
AC 2012-4496: USING WRITING AS A MEANS FOR ENCOURAGING STUDENT'S TO PARTICIPATE IN PUBLIC DISCOURSE AND COMMUNITY ENGAGEMENT

Ms. Rebecca N. Macdonald, East Carolina University

Dr. David L. Batie, East Carolina University

David L. Batie is an Associate Professor and Undergraduate Program Director.

Ryan T. Goodman, East Carolina University

Ryan T. Goodman is a Graduate Research Assistant, ECU Department of Construction Management, and a M.A. candidate in European history.

Using Writing as a Means for Encouraging Students to Participate in Public Discourse and Community Engagement

Abstract

East Carolina University made a major commitment to improve student literacy through the establishment of the Writing Across the Curriculum (WAC) Program. The Program requires completion of 12 hours in writing intensive courses with at least one upper division course in a student's major. The Department of Construction Management assigned a senior level course, Managing Construction Quality, to fill this requirement according to WAC Model 4: Emphasizing a Combination of Writing Approaches. The course's writing assignments aim to prepare students to understand the audience and purpose of professional documents and to give them practice in writing techniques to accomplish that goal.

Current course instructors implemented a new topical format to better educate students about the construction industry's need for public discourse and community engagement. The format chosen - the use of opinion papers and journal article critiques - provides a forum for students to express their viewpoints in a structured manner. Assignments ask that students relate to a pertinent subject and use clear and logically argued premises to support their conclusion. This article also includes sample assignments, the grading rubric, and qualitative feedback from students.

Introduction

Starting in 1992, East Carolina University made a major commitment to improve student literacy through the establishment of the Writing Across the Curriculum (WAC) Program. The goal of the University Writing Program is to provide instruction in the kinds of writing students can expect to do academically and professionally and to provide support for that instruction. Many argue for "the efficacy of writing as a valuable learning tool in content area courses."⁵ The Program requires completion of 12 hours in writing intensive courses with at least one upper division course in a student's major. The Department of Construction Management assigned a senior level course, Managing Construction Quality, to fill this requirement according to WAC Model 4: Emphasizing a Combination of Writing Approaches. This model allows the instructor to combine academic, professional, and reflective (i.e., writing to learn) writing activities in a single course. The authors applied the feedback from the Department Advisory Board, resent accreditation requirements, and writing literature as well as a general misunderstanding by students about academic research to redevelop the course writing assignments.

Need

The American Council for Construction Education (ACCE) is recognized by the Council for Higher Education Accreditation as the accrediting agency for masters (beginning in 2012), baccalaureate and associate degree programs in construction, construction science, construction

management, and construction technology. ACCE provides minimum standards and guidelines that include emphasis on the importance of communication as reflected through the needs of the construction industry. Construction is enmeshed with people and the relationships between all stakeholders. To be taken seriously by any client, building officials, associates, constructors, owners, financiers, insurers, laborers, and members of the public, individuals need to convey information clearly and express their ideas in a lucid and effective manner. Thus, communication, both orally and in writing, are essential assets to the individual and must be engrained in the curriculum.

There is little scholarly material specifically from the field of construction education regarding the value of writing in the curriculum. However, the field of engineering education has produced many essays on the subject of writing within engineering curricula at various institutions over the last three decades. Both fields face similar challenges, and theories and solutions taken from engineers are equally applicable to the field of construction education.

Similar to Berthouex's recognition that the quality of engineering graduates do not meet professional demands in the field, our own Department Advisory Board continues to stress the importance of all communication in the field.¹ This is further supported by Kuhn in his statement that the quality is important in job placement, job performance, and career advancement.³ This is all the more important when it has been found that engineers spend roughly 1/3 of their time writing.² The major point to address these issues is through the integration of these skills in the curriculum in proper context and the use of content that fosters motivation of the material.^{1,2,3,4,5,6} In the Fall 2011 course, the authors have attempted to fulfill each of the above suggestions.

Structure

Since it is firmly established that effective writing is a primary goal for curriculum and an important skill to acquire at college, the course instructors structured the Managing Construction Quality course writing assignments to cover two distinct styles and professional needs. Open-ended assignments in the form of opinion papers and journal critiques allow students to focus on topics of interest to them. The hope is that students will react more positively to assignments in which they have greater interest, and that they will think more deeply about the material involved.

