

Cooperative Efforts Using Theater Students for Construction Management Technology

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Abstract

The University of Maine requires each academic program to have two writing intensive courses within their academic discipline. Under this requirement, writing assignments are integrated into curricula such that students are given feedback on both the technical and grammatical aspects of the assignment. Students are given the opportunity to revise the assignment for a final grade.

Within the Construction Management Technology program, CET 356 Construction Documentation is designated as a writing intensive course. In this course, students create four major written pieces evolving around a case history. These assignments include a formal business letter, a set of minutes to a meeting, a series of memos, and a set of field notes.

This paper describes the second assignment, a set of minutes to a meeting. To establish the meeting, a group of theater students acted out and videotaped a typical construction meeting. Construction Management students viewed the video and recorded their individual versions of the minutes of the meeting. The instructor reviewed the student minutes using a series of quality traits. The minutes were returned to the students for rework. After written feedback, students resubmitted the minutes for a grade.

The paper also describes the dynamics of the exercise and the results of the written minutes assignments. Interestingly, details that were shown within the video were not all captured and some details that were reported did not occur within the video. After feedback, the overall quality of the minutes improved. Theater students played stereotypical contractor roles within the context of the video. These stereotypes and extraneous information were not all recorded.

Introduction

The University of Maine requires students to take two writing intensive courses within their academic major. Writing intensive courses consist of assignments that integrate traditional

English grammar protocols with discipline specific content as would be used in professional settings. Students prepare and write assignments which are reviewed for both written style and content. An instructor gives input to the student about the assignment and the student is allowed to revise the assignment for a final grade. The purpose of writing intensive courses is to give students better practice communicating discipline oriented concepts in appropriate professional formats.

Within the School of Engineering Technology's Construction Management Technology (CMT) curriculum, two courses are designated as writing intensive: CET 356 Construction Documentation and Administration and CET 451 Construction Law. The CMT professors who teach these courses create, assign, and review the assigned practical written exercises for both technical content and grammar. In CET 356, students prepare four common practical exercises that are used in modern construction practice: a formal business letter, minutes of a construction progress meeting, business memos, and field notes. These exercises evolve around a case history and each exercise is interrelated to one another. This paper describes the development and evaluation of exercise two: minutes of a construction progress meeting.

The Construction Meeting Exercise

The construction manager needs to be responsive to both the owner and owner's field representatives to ensure that the project is properly constructed. To meet project needs, the construction manager needs to maintain effective communication on the project site. This onsite communication is a crucial responsibility of the construction manager. By the nature of his position, a construction manager spends a significant amount of time in meetings related to the projects that he builds. The extent and frequency of construction progress meetings is project dependent.

To create the minutes of a meeting exercise, the CMT instructor consulted with some of his professional colleagues to see what techniques and resources may already be available that illustrate effective skills in taking the minutes of a meeting. Unfortunately, no one had suggestions for creating an exercise. Professionals on an active project do not want a lot of non project spectators at a project meeting. They are reluctant to have meetings video recorded because they do not feel comfortable discussing issues freely. CMT students were not receptive to "role playing" and selected CMT students did not want to "act out" a meeting for their peers to review.

The instructor decided to put together his own exercise through a video presentation that could be reused in the classroom. The video allowed the instructor to develop his own points for discussion that could be used for evaluation.

Developing a Video

The Center of Teaching Excellence at the University of Maine encourages interdisciplinary activities across the University of Maine community by offering small grants for innovative teaching projects. Interdisciplinary actions encourage academic partners that may not otherwise interact.

The CMT instructor approached the University of Maine's School of Performing Arts to find out if any theater student groups could assist with the project. Under the Center of Teaching Excellence innovative teaching grant, money was available to help with this project.

A group of six students from the School of Performing Arts volunteered to participate in putting together a video that could be used to illustrate a construction meeting. The CMT instructor met with the theater students and explained what was needed. He created an outline that laid out what he thought was important in a meeting. He described the personalities of six typical characters that he felt would be in such a meeting and laid out the premise of the meeting. The theater students were allowed to extemporaneously develop the characters and act out the premise of the meeting based on the guidelines that were given.

