

A Discipline-Specific Literacy Course: An Interdisciplinary Approach
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Annotated Bibliography

Barrow, D.A. (1992/1993). The use of portfolios to assess student learning: A Florida college's experiment in a general chemistry class. *Journal of College Science Teaching*, 22 (3), 148-153.

Describes the use of a portfolio project in an undergraduate chemistry class. Students who choose to do so create portfolios that demonstrate their learning in the course.

Bressette, A.R., & Breton, G.W. (2001). Using writing to enhance the undergraduate research experience. *Journal of Chemical Education*, 78, 1626-1627.

Describes the use of a "journal-quality" research paper in an upper-level undergraduate independent research course.

Camill, P. (2000). Using journal articles in an environmental biology course. *Journal of Science College Teaching*, 30 (1), 38-43.

Describes a case-study approach to using a primary research article in an undergraduate ecology course at Carleton College. Includes several tips for using primary literature in undergraduate classes.

Carle, D.O., & Krest, M. (1998). Facilitating research between the library and the science writing classroom. *Journal of College Science Teaching*, 27, 339-342.

Describes the introduction of library-skills lessons into the biology program at the University of Colorado.

Cooper, M.C. (1995). Cooperative learning: An approach for large enrollment courses. *Journal of Chemical Education*, 72 (2), 162-164.

Outlines advantages and disadvantages of using cooperative learning activities in large classes and describes ways to prepare for cooperative learning activities.

Cornely, K. (1999). Journal articles as case studies. *Journal of College Science Teaching*, 29 (2), 114-119.

Describes the use of a journal article as a case study in an introductory biochemistry course at Providence College.

Darling, R. (2001). Don't settle for imitation laboratory assignments: Introducing students to semester-long independent study projects. *Journal of College Science Teaching*, 31, 102-105.

Describes an Animal Behavior class at Westfield State College in which students conduct a research project that entails writing a scientific research proposal, conducting experiments, and presenting the results in a scientific paper.

Dybowski, C. (2001). A course in the history of physical chemistry with an emphasis on writing. *Journal of Chemical Education*, 78, 1623-1625.

Describes the use of a term paper (often a biography) in a course about the history of physical chemistry.

Feldman, S., Anderson, V., & Mangurian, L. (2001). Teaching effective scientific writing: Refining students' writing skills within the Towson Transition Course. *Journal of College Science Teaching*, 30 (7), 446-449.

Describes the writing component of a course designed to teach students how to find and use scientific information. Discusses problems encountered in students' writing and provides examples of exercises.

Fortner, R.W. (1999). Using cooperative learning to introduce undergraduates to professional literature: Assembling the "jigsaw" pieces in the field of environmental communication. *Journal of College Science Teaching*, 28 (4), 261-265.

Describes the use of a jigsaw learning technique in an undergraduate environmental communication class.

Franz, C.J., & Soven, M. (1996). Writing in biology: The senior project. *Journal of College Science Teaching*, 26 (2), 111-114.

Describes the implementation of a non-credit writing project in which senior biology majors at LaSalle University research and write a 20-25 page review article and, the following semester, adapt that article into a shorter non-technical article.

Gledhill, C. (2000). The discourse function of collocation in research article introductions. *English for Specific Purposes*, 19, 115-135.

Analyzes the most frequent collocations in a corpus of pharmaceutical research articles and proposes possible functions for these collocations.

Gordon, N.R., Newton, T.A., Rhodes, G., Ricci, J.S., Stebbins, R.G., & Tracy, H.J. (2001). Writing and computing across the USM chemistry curriculum. *Journal of Chemical Education*, 78 (1), 53-55.

Describes the University of Southern Maine's chemistry curriculum, which includes a series of progressive writing and computer requirements across the curriculum.

Henderson, L., & Busing, C. (2001). A research-based molecular biology laboratory: Turning novice researchers into practicing scientists. *Journal of College Science Teaching*, 30 (5), 322-327.

Describes an alternative structure for a molecular biology lab course that models the type of structure encountered in professional labs. The course requires a team of students to write a grant proposal, poster presentation, and journal article.

Henderson, L., & Busing, C. (2000). A peer-reviewed research assignment for large classes. *Journal of College Science Teaching*, 30 (2), 109-113.

Describes the use of a collaborative writing assignment in an undergraduate biochemistry class.

Herman, C. (1999). Reading the literature in the jargon-intensive field of molecular genetics: Making molecular genetics accessible to undergraduates using a process-centered curriculum. *Journal of College Science Teaching*, 28_(4), 252-253.

Briefly describes how primary research is used in a molecular genetics course.

Holliday, W.G. (1992). Helping college science students read and write: Practical, research-based suggestions. *Journal of College Science Teaching*, 21, 58-61.

Suggests some ways to improve science students' reading and writing.

Houde, A. (2000). Student symposia on primary research articles: A window into the world of scientific research. *Journal of College Science Teaching*, 30 (3), 184-187.

Describes the use of in-class symposia in an undergraduate biology class to increase students' abilities to comprehend primary literature and give students a general understanding of research.

Hotchkiss, S.K., & Nellis, M.K. (1988). Writing across the curriculum: Team-teaching the review article in biology. *Journal of College Science Teaching*, 18, 45-47.

Describes a class in which a biology professor and an English professor team-teach the writing of a literature review.

Hyland, K. (2001). Humble servants of the discipline? Self-mention in research articles. *English for Specific Purposes, 20*, 207-226.

Analyzes the function of self-citation and exclusive first person pronouns in 240 research articles.

Janick-Buckner, D. (1997). Getting undergraduates to critically read and discuss primary literature: Cultivating students' analytical abilities in an advanced cell biology course. *Journal of College Science Teaching, 27* (1), 29-32.

