

2006-209: WRITING IN THE DISCIPLINE - A CASE STUDY IN CONSTRUCTION MANAGEMENT

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Writing in the Discipline – A Case Study in Construction Management

Abstract

Communication for the engineering and technology graduates always scored very high in the employers' list of desirable attributes. ABET also placed high priority on communication in their required program outcomes for engineering and technology graduates. Also, it is obvious to the faculty members that students need extended writing practice beyond their English courses. This paper describes the writing in the discipline (WID) program initiated at Farmingdale State and how the construction management program has set up its courses to satisfy the requirements. The writing in the discipline program emphasizes writing critically and in case of technical courses it should have analysis and problem solving mode. So, it is critical to have the assignments are designed and articulated in a manner that proves critical thinking among the students. The process of re-designing a course to conform to WID requirements is described. The paper shares actual assignment given to the students and some of the best and worst responses from the students.

Introduction

Communication for the engineering and technology graduates always scored high in the employers' survey for the list of desirable attributes. Technology Accreditation Commission of ABET Inc. criteria further elaborate that "The communications content must develop the ability of graduates tob) incorporate communications skills throughout the technical content of the program ..." According to Bob Kerry, chair of the National Commission on Writing in America's Families, Schools and Colleges: "we need to make a greater commitment, as a nation, to the teaching of writing. Better writing not only makes for better students, it creates better teachers, better parents, better employees, and better citizens. Investment in writing today will have a cumulative effect on our economic growth, and on the strength of our democracy long into the future."⁴ Now the question is how we teach writing to our technical students. Some of our colleagues in engineering and technology like to leave it our presumed expert colleagues in English department. They would like to see that when the students get passing grades in English 101, English 102, and possibly in a course like technical communication, they learned to communicate effectively so that the faculty in the technical discipline could concentrate on teaching content of the discipline. Writing in the Discipline concepts is based on the idea that content and writing are interconnected and teaching one should enhance the other.

Background

Writing in the Discipline at Farmingdale State started in response to concern expressed by some faculty after a poor showing of the Farmingdale students in a nationally normed standardized examination and general concern from our employers. About fifteen years

ago a group of engineering technology faculty along with some English and physics faculty members started an informal committee known as Writing in Science and Technology to encourage faculty to assign more writing in technical and science courses. Over the years the committee extended its scope to keep up with the national trend of Writing Across Curriculum (WAC). However, eventually just as the national enthusiasm for WAC was winding down, the Farmingdale writing movement lost its steam. Some of the same faculty members got together about three years ago to find a more structured and permanent curriculum oriented solution for teaching writing. The main theme of Writing in the Discipline, however, is learning through writing. The Writing Committee, as it is known in Farmingdale, was organized under a director from the English department with five members from various technical disciplines. The committee came up with general criteria for writing intensive courses. To make writing institutionalized, committee felt it has to be made a graduation requirement. The proposal was sent to college Admission and Academic Standard (AAS) committee to make at least one writing intensive (W) course as a requirement for graduation in addition to a basic English and technical communication courses. The AAS committee wanted to see a pilot program before making it a formal requirement for graduation.

History

The Writing in the Discipline (WID) program made its debut in Fall 2002 with all-day workshop conducted by Dr. Sondra Perl, Coordinator of the City University of New York faculty development for writing program. The purpose of the workshop was to introduce Farmingdale faculty similar movement in other colleges and strategies to implement such programs. Faculty members who attended the workshop were invited to attend biweekly seminars.

Seminars continued through the academic year 2002-03. The seminars attendees primarily formed the ad hoc committee in writing. The committee concluded that the college should establish at least one writing intensive course requirement for graduation at the baccalaureate level.

In October 2003 Sondra Perl returned specifically to give a workshop on writing-intensive courses. A protocol was established to certify writing –intensive (W) courses. Initially five courses were certified for pilot program. A course in construction management was one of them.

Biweekly meetings continued in spring 2004. The focus during this period was to critically looking at the success and failure of the courses in the pilot program. However, only two new courses were certified as writing intensive during this period. The committee met with the Provost to discuss the problem of attracting new faculty. There were number of steps taken to attract new faculty in the program including a proposal of financial incentive. The Admission and Academic Standard committee finally approved the college wide graduation requirement that would mandate at least one writing intensive course for all baccalaureate graduates effective freshmen class of fall 2005.

