group a grade using a distribution of 25:75 between drafts and final reports. Each of the English and Biology students individually is given the opportunity to modify his or her group’s grade during a peer evaluation process. At the end of the cycle, each student is required to evaluate the experiences qualitatively.

In all courses and at all levels, the evaluation collected from students demonstrates the merits of the author-editor relationship. The instructors’ evaluations indicate that students in both disciplines have shown marked improvements in their writing as it relates to the discipline. Specifically, students in both disciplines recognize error more readily and are better able to utilize a variety of revision strategies.
While our experiences with the author-editor interdisciplinary learning community have proven successful, we are continuing our learning community at the faculty level, exploring techniques for improving the process to make future student learning communities even more effective tools for teaching Biology and English students good writing.
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