The scenario that was developed consisted of a typical construction progress meeting for a light manufacturing facility which was actually built on the University of Maine campus. In the meeting, three major points were discussed. First, the contractor installed drywall that was not specified under the specification. Second, the contractor's finishing crew did not properly finish the drywall seams. Third, the owner requested stove ventilation hoods that were not depicted on the plans. The CMT instructor provided the students with a basic meeting agenda and did not give other direction for the content. This agenda consisted of typical items such as review of previous minutes, work that was previously performed, and work planned for the upcoming weeks. The CMT instructor also included in the meeting outline assigned action items which normally results from such a meeting.

Six construction characters were created for the video. The two major parties at the meeting consisted of the Contractor, JCN, Inc. and the Owner, the University of Maine. Present at the meeting from the contractor's company was the Owner of the construction company, the project superintendent, and the project foreman. Characters representing the owner, the University of Maine, consisted of the Director of Physical Facilities, the project manager, and the designer. The CMT instructor allowed the theater students to use their imagination as to appearance, mannerisms, and dialog. He suggested two distracting points to include within the dialog: a disparaging remark against a female and a loud verbal exchange. The instructor told the Theater students that they could add additional reasonable items to help develop individual characters.

The University's Informational Technologies Department created a film set that looked like a typical field office trailer. They filmed the performance and edited the resulting film to create the finished video that was ultimately shown in the CET 356 class.

Class Exercise

The instructor gave the CET 356 students a brief overview of the importance of taking accurate meeting minutes. He provided each student with a couple of examples of minutes and emphasized that each individual will have his own style. The construction meeting video was then shown and students recorded what they saw and heard. This exercise provided students with an application beyond a standard technical writing course [1].

The assignment required the individual student to be the official recorder for the meeting and the challenge was to accurately record relevant information that was important for the project record. A scoring rubric was created that rated the assignment based on quality traits that, in turn, were quantified on a scale of 1 to 10 with 1 as the lowest and 10 as the highest in any particular evaluated trait. The areas evaluated included attendees, time, logical order, details of discussion, presentation, grammar, summarization, drywall, seams, and range hoods. (Exhibit 1 in the appendix)

Students submitted the minutes of the meeting and the instructor read and reviewed the submitted work. The instructor returned the assignments to the students with marked comments that suggested improvement. The students revised the assignments and resubmitted the assignments to the instructor. He read the revised documents twice. In the first reading, the instructor read the individual assignment to form an overall opinion. He then read the assignment for specific content and composition. Using the rubric, the instructor evaluated the assignment and gave the individual student a consistent grade for the assignment.

The instructor established minimum evaluation criteria to evaluate the meeting minutes using each of the quality traits in the rubric. The rubric allowed the instructor the latitude to judge the quality of the assignment using both subjective and absolute criteria [2]. The rubric illustrated the importance of reporting accurate detail discussed in the meeting and to report who agreed to follow up on discussion points. Table 1 shows the range of evaluation criteria used to evaluate the assignment.

Table 1 – Evaluation Criteria for the Minutes of a Meeting

Trait	Low Points (1-5)	High Points (6-10)
Attendees	Not listed, Missing Names, Misspelled Names	All attendees noted, Only 1 missing, Only minor spelling mistakes.
Dates, Location, Time	Not noted, Missing any of the items	Properly noted, missing only one item
Logical Order	Missing discussion points in the order of discussion, Incomplete sentences or thoughts	Follows the sequence of the meeting. Uses complete sentences and completes thoughts
Details of Discussion	Misses points of discussion, illogical items discussed.	Gives accurate accounting of the points discussed.
Presentation	Sloppy, hard to follow	Easy to follow, clear
Grammar, Spelling	Improper tense, spelling (3> spelled incorrectly) Lack of commas and periods, run-ons	Consistent noun/verb agreement, proper use of punctuation
Summarization	Does not summarize points as discussed	Summarizes points discussed.
Drywall	Not mentioned or incorrectly noted	Mentioned and noted properly
Seams	Not mentioned or incorrectly noted	Mentioned and noted properly
Range Hoods	Not mentioned or incorrectly noted	Mentioned and noted properly