Assignments were returned with ample feedback, providing students the opportunity to revise future assignments based on that feedback. Emphasis was placed on clarity, conciseness, and self-reflection. Writing assignments themselves were evaluated for content, clarity, and grammar, all necessary for professional communications, and many (particularly opinion papers and journal critiques) promote both seeing the global and societal context of construction and increasing knowledge of contemporary issues (failures, social networking, etc.).

The first style was the use journal critiques of academic peer-reviewed articles. Journal critiques allowed students freedom to choose topics related to their own interests or aspirations, and allowed them ample experience conducting research and reading professional writing in their field. Students interested in bridge construction, for instance, chose articles related to failures in

bridge construction. These critiques asked students not only to find describe each article’s content, but to think deeply and actually evaluate the article.

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Journal Critique

Your assignment is to locate **FIVE** related **ARTICLES** that address a common thematic issue in construction management. Review and analyze each article in its entirety, making sure to include your perception of importance.

The Critique should include the following:

Introduction: Overview or abstract of the article.

Body: Summary of the article including all pertinent details and findings. (Example: For a failure, report of the history / details of the issue, all parties involved, the findings of the investigation, causes, responsibilities, etc.)

Conclusion: At the end of your critique, report YOUR conclusion or findings and how it relates to quality. (Example: For a failure, how it could have been happened, and what you would recommend to avoid the failures from occurring again.)

The paper is to be formatted and submitted following the stated course protocols.

Figure 1: Journal Critique Guidelines

Intro	/10
Body	/10
Conclusion	/10
Format and Professionalism	/10
Grammar	/10

Figure 2: Journal Critique Rubric

For the second style, instructors implemented a new topical format to better educate students about the construction industry’s need for public discourse and community engagement. The format chosen - the use of opinion papers - provides a forum for students to express their viewpoints in a structured manner. Assignments ask that students relate to a pertinent subject and use of clear and logically argued premises to support their conclusion. These papers covered weekly topical issues such as the concept of quality in education and in construction, the appropriateness of social networking as a tool in construction, the role of sustainability in quality of construction projects/facilities, and LEED construction as a measure of quality.

Points Related to Writing an Opinion Paper

- To give an argument means to offer a set of reasons or evidence in support of a conclusion; or the use of a set of premises that support a conclusion.
- It is not simply a statement of certain views; it is basically “thinking logically”.
- Arguments are essential to help explain and defend our positions.
- The conclusion or position is the statement for which you are giving reasons; the statements which give your reasons are called premises:
 - Simple example –
The earth has a carrying capacity for pollution (premise). Therefore, there is a maximum level of pollution that should be allowed (conclusion).
 - There may be many premises to support a conclusion
- For a sound argument, premises must be true and the conclusion must be a valid. (follow the premises)
- Arguments or positions may be made by using examples, analogies, source authorities, or causes.
- In a short position paper on a given topic, make sure to state your position or conclusion somewhere in the paper and then provide support for it.

Figure 3: Opinion Paper Guideline

Argument	/10
Premise	/10
Clarity and Logic	/10
Format and Professionalism	/10
Grammar	/10

Figure 4: Opinion Paper Rubric

Students performed a total of 5 journal critiques and 4 opinion papers over the Fall 2011 semester according to the mentioned guidelines and scored by the provided rubrics.

Outcome

The enrollment for the course was 83 students who were divided into 4 lab sections that met for an hour and fifty minutes each week. The grades for each assignment, maximum 50 points,

according to style were analyzed for thematic trends. An informal survey of students was also performed to get appropriate qualitative feedback.

The journal critique assignments were wholly submitted by 56 of the 83 students with the following scores shown in Table 1. The average score increased over the assignments, yet the range fluctuated. The class average was 40.29, with lowest average for a single student was 27.6 for all assignments and the highest average was 46. Additionally the scores were analyzed to see when improvement occurred and by how many students. The greatest improvement was between JC#3 and JC#2 by 35 students. Only 3 students improved continually between each assignment.