Describes a molecular biology course that incorporates the discussion of primary research by conducting class in a seminar-style format. Students read primary research, write reports on the articles that they read, then discuss them in class.

Koprowski, J.L. (1997). Sharpening the craft of scientific writing: A peer-review strategy to improve student writing. *Journal of College Science Teaching, 27* (2), 133-135.

Describes the use of peer review in a junior/senior-level general ecology course.

Lenton, G., Stevens, B., & Illes, R. (2000). Numeracy in science: Pupils' understanding of graphs. *School Science Review, 82* (299), 15-22.

Reports on a study of the ability of 14-15 year old students to understand and interpret graphs. Notes that results of research are often shown in graphical form and that students need to be able to understand these forms. Recommends discussing graphs more frequently with students and introducing strategies for understanding graphs.

Luzon Marco, M.J. (2000). Collocational frameworks in medical research papers: A genre-based study. *English for Specific Purposes, 19*, 63-68.

Analyzes the collocational frameworks, such as *the...of* and *be...to*, in a corpus of medical research articles and describes the collocates that fill these frameworks.

Mangurian, L., Feldman, S., Clements, J., & Boucher, L. (2001). Analyzing and communicating scientific information: A Towson Transition Course to hone students' scientific skills. *Journal of College Science Teaching, 30* (7), 440-445.

Describes the Towson Transition Course, a course offered to freshman science majors to transition them into the college environment. The course focuses on problem solving (through the analysis and critique of research and the graphing and interpretation of data), information gathering (reading, interpreting, and

evaluating sources), and ethics. The course makes extensive use of group work and peer mentoring.

Martínez, I. (2001). Impersonality in the research article as revealed by analysis of the transitivity structure. *English for Specific Purposes*, 20, 227-247.

Examines the use of linguistic devices for impersonality in different sections of research papers.

Mason, D., & Verdel, E. (2001). Gateway to success for at-risk students in a large-group introductory chemistry class. *Journal of Chemical Education*, 78 (2), 252-255.

Examines the effect of class size on at-risk chemistry students.

Mathis, P.M., Hankins, J.N., Clark, D.C., & Clark, J.D. (1999). Launching a campus-based electronic periodical—*Scientia*: the Journal of Student Research. *Journal of College Science Teaching*, 28, 391-396.

Describes the creation of *Scientia*, an on-line journal of undergraduate research at Middle Tennessee State University.

Miller, M.G. (1999) Writing abstracts on a central theme. *Journal of College Science Teaching*, 28, 397-400.

Describes a writing assignment in an undergraduate geology course in which students write 250-350 word abstracts that are later synthesized into a larger report.

Paulson, D.R. (2001). Writing for chemists: Satisfying the CSU upper-division writing requirement. *Journal of Chemical Education*, 78, 1047-1049.

Describes an upper-level writing course for chemistry majors in which the students write a 5-10 page review paper.

Rice, R. (1998). Scientific writing—a course to improve the writing of science students. *Journal of College Science Teaching*, 27, (4), 267-272.

Describes a course in scientific writing for students in all the science disciplines. Includes lists of the types of skills students need to be successful science writers, describes the writing assignments that students complete (a scientific narrative, a description, an explanation, an argumentative paper, and a write-up of laboratory work), and gives examples of classroom activities and grading standards.

Rowley-Jolivet, E. (2001). Visual discourse in scientific conference papers: A genre-based study. *English for Specific Purposes*, 21, 19-40.

- Analyzes the visuals used in 90 papers presented at conferences in geology, medicine, and physics.
- Samraj, B. (2001). Introductions in research articles: Variations across disciplines. *English for Specific Purposes, 21*, 1-17.
- Analyzes the introductions of research articles in the fields of Wildlife Behavior and Conservation Biology, using Swales' (1990) Create-A-Research-Space (CARS) model and proposes a modified version of the CARS model.
- Shibley, I.A., Milakofsky, L.M., & Nicotera, C.L. (2001). Incorporating a substantial writing assignment into organic chemistry: Library research, peer review, and assessment. *Journal of Chemical Education, 78* (1), 50-53.
- Describes the use of research papers in organic chemistry courses at Penn State Berks-Lehigh Valley College. Students conduct library research and write a synthesis paper about their research.
- Soler, V. (2001). Analysing adjectives in scientific discourse: An exploratory study with educational applications for Spanish speakers at advanced university levels. *English for Specific Purposes, 21*, 145-165.
- Examines the frequency and functions of adjectives in five biochemistry research articles.
- Stewart, B.Y. (1989). Merging scientific writing with the investigative laboratory. *Journal of College Science Teaching, 19* (2), 94-95.
- Describes an investigative laboratory course in biology in which a writing consultant (a graduate student in Literature) was hired to give lectures and prepare handouts on writing and to review student papers before final drafts were turned in to biology faculty.
- Towns, M.H., Marden, K., Sauder, D., Stout, R., Long, G., Waxman, M., Kahlow, M., & Zielinski, T. (2001). Inter-institutional peer review on the internet: Crossing boundaries—electronically—in a student-refereed assignment. *Journal of College Science Teaching, 30*₂ (4), 256-260.
- Describes a class in which on-line peer review is used to improve the quality of students' writing about physical chemistry.
- Widstrand, C.G., Nordell, K.J., & Ellis, A.B. (2001). Designing and reporting experiments in chemistry classes using examples from materials science: Illustrations of the process and communication of scientific research. *Journal of Chemical Education, 78*, 1044-1046.

Describes a laboratory activity in which students propose their own quantitative experiments, conduct the experiments, and summarize them in a scientific article and a press release.