Writing Intensive Course in Construction Management

The course considered for the case study was Materials and Methods of Construction I (CON 161). This was one of the first courses that were certified as a writing intensive course. Interestingly, this was the only on-line course among the certified courses. The objectives of this course were:

- To develop basic knowledge on residential construction
- To explore various methods and materials of construction
- To develop understanding of some related issues (like zoning, building codes etc.)
- To improve writing skills and enhance critical thinking

An outline of major writing assignment requirement was listed in the course outline as follows:

- All submission must be at least 500 words
- All major writing assignments must be persuasive or informative
- All final submission must be reviewed by at least one peer
- All final submissions must be accompanied by the draft (with corrections/comments made by the peer)

Critical Thinking and Writing

William Zinsser states, “Writing is thinking on paper.”⁵ And we can not agree more. One of the primary objectives of the writing-intensive course in construction course was to enhance critical thinking among the students. It is the instructor’s obligation to make the student think. We found in our earlier experiment with writing across curriculum that during writing laboratory report most students had problem writing the conclusion. Many students amusingly wrote “I enjoyed the lab very much” or “This is a very good experiment!” After further scrutiny we found that the students who wrote such desperate comments did not understand the experiment at all! Although they followed the procedure of the experiment and collected data and some of them even analyzed the data using statistics, they never thought critically the basic purpose of the experiment. So, just asking the students to write an essay on a relevant topic does not give the students clear message to engage in critical analysis of the subject matter. The assignments for this writing intensive course were developed very carefully with the help from several faculty and industrial colleagues. They are worth mentioning here.

- Write an application to your local zoning board asking for a waiver of the current zoning ordinance that prohibits multiple occupancies in your block. You would like to add a small apartment to your house so that your eighty five year old widow mother could move in with you. You will not be able to attend the zoning board meeting, so you have to provide the rational for granting you the waiver in details. You may attach relevant ketches/drawings with the application (major writing assignment requirements apply).
- A six storied office building to be built on route 110. The building will have 3000 sq. ft. per floor and will be made of mainly steel and concrete. You are requested

- by the owner to test the soil sample of the site and write a report to him suggesting the type of foundation system that this type of structure and your reasons for choosing a particular system. You may keep your choice within the scope of the text book (major writing assignment requirements apply).
- Write a critical report on light frame buildings – trace back their origin and rationale for various parts of the framing. Also, compare and contrast the platform framing and balloon framing (major writing assignment requirements apply).
 - Write a synopsis on currently available building exterior finishes. Choose a particular type of sidings that would be most appropriate in a Long Island middle class residential neighborhood. Justify your choice (major writing assignment requirements apply).
 - Building materials and buildings are constantly in motion. Many of these motions are cyclical and never ending. Research the reasons for such movements and how to quantify them. Also, suggest some of the action you might be taking to eliminate or minimize such motions (major writing assignment requirements apply)

Issues in Writing Intensive Courses

Low stake writing and high stake writing² – these two terms adopted at Farmingdale for writing intensive courses have special significance for such courses. Low stake writing was defined as all the formal and informal writing students do during the course. They include class notes, journal writing, short answers, summary at the end of a class etc. These assignments are not typically evaluated for grades or asked to revise. This type of writing is considered “writing to learn.” Interestingly almost all the communications between a student and an instructor for an on-line course are through so called low stake writings. High stake writings are, on the other hand, rigorous writing assignments that had to be at least revised once before the final submission. This is where the instructor forces the students to think critically by design. Farmingdale writing intensive course protocol calls for at least 2500 words of high stake writing assignments for the course. High stake writings are “writing to think.” Such writing assignments must be, then carefully designed to force the students to think critically¹ and use their “own voice.”

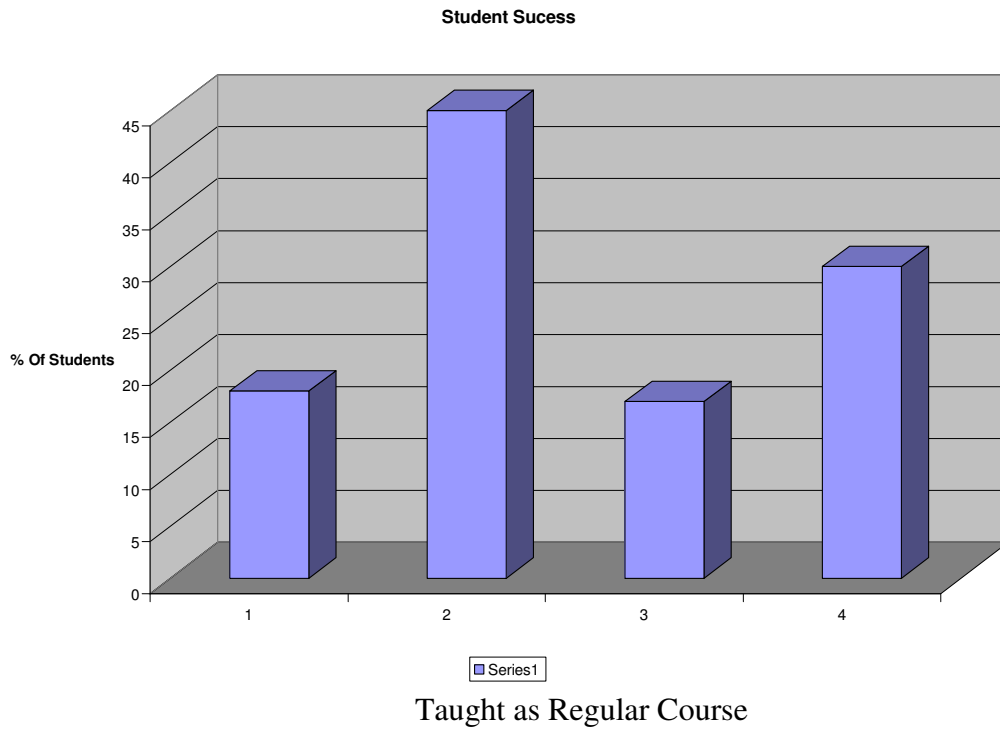
Plagiarism is an issue for any courses that involves take-home writing assignments. With the explosion of internet and its available resources all students are tempted to plagiarize. It is the responsibility of the instructor, as per the consensus of the Farmingdale writing committee, to design the assignment such a way that it would be impossible to plagiarize for the students.