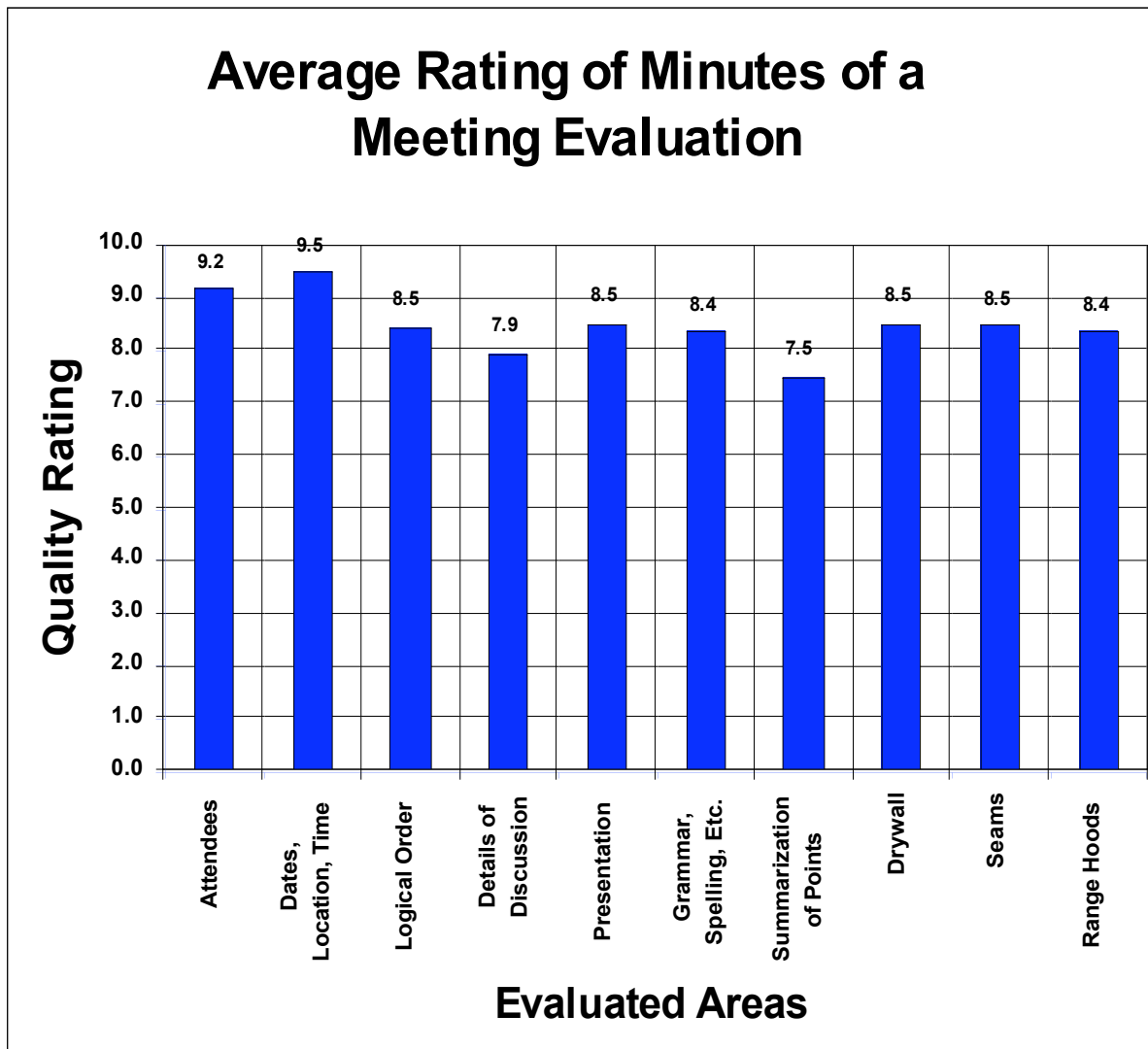
The instructor judged each assignment within the guideline and rated students on each trait. This rubric helped the instructor maintain consistent evaluation of each student in the class. Summary sheets for each student's assignment assessment were compiled to show the percentage of quality ratings for each trait. This summary is shown as table 2. Several students rated below the average in the areas of logical order (18%), details of the discussion (37%), summarization of points (45%), and range hood identification (18%). Example minutes provided to students illustrated each of the rated traits. Generally, the students as a whole rated above a 7.5 average on all traits as shown in table 3.