Table 1: Student Scores for the journal critique assignments

	JC#1	JC#2	JC#3	JC#4	JC#5
MIN	21.0	31.0	27.0	23.0	29.0
MAX	46.0	50.0	49.0	49.0	48.0
RANGE	25	19	22	26	19
AVG	39.4	40.5	41.5	42.3	42.4

The journal critique assignments were wholly submitted by 65 of the 83 students with the following scores shown in Table 2. The average score show minimal improvement, yet the range narrowed. The average was 39.5 for the entire class, with lowest average for a single student was 25.5 for all assignments and the highest average was 46.4. The scores were further analyzed to see when improvement occurred and by how many students. The greatest improvement was between OP#3 and OP#2 by 39 students. Again only 3 students improved continually between each assignment.

Table 2: Student Scores for the opinion paper assignments

	OP#1	OP#2	OP#3	OP#4
MIN	17.0	23.0	25.0	28.0
MAX	47.5	47.0	50.0	48.0
RANGE	30.5	24	25	20
AVG	39.3	38.0	40.1	40.7

The informal survey consisted of these questions asked during the final lab with the feedback as an overview of student's perceptions as follows.

- How often have you done professional writing assignments?
 - Majority of students felt they had performed professional writing assignments in other courses.
- Lab writing assignments, more or less than other courses?
 - The students thought that this course required more writing than previous courses.
- Rigor or difficulty, more than other courses?
 - One third felt the rigor or difficulty was more than other courses.
- Did these enhance your communication skills?

- There was limited feedback on the enhancement of skills and more context was needed for them to answer appropriately.
- Did you prefer one style over the other?
 - A greater number of students preferred the opinion paper style over the journal critique.
- Have you ever been asked for your opinion before this course?
 - Very few students felt they had ever been asked for their opinion before in a similar context.
- Did you find this format useful?
 - Roughly two-thirds of the students found the opinion paper style useful.
- Any comments.
 - It reinstates the importance of writing in a more organized way for the business world.
 - The professors think they are English professors rather than Construction Management professors.

Conclusion and Suggestions

The above outcomes according to the use of different writing styles showed improvement over time and an effect on range. The journal critique was a familiar format and consistent in nature, allowing for more repetitive application by the student, and students' scores did improve overtime. However, the performance by students on opinion papers due to the novelty of style and topics was interesting. The students did not improve greatly over time, yet the range narrowed, concluding that students adopted the new style of writing but embraced the topics differently.

The style of assignments in this course, particularly the use of opinion papers but also journal critiques, was a new approach in the curriculum. Students did not expect and are not used to this style of assignment in Construction Management education, but the types of assignments are applicable in the industry. The nature of the topics is fluid and can change with current events and innovations in the construction industry or the world in general. Continued assessment of students during the Spring 2012 semester will provide additional insight in students performance and perceptions of styles of writing and their connection to their profession. Informal exit surveys and follow-ups with alumni regarding writing exercises will better gauge efficacy of the curriculum.

Possible future work spawned by these assignments includes research from the outcomes of student writing and undergraduate involvement in selection of topical areas. One goal of an author is the publication of student work in the university newspaper, further establishing student engagement in public discourse. Industry leaders implore for professionals to act as advocates of public policy and creators of a national infrastructure plan.⁷ The achievement of this objective can only be reached through the impact of the recent graduates who recognize the importance of public discourse/community engagement and will be advocates once in the workforce.

Bibliographic Information

1. Berthouex, P. M. (1996). Honing the writing skills of engineers. *Journal of Professional Issues in Engineering Education and Practice*, 122(3), 107-110.
2. Dorman, W., and Pruett, J. (1985). Engineering better writers: why and how engineers can teach writing. *Engineering Education* 75(7), 656-658.
3. Kuhn, M. R., & Vaught-Alexander, K. (1994). Context for writing in engineering curriculum. *Journal of Professional Issues in Engineering Education and Practice*, 120(4), 392-400.
4. Linsdell, J., & Anagnos, T. (2011). Motivating technical writing through study of the environment. *Journal of Professional Issues in Engineering Education and Practice*, 137(1), 20-27.
5. Maharaj, S., & Banta, L. (2000). Using log assignments to foster learning: Revisiting writing across the curriculum. *Journal of Engineering Education*, 89(1), 73-78.
6. Mohan, A., Merle, D., Jackson, C., Lannin, J., & Nair, S. S. (2010). Professional skills in the engineering curriculum. *IEEE Transactions on Education*, 53(4), 562-571.
7. <http://www.asce.org/Public-Policies-and-Priorities/Public-Policies---Priorities/>