

IN PURSUIT OF LEARNING GOALS: A CLEVER USE OF MULTIPLE FACULTY MEMBERS IN COLLABORATIVE GRADING

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ABSTRACT

Attention is being focused on several learning goals simultaneously. In a team taught class clever use of faculty can take advantage of their varying talents and training, and provide superior student feedback. It can help promote superior performance by the students. In the current study students were required to make their project write-ups readable by both an expert and a non-expert reader, which forced them to better understand the underlying concepts, and not rely on often inappropriate application of buzz words.

INTRODUCTION

Currently, business schools are becoming increasingly aware of assessment issues concerning student learning [2] [3]. Many schools have (re-)articulated desired learning objectives. Our university, similarly to many others, stresses: 1) knowledge of business and its environment, 2) skills in critical thinking and ethical problem-solving, 3) effective communication skills, and 4) successful collaboration in teams.

We try to teach and assess these skills throughout the student's four-year education. However, a critical portion of this training occurs during the student's junior year, when he/she enrolls in the Integrated Business Curriculum. Our junior-level business "principles" courses are integrated into a single, 17-credit, year-long course, which is taught by a five-member faculty team. The faculty team consists of one member from each of the following areas: finance, HR/management, IS, marketing, and POM. Every semester each student team makes a formal presentation, and completes one or two additional, large written projects. Since the philosophy of the Integrated Business Curriculum is to go beyond the silo approach, projects often require skills taught in more than one functional area. As such, it would be inappropriate for a single faculty member, with one primary orientation, to be the sole project evaluator.

One difficulty in using multiple project readers is in trying to take proper advantage of the strength of the training each has. Another frequent difficulty is in trying to combine their subjective assessments of the quality of the student projects, and coming to a consensus as to its merit (i.e., assigning a grade). Last fall we assigned a project which required the demonstration of financial analysis skills, as well as the ability to explain to an intelligent non-expert what the analysis and results implied regarding the financial well-being of the company. The student instruction document included the following:

FINANCIAL ANALYSIS OF A COMPANY

For this project you are required to choose one of the U.S. corporations that make up the Dow Jones Industrial Average. There are 30 DJIA companies so each team will have a different firm. For the corporation you have chosen you need to do the following:

- 1) Find the most recent three years' financial statements (income statements and balance sheets only).
- 2) Calculate the DuPont identity for each year and determine how ROE has changed over the 3-year period.

- 3) Briefly discuss how each component of the DuPont identity has impacted ROE during this period, including your interpretation of what might have caused any changes.
- 4) Prepare common-sized financial statements (income statement and balance sheet) for all three years and note significant changes.
- 5) Compare the firm's most recent **profitability ratios** (ROA, ROE, profit margins) with those of the firm's industry averages for each ratio. Note where the firm appears to outperform or to lag behind, its competitors.
- 6) Use your results from parts 2-4 to provide some insight as to what might have caused the outcomes you uncover in part 5. Explain this thoroughly.
- 7) Write a 1-2 paragraph recommendation of whether or not an *intelligent financial non-expert* should invest money in this company. Professor Y will be taking the role of the non-expert, and will evaluate how well you explain your analysis and articulate your recommendation as to whether or not this is a wise choice for a small investor.

Note: You must turn in a copy of the firm's financial statements with your project.

Grading of the project involved a weighted model, with 75% based on technical merit, assigned by the finance professor. The other 25% was given by the "financial non-expert" (HR/management professor), based on presentation and recommendation clarity for an interested — but naive reader. Both readers evaluated how well the recommendation (buy/don't buy) related to the results of the analyses.

The project was designed to relate to the four previously-mentioned learning objectives. Specifically, performing the financial analyses strengthened students' skills in fundamental business knowledge. Since it was a group effort, quality of the team's collaboration and management skills would likely affect quality of the project. One danger with team projects is that the team delegates the project to just a few members or each person does one part of the report and then the parts are stitched together without further thought. Doing so would have shown up in a confusing, poorly written document. Since the final step in the project was to synthesize the various financial analyses and come up with an investment recommendation for a non-expert, critical thinking skills came into play. Most companies, including the DJIA thirty, have certain aspects of financial strength, and other aspects on which they are less strong. Thus, making a sound recommendation required a good understanding of the various analyses, and how to make sense out of complex, mixed information. Finally, clear communication often requires taking complex information, and presenting it in a way that simplifies it for those with lesser related experience. To do this also requires that the students actually understand what all this information means.

Even though it had been decided, in advance, to weight the two graders inputs in a 3:1 ratio, the "naive" grader wanted to make sure she was not assigning excessively high grades to clear and concise hogwash. Although clear writing was important, it was imperative that such writing would be based on an understanding of the underlying analyses and their ramifications. Both graders assigned scores independently.

After both graders had completed independent assessments of the projects, we ranked their separate scores, and conducted a Wilcoxon Signed Ranks Test. Relative rankings did not differ significantly ($Z = -.065$, not significant). Those student teams who had a better understanding of the financial analyses wrote a more clear and concise report and recommendation. Thus, the scores were weighted and combined as planned, without adjustments. Table 1 presents results of the Wilcoxon test.

Table 1. Wilcoxon Signed Ranks Test

Ranks		N	Mean Rank	Sum of Ranks	Z	Asymp. Sig. (2-tailed) ^d
RANK _{Instr.1} – RANK _{Instr.2}	Negative Ranks	10 ^a	8.40	84.00	-.065	.948 ^a
	Positive Ranks	8 ^b	10.88	87.00		
	Ties	2 ^c				
	Total	20				

a. RANK_{Instr.1} < RANK_{Instr.2}

b. RANK_{Instr.1} > RANK_{Instr.2}

c. RANK_{Instr.1} = RANK_{Instr.2}

d. Wilcoxon Signed Ranks Test

CONCLUSIONS AND IMPLICATIONS

College-level instruction has changed markedly over the past several years. Traditional classrooms have been replaced by e-classrooms, where both faculty and students are electronically assisted [4]. Many current students grew up as latch-key kids, and sought after-school entertainment from TV and video games, rather than from direct interaction with others. Modern students, who frequently acquire information passively, have more difficulty reaching appropriate conclusions or inferences than previous generations of students did who engaged in interactive learning with others [1]. Today's students are facile multi-taskers, but some seem less able to focus than their predecessors. Warner [5] concluded that multi-tasking interferes with learning. With these student changes, faculty must also change methods of instruction, assignments, and feedback, in order to ensure the types of learning we believe are important.

Projects which require synthesis of information can be very useful when trying to teach students how to understand and apply fundamental concepts. Asking students to make judgments and to discuss them in a clear and concise way for a less-informed reader requires them to demonstrate actual understanding of how various concepts fit together and how they are used. This assignment and its grading took advantage of the skills of different faculty, while facilitating different types of desired learning by the students.

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