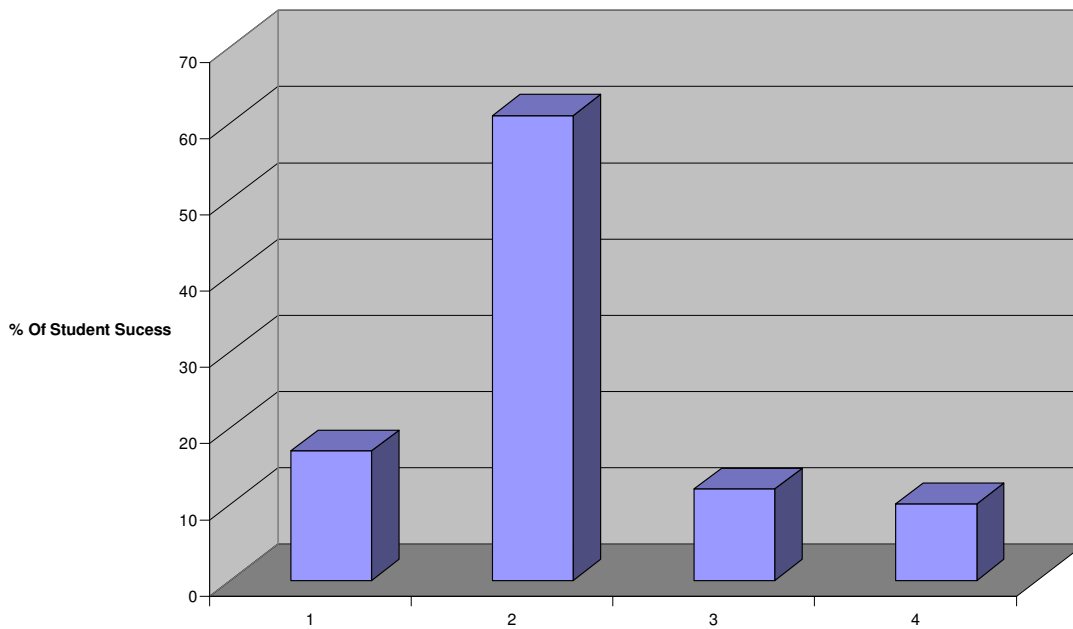
No aspect of teaching is more onerous than grading papers. However, feedback is synonymous with writing intensive courses. If the students know that they can rewrite for a better grade, it is likely that they would pay more attention to the instructor’s comments. Peter Elbow et al make a strong case that we should avoid circling or underlining every error because students need positive reinforcement rather than only criticism.³ Accordingly Elbow suggests putting a straight line underneath words or phrases or alongside longer sections to indicate effective writing and wavy or wiggly lines to

indicate errors or unclear writing. The message to the students should be that they need improvement in certain areas of the paper.

Student Success

It is of course our concurrent intention to see if writing has made any difference in learning the content for the students. Here are the results from the course taught as regular course (1) and taught as a writing intensive course (2).





Taught as Writing Intensive Course

Legend for X axis

- 1 = Exceeded the Standard
- 2 = Met the Standard
- 3 = Approached the Standard
- 4 = Did Not Meet the Standard

Conclusion

It appears from the data that the writing intensive course helped the students to learn the materials. However, this is such a small population and not repeated no firm conclusion can be drawn. It only suggest that there is a possibility that it may be true.

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