In the first draft of their minutes, CMT students confused details that were presented. Some information was not captured and the facts as presented were misplaced from the actual order of discussion. The theater students introduced extraneous information in the video to see if it would be recorded. One construction employee entered late and brought doughnuts to the meeting. One student noted this information. Another construction employee referred to one of the owner's representatives as "honey" and the owner's representative corrected the construction employee. None of the CMT students noted the discussion. The construction owner realized that one of his employees made erroneous decisions that cost the company money and spoke loudly to the employee. A couple of the CMT students noted the loud exchange. Interestingly, as part of the scripted meeting, two editorial comments were made at the beginning of the meeting to correct the previous meeting minutes. Several CMT students recorded the changes as action information. They confused this detail with the work was to be done in the upcoming week. Other students confused the distinct issue of non-specified drywall and improper seam finishes. A significant number of the students did not summarize the main points of the discussion with assigned action items.

Table 2 – Percentage of Students Rated at Quality Level

Trait	1	2	3	4	5	6	7	8	9	10
Attendees					.04			.15	.37	.44
Dates, Location, Time								.04	.48	.48
Logical Order						.07	.11	.19	.56	.07
Details of Discussion						.11	.26	.33	.26	.04
Presentation						.04		.48	.44	.04
Grammar, Spelling, Etc.							.11	.52	.33	.04
Summarization of Points				.04	.15	.11	.15	.22	.22	.11
Drywall							.19	.36	.26	.19
Seams							.22	.33	.26	.19
Range Hood						.07	.11	.44	.19	.19

Table 3 – Average Ratings of the Quality Traits



Conclusions

A video was created to help illustrate how to take the minutes of a construction meeting. Through an extemporaneous script, theater students created a realistic scenario that highlighted the major areas of most meetings: attendance, review of past minutes, upcoming schedule, construction issues, and action items. The video lasted 8 minutes and presented several significant points. Construction students viewed the video and recorded the minutes of the meeting. A grading rubric that compared quality to major points for consideration was developed and used to consistently grade student work. Students generally recorded most of the information, but were weak in four areas: logical order, details of the discussion, summarization of points, and range hood installation. Students did not record extraneous detail that was presented in the class video.

The instructor plans to implement some other practices upon the next implementation of the minutes of the meeting exercise. Students will be given additional examples of meeting minutes to illustrate how other presentations can be varied. The instructor will provide an agenda to the meeting so that students will follow a better logical pattern. Students will be given either a list of meeting attendees and their positions or pictures of the actors with names to assist in identification of the meeting participants.

As a whole, the meeting video was successful and gave students a practical learning experience. Special recognition is given to the Theater student actors who took rough ideas and made these ideas a successful video exercise. These students were Joy VanMeter, Emily Gammon, Josh Leigh, Shawn McVigor, Janice Duy, and Adam Thibodeau. Other individuals who made the exercise successful include Mr. Sergey Drage and Mr. Adam Bauer of the University's Information Technology Department who filmed and edited the video. Last, appreciation is given to the University's Center of Teaching Excellence who funded the project through a minor grant.

References

1. Schneiter, R. Wane. 2003. Writing and Undergraduate Engineers-A continuing Problem. Proceedings of the 2003 ASEE Annual Convention and Exposition, Nashville, Tennessee, Session 0000.
2. Dyrud, Marilyn A. 1997. Attitudinal Aspects of Assessing Student Writing. Proceedings of the 1997 ASEE Annual Convention and Exposition, Milwaukee, Wisconsin, Session 2647.
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Exhibit 1 Minutes of a Meeting Rating Sheet

Name _____

Minutes of a Meeting

CET 357

Rating Areas	1	2	3	4	5	6	7	8	9	10	Total
Attendees											
Dates, Location, Time											
Logical Order											
Details of Discussion											
Presentation											
Grammar, Spelling, Etc.											
Summarization of Points											
Drywall											
Seams											
Range Hoods											
Total											